



Australian Research. Global Outcomes.

Annual Report 2023-24





Acknowledgement of Country

ADDRI acknowledges the traditional owners of the land on which we live and work. We pay respect to their elders - past, present and emerging. We recognise all Australian communities who, through their lived experience, have been impacted by asbestos and dust-related diseases.

We especially thank Nyree Reynolds for creating this powerful painting for ADDRI.

Reclaiming ourselves

“A new dawn is breaking in the eastern sky, the last stars are fading, the birds are arriving and singing to greet the new day.

The songlines in the foreground are the journeys of the First Nations people through the landscape. They show the sitting down places of men and women and children. The women are depicted around the circle with coolamons and digging sticks while the men are depicted with boomerangs and spears. The songlines travel throughout the

country within their own nation’s lands and into the lands of other nations. It is where the Original Custodians tell stories, share and learn stories, knowledge and culture.

I have used this particular green because it is within the ADDRI logo and it is the colour of the heart chakra that I breathe in when I practice my healing meditation each day. This colour also relates to our lungs so it’s an integral part of my meditation because I have Mesothelioma and I visualise surrounding my lungs with

a green hue. As I live in the country, whenever I’m driving through the land and the country is bathed in green, I also breathe this in because it is calming and healing. I have included some pink in the sky because it’s the colour of love; and each day I imagine my tumours wrapped in pink, as well as green, to ask them to work with me in this healing process.

I am reclaiming me.”

Nyree Reynolds—Wiradjuri Elder, Blayney NSW

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Asbestos and dust diseases: the facts

Despite being banned in Australia over two decades ago, asbestos remains a serious threat to public health. Millions of tonnes of this hazardous material are still present in buildings nationwide, deteriorating and increasing the risk of exposure.

Each year, approximately 4,000 Australians die from asbestos-related diseases such as mesothelioma, asbestosis, and lung cancer. This alarming statistic significantly exceeds the national road toll.¹

While workplace exposure to asbestos is a well-documented risk, it is crucial to recognise the dangers associated with exposure in residential settings. Asbestos can be found in various household items, including roofing, wall panels, and carpet underlay.

As these materials age, the risk of exposure escalates, particularly during extreme weather events that can release asbestos fibres into the air. The Asbestos National Strategic Plan (2024-2030) emphasises the urgent need for proactive removal to avert thousands of future deaths.

The asbestos in mulch that was discovered in parks and community spaces around Sydney in early 2024, and then subsequently in other states such as Victoria and Western Australia, really highlighted that asbestos is not a ‘thing of the past’ – it remains a clear and present danger. While there was much conversation around the

exposure risks of ‘bonded asbestos’ vs ‘friable asbestos’ – ultimately, low risk does not mean no risk.

The cost of asbestos removal presents a major barrier for many property owners, preventing them from taking essential steps to safeguard their families. One in three houses in Australia still contain asbestos, and advocates are urging for a more streamlined approach to make removal safer, easier, and more affordable.

To tackle this critical issue, governments and policymakers must implement measures to facilitate asbestos removal. Options such as tax incentives, interest-free loans, and subsidies for homeowners could be effective in encouraging action. By prioritising these initiatives, we can protect future generations from the dire consequences of asbestos exposure.

In recent years, another silent killer has emerged: silica. Respiratory Crystalline Silica is a microscopic mineral found in many common materials, including sand, stone, and concrete. When inhaled, silica dust can cause serious lung diseases, such as silicosis, as well as lead to a range of other conditions that affect the immune system, joints and increase risk for lung cancer. It is estimated 600,000 Australian workers may be at risk of silica dust exposure across a wide range of industries.²

The popularity of engineered stone benchtops has led to a significant increase in silica exposure, particularly among stone masons and fabricators. In response to these health risks, Australia has led the way, announcing a world-first ban on engineered stone products in December 2023, to come into effect 1 July 2024. This is a crucial step to help stop the number of deaths and illnesses caused by silica and to stop the history of the asbestos crisis repeating itself.

¹ Source Asbestos and Silica Safety and Eradication Agency

² Source Lung Foundation Australia

Silica-related disease is now recognised as a major occupational health issue – not just for people who have worked with engineered stone, but also workers across a wide range of stonemasonry, construction, tunnelling and mining industries

By recognising the dangers of both asbestos and respirable crystalline silica, we can take proactive steps to mitigate risks and protect our communities.

More needs to be done to educate Australians, eradicate asbestos from our built environment, ensure high regulatory and safety standards to protect workers from exposure to silica dust and crucially, investigate new health treatments that improve the quality and longevity of life.

At ADDRI, this is the mission that drives us.

Asbestos in Australia



ADDRI 1 of a kind

ADDRI is the only stand-alone research facility dedicated to asbestos and dust diseases.



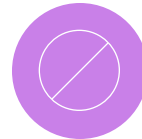
4,469 deaths per year

Estimated deaths per year from occupational asbestos-related diseases.³



831 Mesothelioma deaths

In 2022 — expected to rise to 1,600 deaths from mesothelioma in 2040.⁴



Banned asbestos in 2003

National ban on all types of asbestos came into force 31 December 2003.



1 in 3 homes in Australia

Contain asbestos — homes built and/or renovated before 1990 are likely to contain asbestos.⁵



6.4 Million tonnes of ACMs

Remain in the built environment as of 2021 — 54% of which is AC water pipes and 26% being in residential buildings.⁶



1.2 Million tonnes asbestos waste

Generated in 2022–23 — 4% increase over the previous year (including contaminated soil and rubble).

³ IMHE Global Burden of disease Study 2021 (actual # is 239,333) <https://vizhub.healthdata.org/gbd-results/>

⁴ WHO IARC Global Cancer Observatory 2022 <https://gco.iarc.fr/tomorrow/en>

⁵ Asbestos Safety and Eradication Agency (2022). Communicating asbestos facts and figures to the public <https://www.asbestossafety.gov.au/research-publications/guides-communicating-about-asbestos-risk>

⁶ Asbestos Safety and Eradication Agency (2024). Asbestos Waste data in Australia – 2022–23 Annual Update <https://www.asbestossafety.gov.au/research-publications/asbestos-waste-australia-0>

Australian research. Global outcomes.

Understand. Support. Educate. Collaborate.

ADDRI is an independent, not-for-profit research institute committed to reducing and ultimately eliminating the impact of asbestos and dust-related diseases worldwide. We work in collaboration with individuals and organisations dedicated to eradicating these diseases while providing personalised wrap-around support to those affected by them. Our evidence-led research drives advancements in medical and scientific understanding and guides our global education and training initiatives.

At ADDRI – we are:

Committed – We are unwavering in our dedication to eliminating asbestos and dust-related diseases worldwide.

Determined – We approach our mission with unrelenting resolve, pushing boundaries to achieve our goals.

Independent – Our independence ensures that we act solely in the best interests of those affected by asbestos and dust-related diseases, free from outside influence.

Collaborative – Through partnerships and cooperation, we amplify our impact, working together to make a significant difference.

Evidence-led – Our actions are guided by rigorous research and data, ensuring the most effective strategies in our fight against these diseases.

Transparent – We maintain open communication, sharing our progress, challenges and decisions with complete honesty and clarity.

Global leader – Our status as the WHO Collaborating Centre for Elimination of Asbestos-Related Diseases ensures that our dedication, research and collaboration will have significant impact around the world.



Chairperson's message

This year has been nothing short of transformational as ADDRI has continued to expand its reach to support people impacted by asbestos and dust related disease in Australia and across the world.



In December 2023, we marked 20 years since asbestos was banned in Australia.

I wish that meant Australians were free from risk of it, but this year we were reminded of the extreme danger asbestos still poses with the discovery of it in our mulch. Contaminated site after contaminated site across NSW, Victoria, then Qld were announced and major disruption and anxiety caused to the entire community. This crisis was a stark message that asbestos is still everywhere.

We think of asbestos often as part of our history but with one in three Australian homes, and too many hospitals, schools, universities and public buildings containing asbestos the fight ahead to protect people is long.

The announcement of a full ban on engineered stone this year accelerated our resolve to keep fighting. Everything we do serves those impacted by these deadly diseases and we are passionate about their welfare and fighting for health outcomes that matter.

Outstanding results have been delivered in our laboratories, in our executive management projects, our work with patients and in our educational programs conducted here and internationally. We've secured prestigious new partnerships and further built on crucial long-term relationships that are the lifeblood of our success. Our work cannot be done without these incredible organisations, and I thank each of them deeply for their continued commitment to stop asbestos and dust diseases impacting and hurting more people and their families.

The team at ADDRI has again shown their relentless pursuit of excellence across research, clinical care, patient support, international and national projects and advocacy. As one of the smallest medical research institutes in the country, the team's passion and drive is palpable and it punches above its weight every day.

We drive forward our strategy which was reconfirmed and refreshed by the Board in early 2024 and we progress our ambitious expansion path forward. I thank the CEO Kim Brislane and her executive team for their solid stewardship and laser vision to meeting our goals on time and on budget.

Our growth meant we welcomed a new Academic and Research Director A/Professor Anthony Linton who has long been a part of the ADDRI team and family. As an oncologist, Anthony brings a clinical, translational lens to every element of our work and his expertise keeps the patient at the centre of every decision.

My appreciation extends to the entire Asbestos Diseases Research Foundation Board for their diligence in tackling the complex decisions which is a requirement of the role. Each Director brings expertise to the table ensuring our direction is underpinned with strong governance, well considered understanding and, importantly, the courage to meet our mission.

Peter Tighe
Chairman ADRF

CEO's message

We need everyone walking together, in one direction, with one central mission which is to rid our country and our world of the dangers of asbestos and silica.



The 2023 – 2024 marks my second year as CEO of this extraordinary organisation and I could not love the role or the team I work with more.

They show me each day what commitment and passion looks like, and it is an honour to work alongside them and learn from them daily.

What we do is not easy. It is not easy working with diseases that are avoidable. It is not easy having to advocate day in day out for a seat at the table or to fight for decision and policy makers to understand the risks posed to Australians because of asbestos and dangerous dusts. Yet, we persist because what we do matters.

It matters to the 4,000 Australians who die each year because of an asbestos related disease, and it especially matters to those who loved them. It matters to the 1 in 3 Australian workers at risk of a dust disease and those who love them. It matters to those people in developing countries who still work with asbestos or have homes made of it entirely which means everyone they love is at risk.

Our strategy is ambitious, far reaching and demands heavy lifting. Its cornerstone is collaboration, so it needs everyone walking together, in

one direction, with one central mission which is to rid our country and our world of the dangers of asbestos and silica.

I pay special tribute to the University of Sydney who confirmed their commitment to ending asbestos and dust related disease by signing an MOU with ADDRI this year. Our team are now affiliates of the University and I know this partnership will continue to flourish over the years.

And while this space can be challenging, it is immensely inspiring because of those we are fortunate to work alongside. I thank the Biaggio Signorelli Foundation for their steely determination to fight asbestos related disease. To Paul, Carmela, Anna, Nina, Fina and families, having you by our side means everything to each of us, and our work to strengthen mesothelioma knowledge and expertise in our nursing community will be an enduring legacy.

To the NSW State Government, to icare and ASSEA thank you for your ongoing partnership and vision. We are proud to work with you to achieve real change and to build awareness so that countless lives might be saved.

This year has seen many milestones achieved and you will read about them in these pages. Achieving these milestones takes an army of people and a cache of grunt. Our team has relentlessly pursued every strategic goal until they met it, and they've charged forward with zest, professionalism, non-stop can-do attitude and thankfully, with incredibly good humour. I salute them all.

Our Australian research has far-reaching impact and our WHO Collaborating Centre designation remains central to our work and is testimony to our expertise and reflects the global caution and concern over the escalating dangers of asbestos and dust diseases.

To the Chairman and the entire ADRF Board, thank you. Your sound counsel, your commitment and diligence to our goals have strengthened our team's resolve to get the job done. Your collective wisdom is something I truly value.

Kim Brislane
Chief Executive Officer

A word from our patrons

His Excellency General the
Honourable David Hurley AC
DSC (Retd) Governor General of
the Commonwealth of Australia
and Mrs Linda Hurley



With thanks for your patronage

His Excellency General retired from his position as Governor-General of Australia on the 30 June 2024. ADDRI has benefited enormously from the incredible support and warmth from the Honourable David Hurley and Mrs Linda Hurley during the last three years. They have been a source of great wisdom and wonderful advocates, providing unique insights into the importance of our work via their direct experience in ridding the Australian Defence Force of asbestos.

To His Excellency General the Honourable
David Hurley AC DSC (Retd),

On behalf of the Asbestos Diseases Research Foundation and the entire team at ADDRI, I extend our deepest gratitude for your unwavering patronage over the past three years. Your invaluable support, guidance, and advocacy have been instrumental to our success in advancing research into asbestos and dust diseases. Thanks to your patronage, we've achieved significant milestones, including securing government funding, establishing new research partnerships, and expanding our international reach. We are truly honoured to have had your support.

Kim Brislane
Chief Executive Officer

A word from our patrons

Her Excellency the Honourable Margaret Beazley AC KC
Governor of New South Wales
and Mr Dennis Wilson



Message from Her Excellency the Honourable Margaret Beazley AC KC Governor of New South Wales and Mr Dennis Wilson



Each year, as a result of industrial and building practices in the past – and, sadly, in the more recent past – an estimated 4,000 Australians die due to an asbestos-related disease and an estimated one in four workers exposed to silica dust in mining, construction or working with engineered stone faces a silica-related disease.

Since 2009, the Asbestos and Dust Diseases Research Institute (ADDRI) has led public advocacy, education and support services to those impacted by these diseases and undertaken globally recognised research to achieve better treatment options and outcomes.

This year, the ADDRI team has been buoyed by significant gains and achievements:

- The announcement in April of NSW Government funding of \$5 million to expand ADDRI's work into silicosis research and support;
- The Biaggio Signorelli Foundation's \$1 million donation to establish the Commonwealth Mesothelioma Research Network (CMRN) – an alliance between ADDRI and Mesothelioma UK to open a corridor to share nursing expertise, clinical trials and research, and expand international training and support;
- The successful delivery of international clinical training to Laos and Vietnam in May 2024 and at Binawan University, Jakarta Indonesia in June 2023, supported by the Asbestos and Silica Safety and Eradication Agency (ASSEA) and Union Aid Abroad – APHEDA, in conjunction with ADDRI's

designation as a World Health Organization Collaborating Centre for the Elimination of Asbestos Related Diseases. ADDRI is also in the process of working with the University of Cartagena, Columbia to develop Clinical Guidelines for the diagnosis of non-malignant disease; and

- The launch of a new brand and website and an invaluable podcast series Dust Disease Diaries.

The welcome news of an Australia-wide ban on engineered stone from 1 July 2024 and stronger Safe Work Australia regulation of all crystalline silica substances from 1 September this year has been tempered by recent reports of a rise in exposure to silica dust, underscoring the importance of the Asbestos and Dust Diseases Research Institute's continuing work.

As Patrons, Dennis and I extend the warmest of thanks to all at ADDRI for your dedicated global leadership, research, collaboration and support to people affected by asbestos and dust-related diseases.

Her Excellency the Honourable Margaret Beazley AC KC
Governor of New South Wales

Mr Dennis Wilson

Understand

“Every great advance in science has issued from a new audacity of the imagination.”

John Dewey, American philosopher and psychologist



Our research impact

Our research is at the forefront of combating asbestos and dust-related diseases. Through evidence-based studies, we're advancing medical knowledge and developing innovative solutions. Our focus areas include:

- **Enhanced screening**
Identifying at-risk individuals earlier.
- **Early diagnosis**
Detecting diseases in their early stages for better outcomes.
- **Minimally invasive treatments**
Reducing patient discomfort and recovery time.
- **Laboratory breakthroughs**
Pioneering new approaches to prevention and treatment.
- **Translational**
Bed to bedside approach to ensure direct patient outcomes.

By addressing these critical areas, we're working towards a future where the devastating impact of asbestos and dust-related diseases is significantly reduced, if not eliminated entirely.



Our research projects

Earlier and less invasive diagnosis of disease for patients

Biomarker discovery & Liquid biopsy

Project title

Circular RNAs as a biomarker signature for mesothelioma diagnosis

Research Team: Ben Johnson, Richard Zelei, David Baker, Ling Zhuang, Emma Rath, Scott Fisher, Sonja Klebe, Anthony Linton, Yuen Yee Cheng, Elham Hosseini-Beheshti

Circular RNA (circRNA) is a novel class of RNA that possess desirable biomarker qualities for a liquid biopsy-based diagnosis of mesothelioma given that they are highly stable in blood circulation and are associated with cancer development. Dr Ben Johnson and the project team are continuing work on an innovative project that aims to develop a minimally-invasive circRNA-based diagnostic screening technique for asbestos-exposed individuals who are at risk of developing mesothelioma. Our early microarray data demonstrated that there are up to 300 circRNAs that are overabundant in mesothelioma cell lines in comparison to non-malignant (healthy) cell controls. From this preliminary data, the project team have identified eight potential

circRNA biomarker candidates and applied a modern droplet digital PCR (ddPCR) technique to detect and quantify them in a large collection of cells derived from mesothelioma, other cancer and non-malignant (healthy) biospecimens. Our data indicates the potential capacity of the circRNA biomarker candidates to facilitate a differential diagnosis of mesothelioma, given that the ddPCR analysis has confirmed their overabundance in mesothelioma cells compared to non-malignant and other cancer cell types.

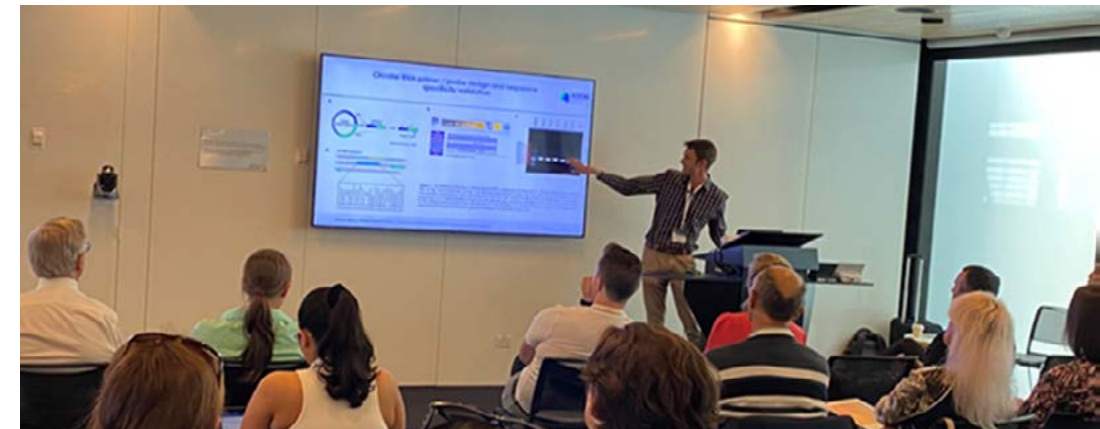
The research team are currently working to further validate the circRNA biomarker candidates in an extensive collection of patient biospecimens and an asbestos-exposed animal model. This next phase of the study

will effectively determine whether the biomarker candidates have the capacity to facilitate an early, accurate and sensitive diagnosis of mesothelioma.

The aim?

A successful outcome of this project will ensure that asbestos-exposed individuals are diagnosed earlier and accurately before disease symptoms manifest or progress to an advanced stage. In turn, this will facilitate the prompt implementation of treatment strategies that aim to improve the overall survival and quality of life of the patient.

Dr Ben Johnson presenting at the recent Bio-Rad ddPCR User Group Forum (Sydney-September 2024)



Project title

Extracellular vesicle-associated circular RNAs as a biomarker for mesothelioma diagnosis

Research Team: Ben Johnson, David Baker, Richard Zelei, Winston Lay, Tamkin Ahmadzada, Anthony Linton, Elham Hosseini-Beheshti

Extracellular vesicles (EVs) constitute a promising liquid biopsy diagnostic biomarker due to their abundance, stability in circulation and enrichment with disease-specific cargo. An enrichment of circular RNAs (circRNAs) in small EVs, such as exosomes, have previously been reported for a range of cancer types, thus highlighting their strong potential as biomarker for cancer diagnosis.

Therefore, Dr Ben Johnson and the project team have commenced work to assess the diagnostic accuracy and sensitivity of the eight aforementioned circRNA biomarker candidates in EVs derived from mesothelioma biospecimens. To date, the project team have effectively isolated and characterised distinct EV subpopulations (small and large EVs) derived from mesothelioma, other cancer and non-malignant cells and applied the droplet digital PCR (ddPCR) technique to quantify their associated circRNA cargo. Our data has highlighted the potential for mesothelioma-derived EVs to enable a more sensitive diagnosis of mesothelioma given that the ddPCR analysis confirmed all three distinct EV subpopulations to contain elevated circRNA levels compared to circRNAs derived from the tumour cells themselves.

Additionally, this study has demonstrated the potential for EV-derived circRNAs to facilitate a differential diagnosis of mesothelioma given that the ddPCR analysis confirmed the presence of elevated circRNA levels in EVs derived from mesothelioma cells in comparison to those from other cancer and non-malignant cell types. The next phase of the study will aim to further validate the diagnostic potential of EV-associated circRNAs using EVs isolated from patient tissue and blood samples.

The aim?

A successful outcome of this project will facilitate the development of an EV-circRNA liquid biopsy diagnostic technique that has the potential to facilitate a sensitive and accurate diagnosis of mesothelioma.

Dr Ben Johnson presenting at the International Society of Extracellular Vesicles (Melbourne-April 2024)

Project title

Extracellular Vesicles, a Gateway to Precision Medicine: Immunotherapy in Mesothelioma

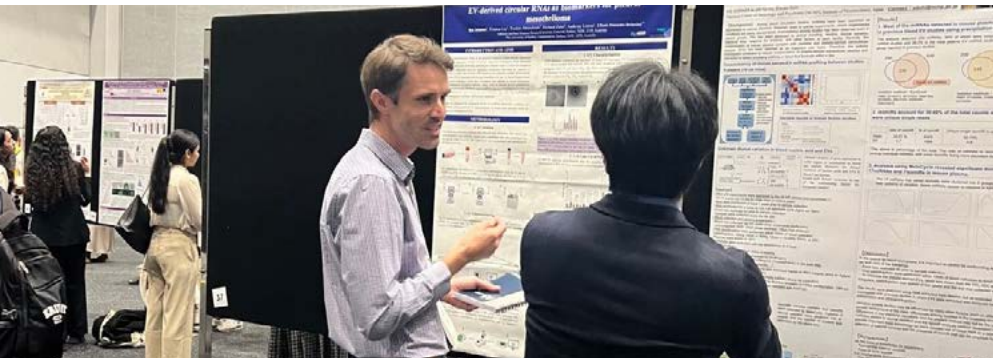
Research Team: Vivek Dharwal, Tamkin Ahmadzada, Dannel Yeo, Anthony Linton, Stephen Clark, Fatemeh Vafaei, Steven Kao, Elham Hosseini-Beheshti

Immunotherapy is a treatment that uses the body's defence system to fight against cancer cells and has revolutionised the field of cancer therapy. In pleural mesothelioma, immunotherapies have become a standard treatment. CheckMate 743 phase 3 trial has shown that combining nivolumab plus ipilimumab (checkpoint inhibitors) significantly extended overall patient survival versus chemotherapy. However, a significant proportion of patients do not achieve a robust therapeutic response to Immunotherapy. Therefore, further research is needed to identify predictive biomarkers that could facilitate the development of personalised treatment strategies tailored to individual patient characteristics.

Extracellular vesicles (EVs), membrane-bound vesicles carrying bioactive molecules, are abundantly secreted into bodily fluids and tumour microenvironment. Their high secretion rate and emerging roles in cancers make them ideal candidates for investigation as potential predictive biomarkers in pleural mesothelioma. **Dr Vivek Dharwal** and the project team in this study aim to isolate and characterise extracellular vesicles from pleural mesothelioma patients undergoing Immunotherapy. Using a previously standardised protocol, EVs will be isolated from the patient's plasma samples. The cargo of the isolated EVs, pre- and post-immunotherapy, will be comprehensively analysed using various omics platforms.

The aim?

To determine whether EVs play a role in the response to Immunotherapy, how their cargo changes following treatment, and whether they can serve as predictive biomarkers for therapeutic outcomes.



Project title

Liquid Biopsy: A Novel Approach for Early Silicosis Diagnosis

Research Team: Vivek Dharwal, Ben Johnson, Deborah Yates, Steven Kao, Anthony Linton, Elham Hosseini-Beheshti

Silica, especially respirable crystalline silica (RCS), is recognised as a class 1 human carcinogen. Over the past two decades, the resurgence of Silicosis and silica-related diseases has emerged as a global concern, underscoring the urgency of addressing these preventable yet fatal conditions. The health screening program in Australia has brought forth disconcerting revelations, indicating that 20-30% of workers in the engineered stone industry bear radiological evidence of disease, marking a widespread epidemic of Silicosis within the occupational landscape.

The current method of detection of Silicosis primarily includes imaging and spirometry. However, early asymptomatic stages of the disease and limited availability of advanced imaging setup led to underdiagnosis of the disease. Thus, there is a dire need for advanced, less invasive, and rapid biomarkers to diagnose the disease. In this project, we aim to isolate EVs from the plasma samples of patients with Silicosis using the standardised method. Using the advanced omics analysis, we will extensively study EV cargo to identify biomarker signatures (proteins, miRNA, and cRNAs).

The aim?

Given that EVs are abundantly present in biofluids, this project's findings will help identify new biomarkers and develop less invasive, rapid, and more accessible methods for detecting Silicosis, especially for at-risk populations exposed to silica dust.

Dr Elham Hosseini-Beheshti receiving the Maurice Blackburn Grant-In-Aid Award for Occupational Lung Disease at the TSANZ ASM (Gold Coast-March 2024)



Mechanisms in dust disease development and progression

Project title

Deciphering Extracellular Vesicle Influence on Tumour Microenvironment and MPM Development

Research Team: Vivek Dharwal, Winston Lay, Richard Zelei, Ling Zhuang, Ali Azimi, Lucy Wang, Fatemeh Vafaee, Zaklina Kovacevic, Steven Kao, Anthony Linton, Elham Hosseini-Beheshti

Pleural Mesothelioma (PM) is an aggressive cancer driven by the uncontrolled proliferation of mesothelial cells following asbestos exposure. The limited understanding of PM pathogenesis, the short durability of available therapies, and the high resistance rate to T cell-mediated immunotherapies underscores the urgent need for research.

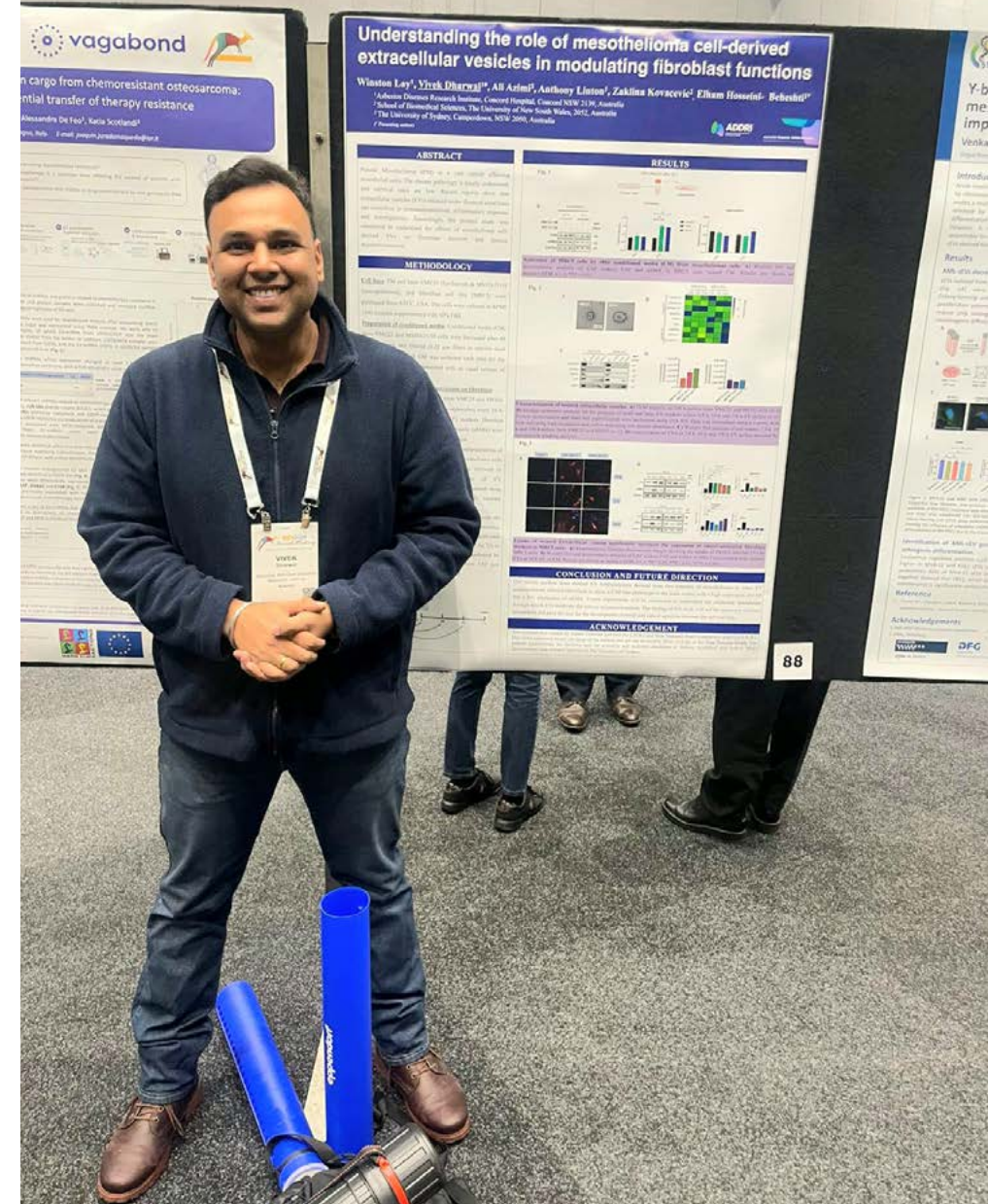
Tumour microenvironment (TME) is a complex and dynamic ecosystem of cancer cells surrounded by non-malignant cells like fibroblasts, immune cells, etc. TME play a critical role in PM progression and associated drug resistance. Thus, understanding the complex signalling associated with TME can help understand PM pathogenesis and progression.

Extracellular vesicles (EVs), membrane-bound vesicles carrying bioactive molecules, are abundantly secreted into bodily fluids and TME. Their high secretion rate and emerging roles in cancers make them ideal candidates for investigation. In this project, Dr Dharwal and the team explored the role of PM-derived EVs on PM-TME to elucidate their role in modulating cellular interactions and signalling pathways. Using our established protocol, we successfully isolated three distinct EV subpopulations—2.8K, 10K, and 100K—from the conditioned media of both PM and non-malignant cells.

Using the latest omic platforms, the miRNA and protein cargo have been studied extensively. To investigate their role in TME, fibroblasts were treated with PM-derived EVs, and the expression of cancer-related genes were assessed. Through RNA sequencing and subsequent statistical enrichment analysis, followed by experimental validation in the laboratory, we identified differentially expressed genes, elucidated key molecular pathways, and highlighted potential therapeutic targets for PM.

To our knowledge, this is the first comprehensive study investigating the role of PM-derived EVs on Fibroblast and PM-TME.

Dr Vivek Dharwal presenting at the International Society of Extracellular Vesicles (Melbourne-April 2024)



Advancing asbestos and dust disease treatments for patients

Project title

The application of a 3D cell culture model to assess the utility of novel immunotherapy drugs for the treatment of mesothelioma

Research Team: Peter Shi, Ben Johnson, Anthony Linton, Steven Kao, Elham Hosseini-Beheshti.

Current clinical implementation of new and improved anti-cancer drug screening relies heavily on conventional two-dimensional (2D) cell culture models. As a consequence, initial anti-cancer drug tests were often found to be inefficient due to poor correlation between the 2D model and human pathophysiology. In this project, Dr Shi and the project team aim to apply a three-dimensional (3D) cell culture model to assess the anti-cancer activity of new immunotherapy drug combinations.

The research team recently developed a unique 3D model to grow mesothelioma cancer cells in combination with immune cells for immunotherapy drug screening. We expect that our 3D model closely resembles the cancer-immune cell interactions that typically occur in humans, a quality that conventional 2D models lack. We will first ensure that our proposed 3D model closely resembles the human cancer environment by comparing the composition of our 3D cell culture model to the actual mesothelioma patient tumour samples.

We will then apply this model to assess the anti-cancer activity of new immunotherapy drug combinations that are worthy of progressing to clinical trials. The immunotherapy drug combination(s) that demonstrate strong anti-cancer activity in our 3D model will then be tested in a mesothelioma mouse model (mice bearing mesothelioma tumours) and compared with the current standard care immunotherapy combination. We anticipate that the anti-cancer response to immunotherapy in the mouse model will match the drug response of cancer cells grown in our 3D model.

The aim?

Ultimately, we anticipate that our 3D model can be utilised as a platform for the rapid screening of new immunotherapy drug combinations that have the potential to progress to subsequent testing in clinical trials. A successful outcome will facilitate the development of improved immunotherapy combinations that can replace existing standard care treatments for mesothelioma patients. Our study will make a vital contribution towards improved mesothelioma patient survival and quality of life outcomes.

Project title

Is epigenetic alteration implicated in the treatment response of pembrolizumab?

Research Team: Peter Shi, Helen Ke, Ling Zhuang, Emma Rath, Ben Johnson, Richard Zelej, Sakthi Priya Selvamani, Anthony Linton, Steven Kao, Yuan Yee Cheng, Elham Hosseini-Beheshti.

For many years, chemotherapy has been the primary treatment for pleural mesothelioma (PM), but it often leads to poor and short-lived responses. Recently, targeting the PD-1/PD-L1 pathway with immune-check inhibitors has emerged as a significant treatment option for advanced non-small cell lung cancer (NSCLC) patients. While pembrolizumab, a PD-1 antibody, has shown some effectiveness in PM patients, the latest randomized clinical trial, PROMISE-Meso, did not demonstrate pembrolizumab's superiority over chemotherapy in terms of progression-free survival (PFS) and overall survival (OS). The over-response rate (ORR) in the PROMISE-Meso trial was similar to previous single-arm trials, suggesting that only a subgroup of PM patients may benefit from

pembrolizumab. This underscores the urgent need to identify predictive biomarkers of efficacy for single-agent immunotherapy in order to identify patients likely to respond to such treatment.

So far, no research has investigated the relationship between patient response to pembrolizumab (an anti-PD-1 antibody) and epigenetic biomarkers using pleural mesothelioma patient samples.

The aim?

Our research team aims to study changes in epigenetic biomarkers, such as microRNA and DNA methylation, in different mesothelioma patient samples that respond to pembrolizumab. The detailed clinical data available will help identify potential biomarkers that can predict how patients will respond to pembrolizumab immunotherapy treatment and ultimately benefit those suffering from mesothelioma.

Project title

Modulating gut microbiome to enhance the efficacy of immunotherapy in mesothelioma

Research Team: Peter Shi, Howard Yim, Emad El-Omar, Steven Kao, Anthony Linton, Elham Hosseini-Beheshti

The recently approved immunotherapy combination of nivolumab (anti-PD-1) and ipilimumab (anti-CTLA-4) has been a groundbreaking treatment for mesothelioma. However, treatment efficacy can vary widely among individuals and is poorly understood. It is essential to explore mechanisms underlying the failure of anti-PD-1+ anti-CTLA-4 and develop a precision medicine-based treatment to enhance its efficacy.

Dr Shi and the team recently screened fifty mice to assess the relative efficiency of standard-of-care treatment in inhibiting pleural mesothelioma tumours. We found that mice responding to anti-PD-1+anti-CTLA-4 immunotherapy (R) showed a different gut microbiota composition compared to non-responders (NR). After the immunotherapy, R showed an increase in the richness and diversity of the gut microbiome. We also performed shotgun metagenomic sequencing on the extracted DNA samples, and the sequencing results demonstrated heightened bacteria spp. in animals that positively responded to the anti-PD-1+ anti-CTLA-4 immunotherapy.

These findings led us to hypothesise that the different gut microbiome composition between responder and non-responder and the presence of bacteria spp. may be linked to enhanced responsiveness to immunotherapy observed. As a result, our study aims to explore whether manipulating the gut microbiome through fecal microbiota transplantation (FMT) and/or probiotic administration could significantly improve immunotherapy responsiveness in mesothelioma.

The aim?

This project will uncover the connection between the gut microbiome and the effectiveness of immunotherapy in treating mesothelioma. It will delve into uncharted territory as the first comprehensive investigation into the gut microbiome's impact on immunotherapy response in pleural mesothelioma. The successful outcome of this proposed research will provide a compelling biological rationale for leveraging the gut microbiota as a potential target to enhance immunotherapy outcomes, potentially leading to significant advancements in mesothelioma treatment.



Project title

Clinical Trial: A Phase I study of Leptospermum for patients with mesothelioma (LEPO) – The ‘Honey’ Project

Research Team: Peter Shi, Stephen Clarke, Elham Hosseini-Beheshti, Anthony Linton, Steven Kao

There is an urgent need to discover new therapeutic targets for pleural mesothelioma. Unfortunately, since the approval of cisplatin and pemetrexed as first-line chemotherapy in 2003, there have been very few advancements in the treatment of mesothelioma.

Dr Peter Shi presenting at the Thoracic Oncology Group of Australasia (Sydney-July 2024)



The 2020 CHECKMATE-743 trial was the first phase 3 trial to show a survival advantage of ipilimumab and nivolumab over cisplatin and pemetrexed. However, the overall survival difference was modest (18.1 vs 14.1 months), and there was no significant difference in disease control rate (77 vs 85%) or objective response rate (40 vs 43%). Additionally, this treatment strategy is limited by the inability to select patients for immunotherapy and the high rates of grade 3 toxicity (31 vs 32%).

There is significant interest in natural products for developing new anti-cancer therapies. Our recently published study on an extract from Leptospermum (QV0) showed evidence of growth suppression in mesothelioma cells through mitochondrial dysfunction-related apoptosis. Furthermore, the study demonstrated anti-tumour activity in a mesothelioma animal model with no clinical, biochemical, or anatomical evidence of hepatotoxicity. Given this evidence of anti-tumour activity with minimal toxicity, we believe there is sufficient justification to further investigate this agent in phase 1 clinical trial.

The aim?

In the Phase 1 trial led by A/ Prof Steven Kao, approximately 18 participants will be given Leptospermum extract to take orally for 6 weeks. The extract dose will be increased every 6 weeks for a total of 24 weeks. During this period, participants will be required to provide blood, stool, and urine samples, complete questionnaires, and will be monitored for side effects. The aim of this trial is to determine if Leptospermum extract can be used safely in humans to control cancer by itself or in combination with other conventional treatments, including chemotherapy and immunotherapy for mesothelioma patients.

Project title

Comparing 2D and 3D cell culture model as a platform to understand resistance mechanisms in chemotherapy treatment of mesothelioma: in vitro and in vivo

Research Team: Peter Shi, Sakthi Priya Selvamani, Richard Zelei, Ling Zhuang, Ben Johnson, Yiwei Wang, Tristan Rutland, Steven Kao, Anthony Linton, Yuen Yee Cheng, Elham Hosseini-Beheshti

Until recently, most studies to screen drugs for cancer treatment were conducted on traditional two-dimensional (2D) models. When translated to clinical settings, these treatments failed to achieve the desired efficacy as the 2D models failed to represent the cancer environment observed in humans. Being an aggressive cancer in the thoracic region, pleural mesothelioma is presented with limited treatment options and a poor patient prognosis. A combination of chemotherapy is the first-line treatment option with a moderate response rate in patients. As the 2D models are inefficient in studying the drug resistance mechanisms observed in patients, developing a better model to understand the biology and treatment response in mesothelioma is crucial. We recently reported a 3D cell culture model for mesothelioma and used the same to understand the chemotherapy resistance mechanisms.

In this study, our research team have investigated the various biological mechanisms that confers resistance to chemotherapy by growing mesothelioma cells in 2D and 3D models. We used a combination of cisplatin and pemetrexed, the standard chemotherapy in clinics,

and utilised a few other drugs in a single regimen. Our findings revealed that the mesothelioma cells grown in 3D spheroids exhibited higher resistance to cisplatin and pemetrexed combination treatment. The observed chemotherapy resistance is attributed to reduced metabolic profile, evasion of cell death, and other processes improving the survival of cancer cells. All these processes were similar in our cell culture and animal models and closely resembled the profiles of mesothelioma patients. By analysing several cancer-associated proteins, we identified key pathways that play a vital role in chemoresistance.

The aim?

We strongly believe the outcome of our findings will help in the screening and developing of new drugs to enhance the survival of mesothelioma patients.

The ADDRI Biobank

In 2023/2024, ADDRI has undergone a period of remarkable growth and expansion, underscored by the opening of new sites and the forging of strategic partnerships across NSW and Australia.

This surge in activity reflects the institute's commitment to advancing research and collaboration in the asbestos and dust disease space. As we continue to scale our operations, the future is both promising and busy, with numerous projects and initiatives already underway.

One of the key milestones this year is the initiation of the recruitment process for a Manager of Ethics and Research Governance. This essential role will ensure that our research activities adhere to the highest ethical standards while aligning with ADDRI's mission of advancing public health. The Manager will oversee the preparation and submission of ethics applications, secure site approvals for the ADDRI biobank, and provide governance support across our clinical trials and research projects. They will play a critical role in liaising with research governance

offices, fostering collaboration with research sites throughout NSW and Australia, and ensuring compliance with Good Clinical Practice (GCP) standards. Their leadership will be pivotal in maintaining the integrity and compliance of ADDRI's growing research portfolio.

In addition to their operational duties, the Manager of Ethics and Research Governance will play a strategic role in the development and assessment of grants. By contributing to the design and submission of funding applications, they will help secure essential resources that will fuel future research and innovation at ADDRI.

Another major milestone is the commencement of one of the most comprehensive sample and data audits ever undertaken by the institute. This audit aims

to establish a robust system for managing and analysing our vast biobank of samples and associated data, solidifying ADDRI's leadership in asbestos and dust disease research. The results of this audit will not only enhance our research capabilities but will also provide a foundation for future scientific discoveries that will benefit patients and the broader community.

Looking ahead, ADDRI is also focused on expanding its digital presence. Plans are underway to further develop our Biobank website, making it a central hub for research dissemination, stakeholder engagement, and collaboration. By enhancing our online platform, we aim to broaden our reach and strengthen connections with partners both nationally and internationally, ensuring that ADDRI remains at the cutting edge of research and advocacy in the asbestos and dust disease sector.



Introducing our new Academic and Research Director, A/Professor Anthony Linton



We are delighted to announce the appointment in December of Dr Anthony Linton as ADDRI's new Academic and Research Director. Dr Linton is a senior staff specialist in medical oncology at Concord Cancer Centre in Concord Repatriation General Hospital. He specialises in mesothelioma, undertaking his PhD at ADDRI on the prognosis and treatment of this asbestos cancer between 2011 – 2014.

Anthony has been associated with the Asbestos and Dust Diseases Research Institute since 2011, when he joined as the first Biaggio Signorelli Fellow and completed his PhD at ADDRI investigating prognostic factors and new therapeutic targets in malignant pleural mesothelioma. He continued to collaborate with ADDRI researchers in translational research projects as an expert advisor and in 2024 was appointed the Academic and Research Director of the Institute.

He has published widely in international peer reviewed journals and he has presented on mesothelioma and other thoracic malignancies at national and international meetings. A principal investigator on a number of clinical trials, Anthony is passionate regarding the translation of research from the laboratory to the clinic.

Anthony has a keen interest in education and training, previously serving as network director of physician training at the Concord Hospital Network, and is a senior clinical lecturer at the University of Sydney.

With a strong passion and focus to translate research into clinical outcomes to improve patient outcomes, his stewardship and vision will guide our research team to achieve our mission of uncovering better diagnosis, treatment and care for people with asbestos and dust-related diseases.

“As Academic and Research Director, I’m thrilled to be working alongside our dedicated and passionate team to develop innovative tools and therapies aimed at better diagnosing and treating dust-related diseases. I’m deeply committed to translating our research into tangible outcomes for patients, offering new hope to those affected and their families.”

Developing the new Australian Clinical Guidelines for the Diagnosis and Treatment of Pleural Mesothelioma

ADDRI has assembled a national committee of the world's leading mesothelioma experts to write the new consensus-based Australian Clinical Guidelines for the Diagnosis and Treatment of Pleural Mesothelioma. The last guidelines were published in 2013 and a lot has changed. Chair Professor Sonja Klebe and ADDRI Academic and Research Director A/Professor Anthony Linton will lead the development of this updated document to bring the latest organisation and evidence-based approaches to the diagnostic assessment process for pleural mesothelioma, and to enable tailored treatments for patients.



Thank you to the incredible team involved across the key speciality areas.

| | |
|--------------------------------|-------------------------------|
| Epidemiology | Prof David Roder, SA |
| | Prof Tim Driscoll, NSW |
| Radiology | Dr Michael Jones, NSW |
| | Dr Catherine Jones, QLD |
| | Dr Yijin Kuok, WA |
| Physician | Prof Gary Lee, WA |
| | Dr Anthony Johnson, NSW |
| Pathology | Prof Sonja Klebe, SA |
| | Prof Wendy Cooper, NSW |
| Treatment/Surgery | Dr Stephen A Barnett, VIC |
| | Dr Jazmin Eckhaus, VIC |
| Palliative care | Prof David Currow, NSW |
| | Dr Vanessa Brunelli, NSW |
| | A/Prof Anthony Linton, NSW |
| Medical oncology | Prof Nick Pavlakis, NSW |
| | Prof Stephen Clarke, NSW |
| | Prof Kenneth O'Byrne, QLD |
| | Dr Melvin Chin, WA |
| | A/Prof Tom John, VIC |
| | A/Prof Steven Kao, NSW |
| Radiation oncology | Dr Nick Bucknell, WA |
| | Dr Momo Tin, NSW |
| Supportive care/Nursing | Dr Vanessa Brunelli, NSW |
| | Jocelyn McLean (Gaskill), NSW |
| Consumer | Vicki Hamilton, VIC |
| | Jenny Weismantel, NSW |

ADDRI's current research projects 23-24

| Grant Title | Project Summary | Funder | Investigators |
|--|--|--------|---|
| <p>1.</p> <p>A novel 3D model for drug screening in mesothelioma</p> | <p>Impact:</p> <p>Previous models often produce results that fail to be replicated in animal and human trials. A 3D model allows us to more rigorously select potential treatments for further study, saving time and resources that could be better spent on more effective treatments that will go on to benefit patients and their families. These models can also reveal why existing treatments may not work in many patients and allow an exploration of the mechanisms to overcome this.</p> <p>Overview:</p> <p>To facilitate drug screening that can be fast tracked into the clinic, we have developed a model using porcine lung as a 3D scaffold. When compared to 2D culture, cells grown in this 3D model exhibited markers and expression levels that were like real tumours. We plan to further characterise the cancer biology and drug responses of this 3D model.</p> | iCare | <p>PI: Anthony Linton</p> <p>Investigators: Peter Shi Ben Johnson</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|---|--------------|--|
| <p>2.</p> <p>Phase 1 study of <i>Leptospermum polygalifolium</i> extract in mesothelioma</p> | <p>Impact:</p> <p>To develop a novel approach that combines beneficial immunotherapy with anti-cancer natural products.</p> <p>Overview:</p> <p>We have conducted preliminary studies of a specific extract from <i>Leptospermum polygalifolium</i> (QV0) which demonstrated anti-proliferative activity in vitro, and anti-tumour activity in in vivo animal studies. Importantly, there was no clinical, biochemical or anatomical evidence of toxicity in the tested animals.</p> <p>This project is a Phase 1 study of QV0 to determine its potential utility as a monotherapy agent for patients with MPM.</p> <p>This will involve a determination of a safe dose, identification of potential toxicities and characterization of the pharmacokinetic profile of this product. We intend to further investigate the safety of combining QV0 with standard of care chemotherapy or checkpoint inhibitors in dose expansion safety cohorts.</p> | <p>iCare</p> | <p>PI: Steven Kao</p> <p>Investigators: Peter Shi Stephen Clarke</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|--|---|--|
| <p>3.</p> <p>Circular RNAs as Novel Biomarkers Detectable in Blood Plasma to Facilitate Malignant Pleural Mesothelioma Diagnosis</p> | <p>Impact:</p> <p>The development of a blood test to identify disease as effectively as invasive methods will help the early detection of patients who are impacted by mesothelioma. This could help identify workers at a higher risk of developing disease so that they could be monitored closely in the community.</p> <p>Overview:</p> <p>Same as the iCare circular RNA project (below item 5), but with a more in-depth focus on whether the circular RNA biomarkers can potentially be utilised to monitor patient response to treatment following their diagnosis. This study utilises an innovative mesothelioma animal (mouse) model which will allow us to determine whether the circular RNA biomarkers can be used to predict whether an asbestos-exposed individual is likely to develop mesothelioma before disease symptoms manifest. A successful outcome of this study would likely facilitate the establishment of pop-up screening clinics that can be accessed by individuals/families with a history of asbestos-exposure. Individuals identified as being at risk of developing mesothelioma could then seek preventative treatments strategies or be monitored more closely by their GP before disease symptoms manifest.</p> | <p>U.S. Department of Defense (DoD)</p> | <p>PI: Yuen Yee Cheng (UTS)</p> <p>Investigators: Ben Johnson (ADDRI) Scott Fisher (UWA)</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|---|--------------|---|
| <p>4.</p> <p>Is epigenetic alteration implicated in the treatment response of pembrolizumab?</p> | <p>Impact:</p> <p>A better understanding of why immunotherapy is effective in some patients but not others, will help better select patients for treatment but also assist with the development of better forms of immunotherapy to overcome previous barriers.</p> <p>Overview:</p> <p>In this project we have collected 75 samples from our recent pembrolizumab review and aim to investigate whether epigenetic alteration has any implication in treatment response of pembrolizumab in MPM. We plan to study any alteration of DNA methylation and microRNA epigenetic biomarkers in these samples and to study epigenetic biomarkers contributing to biological response in MPM. The successful outcomes in this project will provide a) epigenetic biomarkers to predict pembrolizumab response, b) biomarkers to monitor and c) discovering disruption of biomarkers to enhance immunotherapeutic agents in MPM.</p> | <p>iCare</p> | <p>PI: Steven Kao</p> <p>Investigators: Peter Shi</p> |



| Grant Title | Project Summary | Funder | Investigators |
|---|---|--------------|---|
| <p>5.</p> <p>Circular RNAs as potential biomarkers for malignant pleural mesothelioma</p> | <p>Impact:</p> <p>The development of a blood test to identify disease as effectively as invasive methods will help the early detection of patients who are impacted by mesothelioma. This could help identify workers at a higher risk of developing disease so that they could be monitored closely in the community.</p> <p>Overview:</p> <p>This project aims to identify and validate new blood-based biomarkers to facilitate an improved and less invasive diagnosis of mesothelioma. A successful outcome of this study will ensure that asbestos-exposed individuals are diagnosed earlier before disease symptoms present and/or reach an advanced stage. This in turn will facilitate a prompt administration of treatment strategies that will have a greater likelihood of improving the overall survival and quality of life of the patient.</p> <p>As per the DoD Grant – Item 3 above.</p> | <p>iCare</p> | <p>PI: Anthony Linton</p> <p>Investigators: Ben Johnson</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|---|-------------|--|
| <p>6.</p> <p>The application of a 3D cell culture model to assess the potential utility of novel immunotherapy drugs for the treatment of mesothelioma</p> | <p>Impact:</p> <p>These new models better represent a real world tumour environment, which can then be used to trial new combinations of immunotherapy. The best performers can then advance to animal and patient trials to improve the outcomes of patients with mesothelioma.</p> <p>Overview:</p> <p>Our team has established a 3D decellularized porcine (pig) lung scaffold-based mesothelioma cell culture model that closely resembles the tumour microenvironment and drug response behaviour of primary epithelioid mesothelioma tumours. We have recently optimised this model to incorporate tumour cells derived from mesothelioma patients to be co-cultured with human leukocyte antigen (HLA)-matched peripheral blood-derived B and T cells from healthy donors for the purpose of prospective immunotherapy drug screening. We, therefore, propose to use this novel 3D co-culture model to evaluate its efficacy to screen novel immune checkpoint targets for epithelioid pleural mesothelioma.</p> | <p>TOGA</p> | <p>PI: Peter Shi</p> <p>Investigators: Ben Johnson Steven Kao Elham Beheshti</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|--|---|---|
| <p>7.</p> <p>Investigate gut microbiota influence on immunotherapy response in pleural mesothelioma mice model</p> | <p>Impact:</p> <p>A better understanding of how the bacteria within our gastrointestinal tract can impact the effectiveness of immunotherapy will allow future interventions- whether they be diet or treatment-related - that can overcome resistance and improve survival in mesothelioma patients.</p> <p>Overview:</p> <p>Evidence from pre-clinical and clinical research has shown that the gut microbiota (e.g., bacteria and viruses) can modulate antitumour immunity and affect the efficacy of cancer immunotherapies, especially immune checkpoint inhibitors (ICIs). The gut microbiota stimulates CD8+ T cells, CD4+ T helper cells and dendritic cells in melanoma and NSCLC, enhancing the anti-cancer response. However, research on the gut microbiota in mesothelioma that ICIs (PD-1/CTLA-4) remains unknown. We planned to investigate the gut microbiota influence on pleural mesothelioma mice receiving anti-PD-1/anti-CTLA-4/anti-TIGIT immunotherapies. This funding would be a huge contribution to generating the preliminary data. Ultimately, we can enhance the response rate for ICIs therapy by understanding gut microbiota in pleural mesothelioma.</p> | <p>50,000 AUD Funding is supported by Trevor and Shirley Seaman</p> | <p>PI: Peter Shi</p> <p>Investigators: Elham Beheshti Anthony Linton Steven Kao Howard Yim Emad El-Omar Ziaotao Jiang</p> |

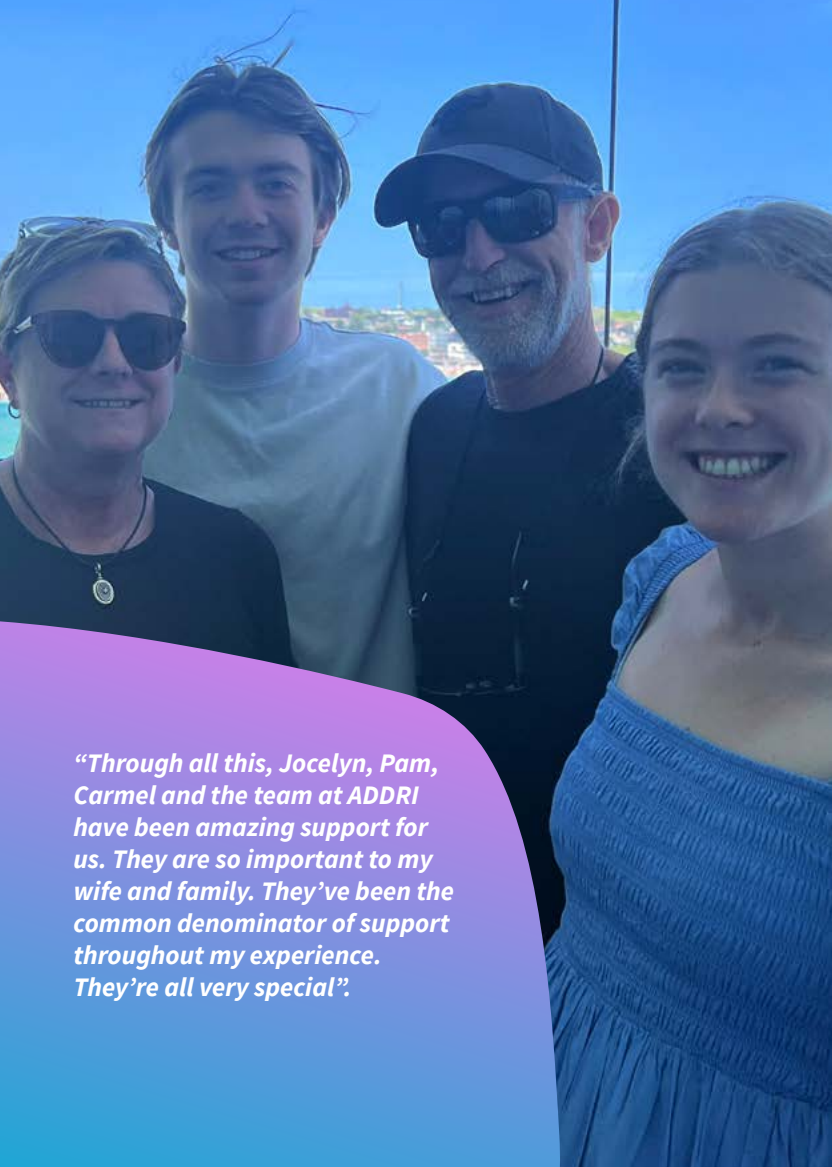


| Grant Title | Project Summary | Funder | Investigators |
|---|---|--------------|---|
| <p>8.</p> <p>Extracellular Vesicles, a Gateway to Precision Medicine: Immunotherapy in Mesothelioma</p> | <p>Impact:</p> <p>A better understanding of why immunotherapy is effective in some patients but not others, will help better select patients for treatment but also assist with the development of better forms of immunotherapy to overcome previous barriers.</p> <p>Overview:</p> <p>Extracellular vesicles (EV) are nano-sized vesicles released from all cells and present in all biological fluids. These nanovesicles carry cell-specific cargos including proteins, lipids and genetic material, thereby acting as novel intercellular messengers. In this research proposal we will comprehensively characterize the EV derived from PM cell lines and patients' samples for their novel potential in PM diagnosis via a less invasive procedure. We also will investigate the changes in the EV cargo upon immunotherapy with Pembrolizumab, in our clinical samples. The association between changes in EV PD-L1 expression and clinical outcome will also be studied as part of our biomarker discovery. Finally, the role of MPM-derived EV in modulating invasion into neighboring tissues and secondary-tumour formation will be investigated in the light of discovering novel preventive therapeutic strategies contributing to the field of precision medicine.</p> | <p>iCare</p> | <p>CIA: Elham Beheshti</p> <p>AI: Georges Grau, Steven Kao, Stephen Clark</p> |



| Grant Title | Project Summary | Funder | Investigators |
|--|--|--------|--|
| <p>9.</p> <p>Liquid Biopsy: A Novel Approach for Early Silicosis Diagnosis</p> | <p>Impact:</p> <p>This will benefit patients by developing a screening and diagnostic tool to identify patients early in their disease, which will allow earlier interventions to improve the burden of disease for patients and their families.</p> <p>Overview:</p> <p>The significance of this research lies not only in facilitating earlier diagnosis, thereby minimising further exposure, but also in enabling interventions at an earlier stage to enhance the quality of life for patients in the absence of a definitive treatment. Additionally, investigating molecular changes in the context of silicosis may uncover potential therapeutic targets, paving the way for innovative treatment modalities and addressing this pressing healthcare challenge.</p> | TSANZ | CIA: Elham Beheshti <p>AI: Ben Johnson, Anthony Linton, Steven Kao, Deborah Yates, Fatemeh Vafae</p> |

Patient story



“Through all this, Jocelyn, Pam, Carmel and the team at ADDRI have been amazing support for us. They are so important to my wife and family. They’ve been the common denominator of support throughout my experience. They’re all very special.”

Warren’s story: living with Mesothelioma

Warren, a resident of the Upper Hunter Valley in NSW, shares his journey living with mesothelioma. His wife, Christine, a recently retired primary school teacher, and their two university-enrolled children provide unwavering support. Despite losing one lung, Warren maintains his independence, cares for himself, and even enjoys a round of golf.

Warren’s career began as an apprentice fitter machinist in 1979, where he was exposed to asbestos in power stations and his workplace. He recalls a lack of education about asbestos at the time. After completing his apprenticeship, Warren spent the rest of his career working in coal mines and on his family’s dairy farm.

One day in June 2018, feeling unwell after working at the coal mine and the farm, Warren visited a doctor. A chest examination and X-ray revealed a collapsed left lung and fluid build-up. He was subsequently transported to Newcastle Private Hospital for surgery. The medical procedures included draining the fluid and a pleurodesis to prevent fluid reaccumulating in the pleural space. His lung was successfully re-expanded, and he felt well after the surgery.

However, this is how Warren discovered he had mesothelioma. **“That was the start of it for me; I had no idea,”** he recalls.

Warren was admitted to the hospital in 2018 while overseeing projects in the local coal mines. Due to his illness, he had to step down from his work. Many of his colleagues and managers reached out to offer support. While working in the coal mines, Warren underwent regular lung screenings. However, as he transitioned to contracting and working for himself, the frequency of these screenings decreased.

Warren connected with Professor Brian McCaughan, a cardiothoracic surgeon specialising in cancer treatments in Sydney. Professor McCaughan, a pioneer in this field, discussed the option of extra pleural pneumonectomy (EPP) surgery to remove the diseased lung. Warren decided to wait until his daughter returned from an overseas exchange before undergoing the complex surgery, which requires extensive preparation and testing. In the meantime, Warren underwent chemotherapy and made financial arrangements with the help of his legal team.

In 2019, with his daughter back home, Warren underwent the EPP surgery. **“I was told in 2018 that with chemotherapy I would have 18 months. It’s been over 6 years and I’m still here,”** he says.

Around this time, Warren was introduced to the Support Nurses at ADDRI. He soon joined an ADDRI support group for individuals with malignant mesothelioma and their families. Warren found solace and camaraderie in these groups, connecting with others who shared similar experiences. ADDRI’s experts also provided valuable information and resources, helping Warren navigate his diagnosis and treatment options.

Along the way, Warren has had some setbacks – a few recurrences of mesothelioma which involved more surgery, and then surgery to remove a brain tumour. He now comes to Sydney every few weeks to attend appointments and receive his immunotherapy.

Warren and his wife continue to attend the ADDRI support group, both online and in person in Sydney.

Support

**“We are so grateful for your time and guidance.
We have felt held and supported.”**

Mesothelioma Support Service patient and carer



We are on a mission to: Support those affected by asbestos and dust-related diseases

Our Mesothelioma and Silicosis Support Patient Support Service is a lifeline for over 300 families affected by this devastating disease. Our team of dedicated registered nurses provides personalised support, tailored to the unique needs of each individual and their families.

We work closely with healthcare professionals, community organisations, and local authorities across New South Wales and around Australia, to ensure our patients receive the best possible care and understanding about the disease.

Our services include:

- **One-on-one phone support**
Offering guidance, information and emotional support.
- **Support groups**
Play a crucial role in providing solace, understanding, and a sense of community for individuals and families affected. In the face of a disease that can be isolating, our groups and activities offer a source of strength, understanding, and encouragement for patients and carers.
- **Community events**
Bringing together the wider community including patients, carers, bereaved individuals, supporters and related organisations to foster connection and shared understanding.

By providing compassionate and comprehensive care, we aim to empower those affected by mesothelioma and silicosis and help them navigate the challenges they face.



Celebrating 10 years of compassion and care:

For a decade, our dedicated team of registered nurses has provided personalised support, guidance and community connections, helping patients navigate the challenges of mesothelioma. We're grateful for the opportunity to make a difference in the lives of those impacted by this disease and look forward to many more years of providing compassionate care.



Celebrating Carers Week with art and connection:

To honour our incredible carers and friends, ADDRI hosted a special art therapy session and lunch at the Annandale Creative Arts Centre in October. Ten amazing women came together to express their emotions and experiences through art, fostering a sense of camaraderie and understanding. The event highlighted the importance of support and connection for those caring for loved ones with mesothelioma.



Meso March 2024: A triumphant success!

The ADDRI Meso March in June 2024 was a resounding success, bringing together close to a hundred passionate individuals to raise awareness and support for those affected by mesothelioma. Participants of all ages came together to show their solidarity and make a difference. A huge thank you to everyone who joined us in this incredible event!



Expanding reach and enhancing education

Our support nurses are committed to providing comprehensive education and support to healthcare professionals across New South Wales. In the past year, we've successfully conducted:

- **In-person education sessions** at metropolitan inpatient and outpatient oncology departments reaching a wide range of healthcare providers.
- **A presentation to the Respiratory Nurse's Interest Group** at Concord Hospital and online in February 2024, engaging over 150 participants.
- **Rural outreach programs** in March 2024, visiting Orange Base Hospital Nurse Education and Bathurst Hospital to share vital information with healthcare professionals in regional areas, as well as direct patient support in Blayney, NSW.

These initiatives demonstrate ADDRI's dedication to ensuring that healthcare professionals have the knowledge and resources they need to provide the best possible care for patients with mesothelioma.

The FILMM Study: A replication of the United Kingdom (UK) study in Australia.

ADDRI is proud to collaborate with De Montfort University in Leicester, United Kingdom on the FILMM Study, which aims to explore Australian patients' experiences with early diagnosis of mesothelioma. This research initiative, launched in October 2023, will shed light on the facilitators and barriers that patients encounter along their disease journey – from the moment they first notice symptoms.

Community Involvement Group

ADDRI has established a Community Involvement Group to ensure that we are actively capturing the patient and carer experiences, so we can better understand this disease and its impacts, tailor our support options and actively input into research themes. This group, which held its inaugural meeting in May 2023, provides a platform for individuals to share their experiences, offer feedback, and contribute to shaping our services.

A constant source of support

ADDRI's dedicated team continues to provide unwavering support to patients, carers and the bereaved through a variety of channels, including telephone calls, emails, online platforms, face-to-face groups and informal meetings. We are committed to being there for patients every step of the way.

In the past year, we have proudly supported 272 individuals, offering personalised assistance tailored to their specific needs. In the last financial year, our team has made a total of 1496 outgoing calls, ensuring that no one feels alone in their journey.

We are honoured to have the opportunity to connect with our patients and carers, sharing in their experiences and providing comfort and guidance.

The impact this has on a patient and family's journey is enormous:

“You were the only folk who were happy to have a conversation around death and dying, when our doctors won't. We are grateful for your phone calls.”

“Thank you also for speaking to me on Monday. I always leave the conversation feeling that I can face the challenges that lie ahead of me.”

At ADDRI, we believe that every individual deserves compassion, understanding and support. We are dedicated to being a constant source of strength and hope for those affected by mesothelioma and silicosis.



Meet our Mesothelioma support nurses

Pam Logan



With a remarkable career spanning over 35 years, Pam Logan’s journey in nursing has been driven by a deep commitment to patient care. Her career began in the late 1980s, working on surgical cancer wards. Over time, she expanded her expertise in palliative care and oncology, focusing on complex cases.

Pam’s extensive experience is not confined to cancer care alone. She has worked across a wide range of nursing fields, including community nursing, chronic disease management and health visiting, where she provided cradle-to-grave care for families, including refugees and homeless families. Her commitment to supporting vulnerable populations is evident in her academic pursuits, having completed a Master’s in Health Sciences in the UK with a focus on homeless families and illness behaviour.

Upon moving to Australia, Pam continued her research career at UNSW, looking at communication processes within clinical teams. She returned to child and family health and community nursing and it was during this period that she encountered patients with mesothelioma. Her interest in mesothelioma was sparked by the unique challenges it presented, including the then lack of comprehensive care available to

those affected. She knew then that she wanted to make a difference.

Pam’s path took a decisive turn when she was contacted by the wonderful Jocelyn McLean, ADDRI’s exceptional Mesothelioma Support Coordinator at the time. With her extensive background in community and primary care, Pam found herself drawn to the work being done at ADDRI. Here, she found a platform to combine her knowledge, experience, and passion for advocacy, working tirelessly to support mesothelioma patients and their families.

For the past 4 years, Pam’s support has been crucial in mesothelioma care, always advocating for patients within the community. Her typical day is anything but typical—each one is guided by the needs of her patients. Whether it’s providing emotional support or ensuring they have the resources they need at home, Pam’s work is responsive and deeply personal.

Despite the rewards, her job is not without its challenges. Pam faces significant obstacles, such as resource limitations, time lags, and funding gaps, yet, her resilience is unwavering. While the emotional toll can be hard, especially when dealing with distressed patients and their families, Pam

finds solace in the relationships she builds. **“Getting wins for my patients makes it all worthwhile,”** she shares.

What brings Pam the most joy is witnessing her patients living their best lives, despite their diagnoses. Whether it’s receiving a call with news of no disease progression, or photos of her patients enjoying life—hang gliding, travelling, or simply being happy—these moments fuel her passion. **“I receive some beautiful messages from my patients and knowing I’ve helped in some way makes it all worthwhile”** Pam says, cherishing the spontaneous expressions of gratitude that come her way.

For those considering a career in this field, Pam offers heartfelt advice: **“It’s incredibly rewarding, but you need a good team around you. Support from your workplace and clinical supervision is essential. I’m grateful ADDRI offers such wonderful care not just to patients, but the staff as well.”** She is motivated by the incredible resilience of her patients and their caregivers, and by the broader community that rallies around those in need. **“Each day has its challenges, but I know what I’m doing is important,”** she reflects, finding strength in the knowledge that her work makes a real difference.



Carmel Oostveen

Carmel Oostveen's career in nursing spans over several decades, marked by her unwavering dedication to her patients. Her journey into nursing, and in the specialised field of mesothelioma, was built on a strong foundation of experience as an Intensive Care (ICU) nurse, with a particular focus on cardiothoracics.

While working in ICU at a private Hospital in Sydney, she encountered a group of professionals working with mesothelioma patients. This introduction to a new and unique field piqued her interest. However, it was meeting Jocelyn McLean, a pioneer in mesothelioma support services, that truly inspired her. Jocelyn's work at ADDRI left a lasting impression on Carmel, motivating her to explore the possibilities within mesothelioma care.

After gaining experience in the care of patients post operative heart and lung surgery, Carmel found herself at a crossroads when Jocelyn McLean reached out unexpectedly. Jocelyn, preparing for retirement, was seeking someone with a surgical background and a deep understanding of patient care and support to continue her work. For Carmel, the opportunity was both unexpected and a perfect fit.

In May 2023, Carmel stepped into her new role at ADDRI, seeing first-hand the incredible dedication given to patients and families. She learnt quickly what a unique honour it was to get to know patients and families so intimately. **"You learn so much from the patients and carers,"** Carmel says. **"It's a real privilege."**

Carmel's workdays are as varied as they are demanding. Working closely with the Lung Cancer Network, she receives many new patients, reaching out to them as soon as possible to provide guidance and support. Beyond initial consultations, Carmel remains in regular contact with patients, checking in on their progress and often being the support system, they so need. Carmel also helps organise patient meetings, so those who are affected by dust diseases have the opportunity to share their experiences and learn from one another.

Despite the truly rewarding nature of her work, there are always difficult challenges. The emotional toll of losing patients and supporting bereaved families is profound. To manage the stress, Carmel has found solace in swimming, an activity that helps her clear her mind and maintain balance. She believes in keeping an open mind and finding beauty even in the midst of sadness.

The rewards of Carmel's work are both personal and inspiring. One particularly memorable moment for Carmel was when one of her patients travelled from Victoria to Sydney for scans, receiving the great news that their tumour had shrunk! Seeing the emotion on their face was a powerful reminder of why Carmel continues her work in this field, striving to make a difference in people's lives. The joy of witnessing patients live their lives well, despite their illnesses, is what makes her work truly worthwhile.

For those considering a career in cancer nursing, Carmel offers sage advice: **"The experience is rewarding, but it's important to recognise that you will need support yourself. Ensure you have a healthy outlet, something safe that makes you feel good."**

What motivates Carmel to continue her work in this field is the patients and their families.

"Everyone is so lovely to deal with, and it's beautiful to hear what they do outside of their illness," she shares. Carmel is also driven by the potential to improve mesothelioma education in Australia, particularly through collaborations with the UK. She is committed to spreading accurate information and ensuring that patients receive the best care possible.

Carmel Oostveen's journey is one of dedication, compassion, and a deep connection with the patients she serves. Her work at ADDRI is not just a career—it's a calling that she fulfills with heart and commitment every day.



Welcome Jennifer Coles, Silicosis Support Coordinator

Jenny leads our Silicosis Support Service, providing the highest standard of care for our patients through her holistic approach. She has years of significant expertise in respiratory care during her tenure in the intensive care environment. With hands-on experience in caring for silicosis patients undergoing lung transplantation, she possesses a comprehensive understanding of treatments including oxygen therapy and current medications. She is a passionate advocate for her Silicosis patients as she supports and guides them and their carers to navigate the complex healthcare system.



Patient story



Delva's journey: A testament to resilience and support

Delva's journey began in early 2019 when she noticed concerning symptoms, including unexplained weight gain and abdominal discomfort. Living in regional NSW, she underwent numerous tests and procedures in the local hospitals, however, the underlying cause of her illness remained elusive.

It wasn't until June 2019 that Delva received a diagnosis of peritoneal mesothelioma. The news was devastating and her exposure traced to a church building she had worked in when just 18 years old.

With her husband Wayne steadfastly by her side, Delva underwent massive surgery in July followed by ongoing chemotherapy treatments, and immunotherapy sessions. While her condition improved at times, the cancer eventually progressed, and she ultimately required dialysis.

It was at the time of diagnosis that Delva and Wayne were referred to the ADDRI Support Service, where they received valuable information and clarification, as well as ongoing support throughout Delva's surgeries and treatments.

Despite the challenges she faced, Delva remained remarkably optimistic. Her resilience and positive attitude inspired those around her, including the medical professionals who cared for her.

Sadly, Delva's battle with mesothelioma came to an end in December 2023. Her story is a testament to her strength, courage, and the unwavering support of her loved ones and the ADDRI community.

For Wayne, the ADDRI Support service has been so valuable: ***"Through all this journey, I can't praise the support of the ADDRI staff enough. Always there when we had a question, regular contact to see how Delva was travelling and what treatments she was having and how she was responding. Nothing was ever a trouble and when you live in a country town, sometimes life takes some juggling. After Delva's passing, I still have contact and the conversations I have is a great comfort as life has been difficult after having Delva by my side for 50 years."***

Educate

“Education is the passport to the future, for tomorrow belongs to those who prepare for it today.”

Malcolm X



We are on a mission to: Educate that asbestos is a very real threat to people all over the world

National Asbestos Awareness Week November 2023

For National Asbestos Awareness Week November 2023, ADDRI joined the nation in marking the 20th anniversary of the asbestos ban in Australia. To commemorate this significant milestone, we participated in various activities during National Asbestos Awareness Week, including:



National and International Presentations. The CEO was a keynote speaker at the Victorian Asbestos Eradication Agency 20 Year Ban Forum in Melbourne and then joined ADRF Board Director Paul Bastian for a panel discussion facilitated by Matt Peacock reflecting on what's next for Australia. She then flew to Brussels to speak at the European Asbestos Forum to share the Australian story and work of ADDRI. She is pictured here with Dr Yvonne Waterman, Chair of the European Asbestos Forum and co-presenter Dr Jukka Tukala.



We hosted two very special mornings at ADDRI. The legal teams and their clients from Turner Freeman Lawyers and Slater and Gordon Lawyers visited ADDRI to meet our team and tour our labs. It was wonderful to connect patients with our researchers and nurses to discuss our initiatives and ways to offer them support.



ADDRI attends the Biaggio Signorelli Foundation 15 Year Tribute Gala Dinner. The Signorelli family have dedicated their lives to raising funds for awareness and research into asbestos-related diseases. The event was a tribute to their beloved father Biaggio Signorelli, who tragically lost his battle with mesothelioma 15 years ago. Over 1,500 family, friends and committed supporters gathered to pay tribute and help raise over \$1.9 million. ADDRI is proud to walk alongside the Foundation to raise awareness, provide support and ultimately, to find a cure for asbestos-related diseases.

Podcast launch: Dust Disease Diaries: Real lives real stories of asbestos and beyond

ADDRI launched a new podcast series hosted by renowned broadcast journalist James O’Loghlin. The Dust Disease Diaries podcast delves into the personal experiences of those affected by asbestos and dust-related diseases, offering valuable insights and support.

Launched during National Asbestos Week 2023, 16 conversations have been released to date with patients, medical specialists, lawyers and caregivers, offering invaluable insight and support derived from their personal journeys.

“I want to continue raising awareness in this area, so it’s been an absolute privilege to sit down with a range of patients, health professionals and carers for this podcast series and hear raw stories of courage, hope, tragedy, resilience and progress.

One of the big challenges people diagnosed with an asbestos disease face is getting some sense of what might happen. Hearing the personal stories in this podcast will give them information, understanding and hope.”

James O’Loghlin

The podcast complements ADDRI’s extensive educational resources designed for patients, allied health professionals, and caregivers and episodes will continue to be released.

It is available to access here: podcasters.spotify.com/pod/show/dust-disease-diaries



Notice we look a little different?

In a significant milestone, ADDRI has undergone a comprehensive rebrand, reflecting our expanded focus and dedication to researching all dust-related illnesses.

Our new name, Asbestos and Dust Diseases Research Institute (ADDRI), better aligns with our mission to address the broader spectrum of diseases caused by exposure to harmful dusts. This rebranding also reflects our commitment to providing personalised support to individuals affected by these conditions.

A key component of the ADDRI rebrand is our new website. Designed with user-friendliness in mind, the website serves as a central hub for information on asbestos and dust-related diseases. It provides a wealth of resources for healthcare professionals, policymakers, and patients, fostering a deeper understanding of these conditions and the steps being taken to combat them.

At ADDRI, we continue to collaborate with individuals and organisations dedicated to eradicating asbestos and dust-related diseases. Our unwavering commitment to providing personalised and comprehensive support to those affected by these illnesses remains at the heart of our mission.

www.addri.org.au



NSW Government invests \$5 million into silicosis research and patient care programs

Building on Australia's world-first ban on engineered stone announced in December 2023 (effective 1 July 2024), ADDRI welcomed a \$5 million commitment by the NSW government to support research at ADDRI into treatment options for silicosis, and to support silicosis patients and their families.

On Wednesday 3 April, we welcomed the Hon Sophie Cotsis MP, Minister for Industrial Relations and Minister for Workplace Health and Safety to ADDRI, where she formally committed this funding to ADDRI on behalf of the NSW Government.

This will provide critical funding into much-needed research into better diagnosis and treatment for those suffering from debilitating dust diseases, as well as patient support.

We thank the Minister for her steadfast advocacy and commitment to this vital research that will ensure better outcomes for those affected. We also extend thanks to all attendees on the day, including Sally Sitou, Jason Yatsen Li, Julia Little, and those who shared their lived experience with asbestos and dust related diseases.



Official opening of the Biaggio Signorelli Laboratory at ADDRI

The Signorelli family have dedicated their lives to raising funds for awareness and research into asbestos-related diseases. In July 2023, we had the privilege to unveil the Biaggio Signorelli Laboratory in honour of Biaggio Signorelli who lost his life to mesothelioma on the 30th May 2018.

The Signorelli Family have been steadfast and unwavering in their support of our research, contributing over \$1 million to our work to date. We were honoured to have The Hon. Mark Butler, Minister for Health and Aged Care Australia attend the official opening and support our shared mission to end asbestos related diseases.

An exciting partnership: The Commonwealth Mesothelioma Alliance

Four committed hearts, one united mission. When Mesothelioma UK, Asbestos and Dust Diseases Research Institute (ADDRI) and the Biaggio Signorelli Foundation came together at iMig 2023 in Lille France, the Commonwealth Mesothelioma Alliance was born. This ambitious partnership is dedicated to utilising and sharing expertise to directly support those impacted by asbestos-related diseases in Commonwealth countries.

The Alliance will be funded by the Biaggio Signorelli Foundation, which is committed to reducing asbestos-related disease in Australia and the world.



Patient story



Lisa's asbestos journey: A story of resilience and survival

Lisa Hoggard's childhood memories were filled with the sound of a buzzing saw and the smell of sawdust. Little did she know that her innocent pastime of helping her father build a garage in the 1960s would have such a profound impact on her life.

Decades later, Lisa was diagnosed with mesothelioma. Her parents recalled her being covered from head to toe in the cancer-causing blue dust. The news was devastating, but Lisa faced the challenge with unwavering courage and resilience.

Her journey began with a seemingly minor symptom - a persistent pain in her abdomen. Despite initial reassurances from her doctor, Lisa's intuition led her to seek further medical attention. During an exploratory operation, surgeons were shocked at what they found.

A tumour in Lisa's ovaries was benign. But inside her abdomen were numerous abnormalities which her doctor likened to scattered sesame seeds. Multiple biopsies confirmed Lisa had papillary peritoneal mesothelioma — a rare form of mesothelioma and breast cancer.

Lisa underwent extensive treatment, including a gruelling 12-hour surgery and chemotherapy. Despite the challenges she faced, she remained optimistic and focused on her recovery.

Today, Lisa is grateful for her survival and continues to advocate for asbestos awareness. It's been nearly two years now since her surgery and each check-up continues to reveal good news. She has now retired to fill her days with gardening, motorbike riding and mentoring. Her story serves as a powerful reminder of the long-term health risks associated with asbestos exposure and the importance of prevention.

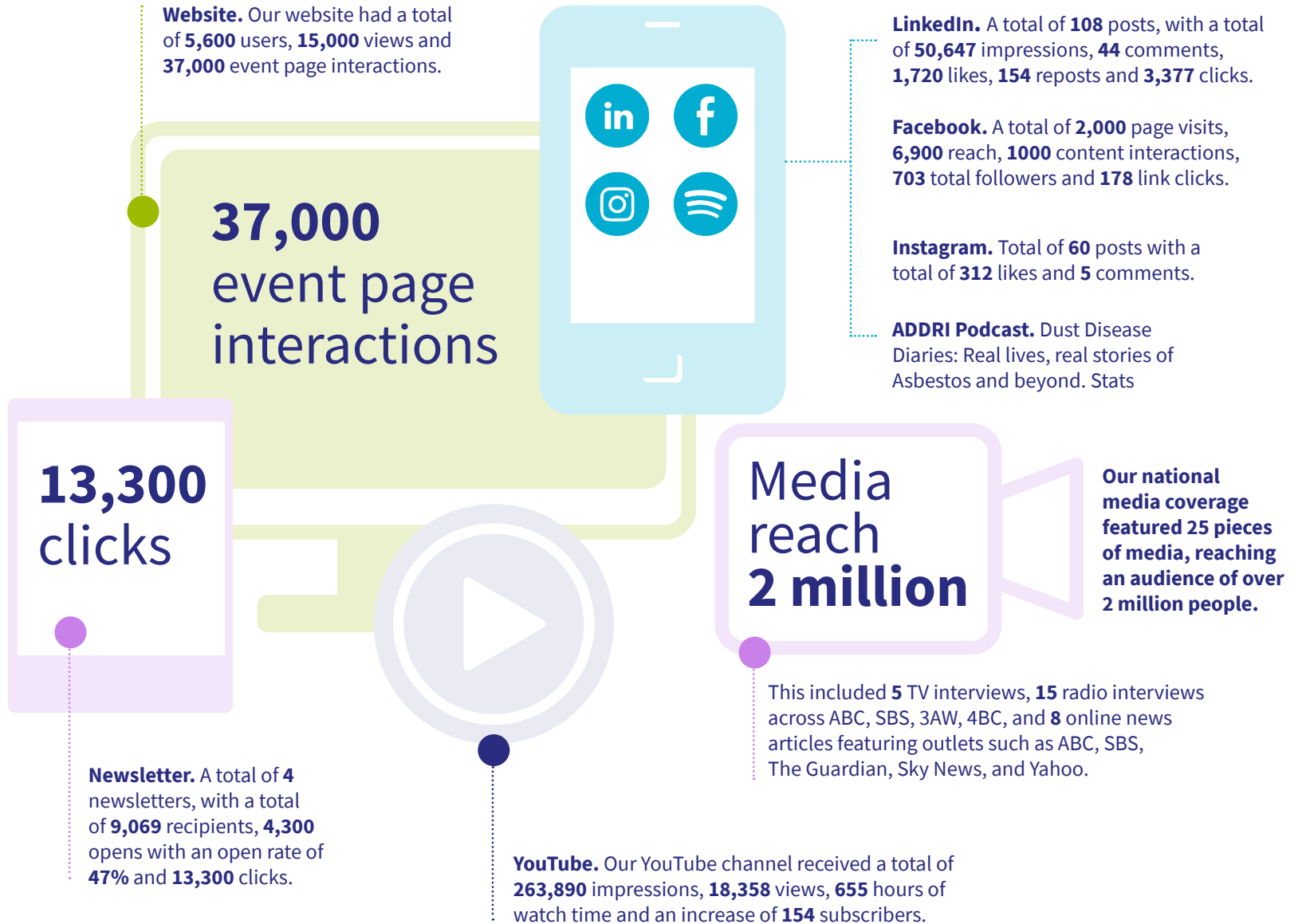
The ADDRI team spreading the word

ADDRI presented across the country and around the globe

ADDRI has been at the forefront of raising awareness and providing support for individuals affected by asbestos and dust-related diseases both nationally and internationally. Through presentations and educational initiatives, ADDRI has reached communities across Australia and around the world, sharing vital information and resources.

| Date | Event name | Location | Type of event |
|------------|--|---------------|-------------------|
| Jul-23 | Mesothelioma Learning Module for Nurses and Professionals Caring for Patients | Domestic | Workshop |
| Jul-23 | ANZAC Research Seminar Series | Domestic | Seminar |
| Aug-23 | Mesothelioma Learning Module for Nurses and Professionals Caring for Patients | Domestic | Workshop |
| Sep-23 | IASLC 2023 World Conference on Lung Cancer | International | Conference |
| Sep-23 | 2023 NCARD Scientific Symposium | Domestic | Symposium |
| Oct-23 | UOEH International Symposium 2023 - Digital Occupational Health - [Hybrid Conference] | International | Conference |
| Nov-23 | Victorian Asbestos Forum - Beyond the Ban: Ending the Asbestos Legacy | Domestic | Conference |
| Dec-23 | FDC Building Presentation | Domestic | Training |
| Dec-23 | 6th International European Asbestos Forum Conference - 'Asbestos & The Way Forward' | International | Conference |
| Feb-24 | RNIG (NSW) Evening Seminar - Update on Topical Dust Diseases - Mesothelioma and Silicosis - All you and your patient need to know! | Domestic | Seminar |
| Mar-24 | Asbestos Conference 2024 - Sustaining Innovation | Domestic | Conference |
| Apr-24 | Global Asbestos Awareness Symposium - NSCA Foundation | Domestic | Symposium |
| Apr-May-24 | ICOH 2024 - 34th International Congress on Occupational Health | International | Congress |
| May-24 | International Society for Extracellular Vesicles Annual Meeting 2024 | Domestic | Meeting |
| May-24 | Clinical training to improve diagnosis of asbestos-related diseases – Lao PDR | International | Training Workshop |
| May-24 | Clinical training to improve diagnosis of asbestos-related diseases – Vietnam | International | Training Workshop |

Our reach



ADDRI in the Media: raising awareness of asbestos and dust-related diseases

ADDRI is committed to spreading awareness of the dangers of asbestos and dust-related diseases. Our experts have been featured in numerous media outlets, sharing their knowledge and insights on these important topics. From radio and television interviews to newspaper articles, ADDRI has reached a wide audience, educating the public about the risks associated with asbestos exposure and the importance of prevention and early detection.



Collaborate

"Coming together is a beginning, staying together is progress, and working together is success."

Henry Ford



We are on a mission to:
Collaborate with those working toward the elimination of asbestos and dust-related diseases

Global asbestos markets & trade



1,300,000 tonnes
of raw chrysotile asbestos consumed in 2022 by a handful of countries.¹



India largest consuming country
424,000 tonnes consumed in 2022
- 40% of total global trade.¹



95% trade in Asia
97% of global trade of chrysotile asbestos and products in 2022 was in Asia (including India).^{1,2}



\$491m value
global trade of chrysotile asbestos and products in 2022 (2012 highest year @ \$595m).²



Only 5 countries still mine asbestos
Russia, Kazakhstan, China, Brazil and Zimbabwe mine total of 1,300,000 tonnes in 2022.¹



Russia largest miner of chrysotile asbestos
Extracting estimated 630,000 tonnes of asbestos in 2023 – 48% of total global supply.¹

¹ United States Geological Survey – 2021 Asbestos <https://www.usgs.gov/centers/national-minerals-information-center/asbestos-statistics-and-information>

² OEC World website. Asbestos 2021 [https://oec.world/en/profile/hs/asbestos-5252400#:~:text=Between%202020%20and%202021%20the,and%20Thailand%20\(%2425.89M\)](https://oec.world/en/profile/hs/asbestos-5252400#:~:text=Between%202020%20and%202021%20the,and%20Thailand%20(%2425.89M))



WHO Collaborating Centre – Designation

In January 2021, ADDRI was designated by the World Health Organisation as a Collaborating Centre for Elimination of Asbestos Related Diseases for four years, confirming the Institute as a global leader in asbestos-related diseases and asbestos mitigation.

The main role of the WHO collaborating centres is to provide strategic support to the WHO to meet two main needs: implementing WHO’s mandated work and programme objectives; and developing and strengthening institutional capacity in countries and regions.

During the 2023–24 year, ADDRI has continued to deliver actions as agreed between the WHO and ADDRI. This includes reviewing and updating content in the internationally recognised e-Toolkit on Asbestos-related diseases (ARDs) to be published in early 2025 and continuing to improve diagnosis of asbestos-related diseases in low and middle-income countries.

Designation as a Collaborating Centre brings with it an enhanced visibility for ADDRI and recognition by national authorities, calling public attention to the health issues around asbestos and dust-related diseases. It opens up improved opportunities for ADDRI to exchange information and develop technical cooperation with other similar institutions, in particular at international level, and to mobilise additional and sometimes important resources from funding partners.

ADDRI will commence the process of redesignation as the WHO Collaborating Centre for the Elimination of Asbestos and Dust-Related Diseases in October 2024 for completion in January 2025.





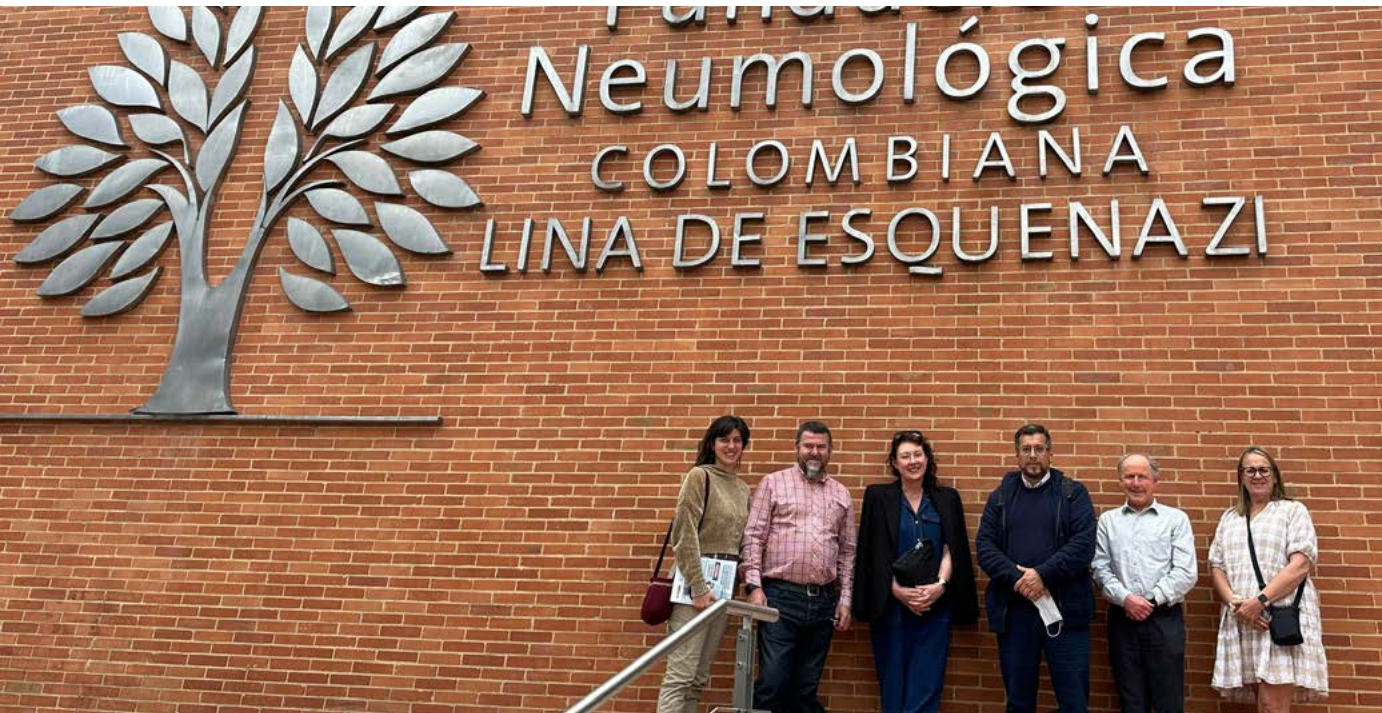
Colombia – Developing clinical guidelines for non-malignant asbestos diseases

The University of Cartagena, Colombia engaged ADDRI in 2023 to develop Clinical Guidelines for the diagnosis of Non-Malignant Disease Due to Asbestos Exposure for their country. ADDRI has continued to deliver this project over the 2023-24 year in line with the *General Framework for Clinical Guidelines for Non-Malignant Diseases Due to Asbestos Exposure* document which will be completed by June 2025.

ADDRI is experienced in developing guidelines like these and understands its magnitude. In 2013, ADDRI (then known as ADRI) published the *Guidelines for the Diagnosis and Treatment of Malignant Pleural Mesothelioma (MPM)*, which are now being reviewed and updated by ADDRI.

To deliver these guidelines, ADDRI has assembled a Scientific Committee of specialists and experts to oversee the project, including expertise in respiratory/pulmonary diseases, pathology, radiology, oncology, nursing and other subject matter experts who have a direct connection to the work of the Institute.

The next steps are to complete the Systematic review in line with the WHO Guidelines development process by the end of 2024 then release the draft guidelines document to key stakeholders both in Colombia and internationally as part of an integrated consultation process.



The ADDRI team visiting the Fundación Neumológica de Colombia (Pulmonological Foundation of Colombia)



Clinical training in Lao PDR and Vietnam: Capacity building to improve the diagnosis of asbestos-related diseases

In May 2024, ADDRI sent a specialist team to deliver crucial training in Lao PDR and Vietnam. Supported by The Asbestos and Silica Safety Agency (ASSEA) and Union Aid Abroad – APHEDA, the team’s mission was to provide clinical training to local health professionals to improve the diagnosis of asbestos-related diseases and build in-country capacity to manage the ongoing diagnosis of these diseases.

Vientiane, Lao PDR

The three-day, intensive program in Vientiane brought together local health specialists from the city and surrounding provinces. Participants engaged in masterclasses covering radiology, pathology, oncology, and epidemiology. The sessions highlighted the severe impact asbestos has had in Australia, emphasising the urgency of banning all forms of asbestos. Discussions included the legal and financial repercussions of asbestos exposure, the importance of investigating exposure histories, and practical steps to raise public awareness and prevent exposure.

The program also featured visits to the Cancer Center, the Health University, and Mittaphab Hospital in Vientiane. These visits provided participants with a firsthand look at how diseases are diagnosed and treated locally, and offered a platform to discuss the challenges faced by local health experts.

Hanoi, Vietnam

In Hanoi, the three-day training program was hosted by the National Institute of Occupational and Environmental Health. The program was opened by the Australian Ambassador to Vietnam, H.E. Andrew Goledzinowski, who reiterated Australia’s commitment to helping Vietnam eliminate asbestos-related diseases.

Local health specialists attended masterclasses in radiology, pathology, oncology, epidemiology, and patient care. Sessions covered the historical use and management of asbestos, the role of public and occupational health in eradicating asbestos-related diseases, and the importance of investigating exposure histories.

Participants and trainers visited the National Lung Hospital to observe how lung diseases and conditions, both occupational and non-occupational, are diagnosed and treated. This busy facility handles a significant number of patients daily, with the primary occupational diseases being silicosis and Coal Miners’ pneumoconiosis. Although past cases of asbestosis have been diagnosed, no recent cases have been reported, underscoring the need to equip local teams with the knowledge to accurately diagnose asbestos-related diseases.



With thanks to our specialist training team



Professor Catherine Jones - Radiologist, Advisor ADDRI



Dr. Tristan Rutland - Pathologist



Professor Tim Driscoll - Epidemiologist, Advisor ADDRI



Jonathan Walsh - Maurice Blackburn Lawyers



A/Professor Kenneth Lee - Douglas Hanly Moir Pathology



Dr. Anthony Linton - Research Director ADDRI



A/Professor Steven Kao - Oncologist ADDRI



Shane McArdle - Manager International Projects ADDRI



Ross Flemons - Finance Manager ADDRI

Ongoing collaboration

We look forward to continuing our collaboration with partners in Lao PDR and Vietnam. Our aim is to provide ongoing support, training, and assistance to build in-country capacity. Additionally, we will commence planning to develop Clinical Guidelines to improve the diagnosis of asbestos-related diseases in the region.

Refreshing the International e-Toolkit

ADDRI commenced a full review of the *International e-Toolkit for the Elimination of Asbestos-Related Diseases for Developing Countries 2021–22* published on its website and will produce an updated e-Toolkit that will be more accessible, user friendly and contain a wealth of resources for use by stakeholders anywhere in the world.

As part of this review and update process, the e-Toolkit will be expanded to include information and resources on silica and other dust diseases, in line with ADDRI's expanded remit.

Expert ADDRI Advisor on Public Health and Epidemiology and Head of the School of Public Health, University of Sydney Professor Tim Driscoll will be working with the Manager – International Projects and University of Sydney, Master of Public Health students to conduct the review and update and develop resources for the new e-toolkit. Professor Driscoll is a well renowned Epidemiologist and expert in occupational medicine and dust diseases.

The five main chapters included in the new e-Toolkit will be:

- **Introduction** – what the e-toolkit is, why it was developed, who it was developed for.
- **Taking action to eliminate asbestos and dust diseases** – actions leading to national/global ban, National Action Plan/ Profiles, multi-lateral mechanisms (e.g. Rotterdam Convention).
- **What asbestos and other dusts are** – why exposure is risky, history of mining/ usage/ production, ban countries.
- **Case Studies** and examples of other countries, research or support organisations and resources.
- **Health impacts of asbestos exposure to asbestos and other dusts** – disease, Global Burden of Disease, treatments,

When complete, the new e-Toolkit will provide more targeted, user friendly information and resources that international stakeholders can use and adapt to their local circumstances.



International collaboration – visits to ADDRI

During the 2023-24 year, ADDRI hosted a number of international visitors as part of its international collaboration program.

In November 2023, Dr Yoshinori Ohtsuka MD, PH.D and Dr Takumi Kishimoto MD, PH.D from the Hokkaido University, Japan visited the Institute as part of a scientific exchange to further research into occupational dust-related diseases, particularly silicosis.

Dr Ohtsuka and Dr Kishimoto are accomplished specialists in occupational medicine in both asbestos-related diseases and silicosis and currently work at Rosai Hospitals which are specialist occupational and respiratory disease medical facilities in Japan, along with other senior occupational health and safety research and advisory positions.

In April 2024, Professor Arthur Frank from the United States of America and Guillermo Villamizar from Colombia visited the Institute to collaborate directly on the development of the clinical guidelines for Colombia and other opportunities.

Professor Frank is a pre-eminent Physician and Academic with over 50 years' experience in diagnosis of asbestos and other dust diseases and widely published research on the risks posed by occupational exposure to asbestos and other carcinogens. Arthur Frank is currently Professor of Environmental and Occupational Health with the Dornsife School of Public Health at Drexel University in Philadelphia, United States.

Guillermo Villamizar is the Director of the Asbestos Free Colombia Foundation (*Fundclas*) who has been at the forefront of the campaign to ban asbestos in Colombia, (which happened in 2021) and the follow up actions to raise awareness about risks of exposure to asbestos and diagnosis of ARDs as a result of decades of manufacturing and use of asbestos products.

During their visit, Professor Frank and Mr Villamizar delivered presentations and met with Chris O'Brien Lifehouse specialists through A/Professor Steven Kao, Lawyers and paralegals in the office of Slater and Gordon Lawyers across the country and the Australian members of the Colombian Guidelines Development Committee.

ADDRI will use this collaboration to further advance its status as the WHO Collaborating Centre internationally in the lead up to the 17th International Mesothelioma Interest Group meeting in 2025 in Philadelphia, US.



The ADDRI team

Creating change demands a dedicated and enthusiastic team—let us introduce you to ours.



Our Executive Team



Kim Brislane
CEO



Shane McArdle
Manager - International Projects



Nina O'Connell Locke
Assistant to the CEO and
Research Director



A/Professor Anthony Linton
Academic & Research Director



Vivienne Shahin
Manager - Communications
and Partnerships



Ross Flemons
Finance Manager



Christine Lee
Manager - Special
Projects and Office

Our Doctors and Researchers



Dr Elham Hosseini Beheshti
Principal Scientist



A/Professor Steven Kao
Medical Oncologist



Dr Ben Johnson
Postdoctoral Fellow



Ling Zhuang
Technical Officer



Dr Peter (Huaikai) Shi
Postdoctoral Fellow



Dr Sakthi Priya Selvamani
Postdoctoral Research Assistant

Our Biobank team



Dr Vivek Dharwal
Postdoctoral
Research Associate



Dr Virginia James
Biobank Officer



Winston Lay
Research Assistant



Dr Lucy Wang
Biobank collection officer



Richard Zelei
Research Assistant



David Baker
Biobank Inventory Officer and
Research Assistant

Our Nurses



Pam Logan
Mesothelioma Support Coordinator



Carmel Oostveen
Mesothelioma Support Coordinator



Jennifer Coles
Silicosis Support Coordinator

Our Volunteers



Jenny Weismantel
Volunteer



Jo Mezzapica
Volunteer

The ADDRI community

“Gratitude is the ability to experience life as a gift. It liberates us from the prison of self-preoccupation.”

John Ortberg



We are truly grateful to the individuals and organisations whose support and contributions strengthen and sustain our ADDRI community in countless ways.

Our Asbestos Diseases Research Foundation Board



Mr Peter Tighe
Independent Chair

Peter Tighe is Deputy Chair of EE-Oz Energy Skills Australia and a member of the Board of Exemplar Systems Pty Ltd and Exemplar Learning Pty Ltd. Previous roles include CEO of the Asbestos Safety and Eradication Agency (ASEA), National Secretary of the Communications Electrical and Plumbing Union (CEPU) and Divisional Secretary of the Electrical Trades Union (ETU). Peter was an Executive member of the Australian Council of Trade Unions (ACTU) and a ministerial appointee to Safe Work Australia. He has served on a variety of vocational Boards.



Dr Chris Colquhoun FAFOEM
Nominated by Dust Diseases Authority

Dr Chris Colquhoun is an occupational and environmental physician and is the Chief Medical Officer of iCare NSW (Insurance and Care NSW). He has proven clinical skills and experience in leadership, healthcare management, strategic planning, health surveillance and research in both clinical and corporate settings.



Dr Teresa Anderson AM, FIPAA
Invited by the Board

Dr Teresa Anderson is Chief Executive of the Single Digital Patient Record Implementation Authority. She has more than 35 years of experience as a

clinician and health service executive. She has a well-established reputation for implementing strategies to foster innovation and best practice, supporting collaboration and building partnerships. She is an internationally recognised Speech Pathologist and is passionate about developing programs and services to support and improve the health and wellbeing of all people in the community. In 2018 Dr Anderson was appointed a Member of the Order of Australia (AM). Dr Anderson is a Vice President and has been made a Fellow of the NSW Institute of Public Administration Australia, is a member of seven Medical Research, Health and PHN boards and is an active member of the Sydney Health Partners Governing Council and Executive Management Group, one of the first four centres in Australia designated by the NHMRC as an Advanced Health Research Translation Centre. She was previously CEO of the Sydney Local Health District, one of the leading public health services in Australia.



Professor Stephen Clarke OAM
Nominated by the Asbestos Diseases Foundation of Australia Inc

Professor Stephen Clarke is a medical oncologist at Royal North Shore Hospital in Sydney and Professor of Medicine at the University of Sydney. After completing his medical oncology training at RNSH, St. Leonards, Stephen undertook a PhD at the Institute of Cancer Research/ Royal Marsden Cancer Hospital, before returning to Australia in 1994. He was Professor of Medicine at Concord Hospital from 2004-2010. He has clinical and research interests in thoracic and GI cancers, including mesothelioma. He has had 2 PhD student completions in mesothelioma including Steven Kao and Anthony Linton and has one current student (Tamkin Ahmadzada) undertaking research in microvesicles in mesothelioma. His research has achieved over \$26 million in competitive grant funding

that has led to over 330 publications, which have been cited 20,000 times. Stephen is an Oncology Advisor to the Department of Veteran’s Affairs and is a Member of the Repatriation Pharmaceutical Review Committee.



Mr Paul Bastian
Nominated by Unions NSW

Paul is the Chair of the Asbestos and Silica Safety and Eradication Agency (ASSEA). Paul Bastian was previously the National Secretary of the Australian Manufacturing Workers’ Union (AMWU) retiring from the position in September 2020. Paul commenced his employment with the AMWU in 1981 and in 1997 was elected State Secretary of the NSW Branch. He is a shipwright by trade and completed a Law Degree while studying part-time at the University of Technology, Sydney. Paul has worked throughout the manufacturing industry, in the construction, shipbuilding and metal industries, in both

metropolitan and regional areas of NSW. He represented the AMWU on a number of Boards and Committees, including ACTU Executive. Paul was a member of the Asbestos Management Review Advisory Group, as well as once being on the Boards of AustralianSuper, APHEDA, the NSW Manufacturing Council, and the NSW Workers Compensation Advisory Council. He has a long history of involvement with community and union campaigns against asbestos and has represented the AMWU and IndustriALL Global Union (previously known as the International Metalworkers Federation) at numerous international asbestos conferences.



Professor Christine Jenkins AM
Nominated by the ANZAC Health and Medical Research Foundation

Christine is head of the Respiratory Group at The George Institute for Global Health; Clinical Professor

at Concord Clinical School and University of Sydney; and Professor of Respiratory Medicine at UNSW Sydney. She is a thoracic physician with a clinical and research focus on the management of airways disease and retired from her position as staff specialist in thoracic medicine at Concord Hospital in December 2020. Christine has led many sponsored and investigator-initiated clinical trials in asthma and COPD and in her role at The George Institute she supervises a research team and PhD students, implementing several trials in asthma, COPD and pulmonary rehabilitation in Australia, New Zealand and Asia. She is active in advocacy and leadership for lung health in Australia and is a member of several global advisory boards for the pharmaceutical industry. She has previously chaired the National Asthma Campaign, the TSANZ, the National Asthma Reference Group which advised government on asthma as a National Health Priority, the Respiratory Conditions Advisory Group of AIHW, and The Thoracic and Sleep Medicine Review of the MBS. She is the current chair of the Board of the Lung Foundation of Australia and is a member of the National Dust Diseases Task Force.



Mr Mathew Werfel
Invited by the Board

Mathew Werfel is a sufferer of mesothelioma resulting from exposure to asbestos containing materials contracted through work and home renovations in the late 1990’s and early 2000’s. As a result, Mathew went through numerous invasive surgeries coupled with chemotherapy and radiotherapy. Mathew was previously employed by the Shop Distributive and Allied Employees Association (SDA) rising to this position from work as an Occupational Health and Safety Representative at the Woolworths Distribution Centre at Gepps Cross, South Australia and then Office Manager and Chief of Staff for Federal Parliamentarians from 2007 to 2023. Mathew has completed a Graduate Certificate in Business from the University of South Australia and Master of Business Administration candidate. Mathew has been a strong patient advocate

due to his own personal experiences. He continues to represent patients to asbestos related peak bodies as the Chairperson of the Dust Diseases Alliance in South Australia and Director at the Asbestos and Dust Diseases Research Institute (ADDRI) based in Sydney. Mathew engages with members of parliament at state and federal jurisdictions, industry and trade unions, to raise awareness. He is currently employed at the Asbestos and Silica Safety and Eradication Agency (ASSEA) as an Assistant Director in the Awareness and International Team.



Mr Armando Gardiman AM
Invited by the Board

Armando Gardiman AM is the Managing Partner at Turner Freeman Lawyers. He specialises and practices in the area of asbestos litigation and acts for clients suffering from mesothelioma, asbestosis and asbestos related lung cancers. He has run more successful

mesothelioma cases than any other lawyer in Australia and has played a leading role in developing the largest dust diseases litigation practice in Australia. Armando prepared the submission for the NSW Trade Unions and Asbestos Diseases Foundation of Australia which resulted in major legislative reforms in NSW, including the removal of all time limits in dust diseases claims and the survival of damages where a victim's death preceded the finalisation of the claim. All other States and Territories in Australia have now followed suit in preserving claims for victims. He was instrumental in the development of the Asbestos Diseases Research Institute (ADRI), having prepared the submission for construction and development of the purpose-built, state of the art Bernie Banton Centre at Concord Hospital.

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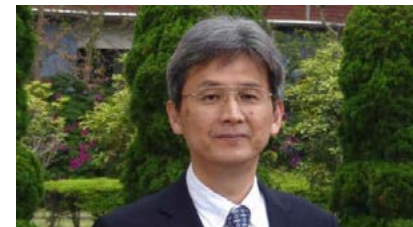
Professor Deborah Yates

Respiratory Physician, Conjoint Associate Professor at UNSW Sydney, Co-Chair of the Coal Mine Dust Lung Disease (CMDLD) Collaborative Group and is active in the Thoracic Society of Australia and New Zealand (TSANZ) and Royal Australasian College of Physicians (RACP)



Professor Catherine Jones

Cardiothoracic Radiologist, RANZCR Board Director, Associate Professor at the School of Public and Preventive Health at Monash University, Adjunct Professor at the University of Sydney



Professor Ken Takahashi

Occupational Physician (JEOL, Ltd., Japan), Researcher of Asbestos-Related Diseases, Honorary International Advisor



A/Professor Brian C McCaughan AM

Renowned cardiothoracic surgeon and pioneer of Extra Pleural Pneumonectomy (EPP) treatment for mesothelioma



Professor Sonja Klebe

Honorary Research Associate of the Asbestos and Dust Disease Research Institute (ADDRI), Associate Professor at Flinders University and Senior Consultant with SA Pathology



Mr Michael Kottek

Assessor of asbestos exposure and risk in occupational, residential and environmental settings



Professor Anna Nowak

Medical Oncologist and Deputy Vice Chancellor (Research), University of Western Australia

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Our ability to advance our research is only made possible through the generosity of our supporters. We thank each and every one of them for the donations, grants (including pledged grants), bequests and sponsorship received between 1 July 2023 – 30 June 2024.

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- Elaine Worsley
- Helen Wortham
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Key publications and presentations

Peer-reviewed publications

2024

Lin RT, Boonhat H, Lin YY, Klebe S, Takahashi K. Health Effects of Occupational and Environmental Exposures to Nuclear Power Plants: A Meta-Analysis and Meta-Regression. *Curr Environ Health Rep*. 2024 Jun 18. doi: 10.1007/s40572-024-00453-8. Online ahead of print. PMID: 38886298. **(Note: Lin RT - ADDRI affiliation).**

GBD 2019 Australia Collaborators **(Leigh J, included)**. Pre-COVID life expectancy, mortality, and burden of diseases for adults 70 years and older in Australia: a systematic analysis for the Global Burden of Disease 2019 Study. *Lancet Reg Health West Pac*. 2024 Jun 5;47:101092. doi: 10.1016/j.lanwpc.2024.101092. eCollection 2024 Jun. PMID:38911261. **(Note: Leigh J - ADDRI affiliation).**

Ke H, **Kao S**, van Zandwijk N, Rasko JEJ, Yeo D. Circulating tumor cell detection may offer earlier diagnosis in patients suspected of asbestos-related lung cancer. *Lung Cancer*. 2024 Jun;192:107829. doi: 10.1016/j.lungcan.2024.107829. Epub 2024 May 22. PMID: 38810528

Farahani MS, **Hosseini-Beheshti E**, Moazzeni SM, Moghadam MF. Engineered extracellular vesicles expressing ICAM-1: A promising targeted delivery system for T cell modifications. *Biochim Biophys Acta Gen Subj*. 2024 Mar;1868(3):130541. doi: 10.1016/j.bbagen.2023.130541. Epub 2023 Dec 15. PMID: 38103755.

Welsh JA, Goberdhan DCI, O'Driscoll L, Buzas EI, Blenkiron C, Bussolati B, Cai H, Di Vizio D, Driedonks TAP, Erdbrugger U, Falcon-Perez JM, Fu QL, Hill AF, Lenassi M, Lim SK, Mahoney MG, Mohanty S, Moller A, Nieuwland R, Ochiya T, Sahoo S, Torrecilhas AC, Zheng L, Zijlstra A, Abuelreich S, Bagabas R, Bergese P, Bridges EM, Brucale M, Burger D, Carney RP, Cocucci E, Crescitelli R, Hanser E, Harris AL, Haughey NJ, Hendrix A, Ivanov AR, Jovanovic-Talisman T, Kruh-Garcia NA, Ku'ulei-Lyn Faustino V, Kyburz D, Lasser C, Lennon KM, Lotvall J, Maddox AL, Martens-Uzunova ES, Mizenko RR, Newman LA, Ridolfi A, Rohde E, Rojalín T, Rowland A, Saftics A, Sandau US, Saugstad JA, Shekari F, Swift S, Ter-Ovanesyan D, Tosar JP, Useckaite Z, Valle F, Varga Z, van der Pol E, van Herwijnen MJC, Wauben MHM, Wehman AM, Williams S, Zendrini A, Zimmerman AJ, MISEV Consortium **(Hosseini-Beheshti E, included)**, Thery C, Witwer KW. Minimal information for studies of extracellular

vesicles (MISEV2023): From basic to advanced approaches. *J Extracell Vesicles*. 2024 Feb;13(2):e12404. doi: 10.1002/jev2.12404. PMID: 38326288.

2023

Mensah GA, Fuster V, Murray CJL, Roth GA, Global Burden of Cardiovascular Diseases and Risks Collaborators **(Lin RT, included)**. Global Burden of Cardiovascular Diseases and Risks, 1990-2022. *J Am Coll Cardiol*. 2023 Dec 19;82(25):2350-473. **(Note: Lin RT - ADDRI affiliation).**

Chu GJ, **Linton A, Kao S, Klebe S**, Adelstein S, Yeo D, Rasko JEJ, Cooper WA. High mesothelin expression by immunohistochemistry predicts improved survival in pleural mesothelioma. *Histopathology*. 2023 Aug;83(2):202-10. doi: 10.1111/his.14916. Epub 2023 Apr 11. PMID: 37040900.

Shi H, Zhang L, **Yu TK, Zhuang L, Ke H, Johnson B**, Rath E, Lee K, **Klebe S, Kao S**, Qin KL, Pham HNT, Vuong Q, Cheng YY. Leptospermum extract (QV0) suppresses pleural mesothelioma tumor growth in vitro and in vivo by mitochondrial dysfunction associated apoptosis. *Front Oncol*. 2023 Jul 5;13:1162027. doi: 10.3389/fonc.2023.1162027. eCollection 2023. PMID: 37476375.

Conference presentations

2024

Takahashi K, Brislane K. Global spread of asbestos-related diseases: still seriously under-recognised. Occupational Medicine. 2024 July;74(Supplement_1): PL07. ICOH 2024 - 34th International Congress on Occupational Health; Palais des Congrès - Marrakesh - Morocco; 28 April - 3 May 2024.

McArdle S. Global perspective: improving diagnosis of ARDs in low- and middle-income countries – towards a global ban - Translating Knowledge into Action. Asbestos Conference 2024 - Sustaining Innovation; Rydges Hotel Melbourne, VIC; 4-6 March 2024.

2023

Brislane K. The urgency of global collaborations to eliminate ARD's. 6th International European Asbestos Forum Conference - 'Asbestos & The Way Forward'; Hotel Marriott Grand Place, Brussels, Belgium; 30 November - 1 December 2023.

Kao S. To Mars and back: What on earth is good for mesothelioma? 6th International European Asbestos Forum Conference - 'Asbestos & The Way Forward'; Hotel Marriott Grand Place, Brussels, Belgium; 30 November - 1 December 2023.

Kao S. Optimal first line therapy in pleural mesothelioma - Pro Chemotherapy. IASLC 2023 World Conference on Lung Cancer; Suntec Singapore Convention & Exhibition Centre, Singapore; 9-12 September 2023.

Conference Posters

2024

Johnson B, Lay W, Ahmadzada T, Zelei R, Linton A, Hosseini-Beheshti E. EV-derived circular RNAs as biomarkers for pleural mesothelioma. International Society for Extracellular Vesicles Annual Meeting 2024 - ISEV2024; Melbourne Convention and Exhibition Centre, Melbourne, VIC; 8-12 May 2024.

Lay W, Dharwal V, Azimi A, Kovacevic Z, Hosseini-Beheshti E. Understanding the role of mesothelioma cell-derived extracellular vesicles in modulating fibroblast functions. International Society for Extracellular Vesicles Annual Meeting 2024 - ISEV2024; Melbourne Convention and Exhibition Centre, Melbourne, VIC; 8-12 May 2024.

2023

Brislane K, McArdle S, Takahashi K. Using technology to improve diagnosis and surveillance of asbestos-related diseases. UOEH International Symposium 2023 - Digital Occupational Health - [Hybrid Conference]; Ramazzini Hall, University of Occupational and Environmental Health [UOEH] Japan, Kitakyushu, Fukuoka, Japan; 13-14 October 2023.

Shi H, Johnson B, Yu T-K, Zhuang L, Selvamani SP, Lee K, Klebe S, Smith S, Wong K, Chen K, Clark G, Kao S, Silveira P, Cheng YY. A combination of PD-1/TIGIT immune checkpoint inhibitors elicits a strong anti-tumour response in a mouse epithelioid pleural mesothelioma model. Journal of Thoracic

Oncology Nov 2023; 18(11-Suppl): S388. IASLC 2023 World Conference on Lung Cancer; Suntec Singapore Convention & Exhibition Centre, Singapore; 9-12 September 2023.

Invited presentations

2024

Linton A. The next steps: Guidelines for the management of asbestos-related diseases for Vietnam. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 3 - 15th May; 8 - 15 May 2024.

Rutland T, (on behalf of the ADDRI). Malignant Mesothelioma - with extra pleural tumours & cases. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 2 - 14th May; 8 - 15 May 2024.

Jones C, (on behalf of the ADDRI). Radiology and asbestos - overview. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 2 - 14th May; 8 - 15 May 2024.

Linton A. The Treatment of Pleural Mesothelioma and Case Studies. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 2 - 14th May; 8 - 15 May 2024.

McArdle S. Asbestos Disease Diagnosis: Why is this training needed? Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 1 - 13th May; 8 - 15 May 2024.

Driscoll T. Asbestos-Related Disease in Asia. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 1 - 13th May; 8 - 15 May 2024.

Rutland T, (on behalf of the ADDRI). The process of diagnosing pleural mesothelioma: Pathology. Clinical training to improve diagnosis of asbestos-related

diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 1 - 13th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI).

Radiology Overview – Asbestos-related lung and pleural disease. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 1 - 13th May; 8 – 15 May 2024.

Linton A. Asbestos Related Diseases.

Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; La Casa Hanoi Hotel, Hanoi, Vietnam; Day 1 - 13th May; 8 – 15 May 2024.

Driscoll T. Asbestos-Related Disease

in Asia. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 3 - 10th May; 8 – 15 May 2024.

Kao S. The next steps: Guidelines

for the management of asbestos-related diseases for Laos. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 3 - 10th May; 8 – 15 May 2024.

Rutland T, (on behalf of the ADDRI). Malignant Mesothelioma - with extra pleural tumours & cases. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 - 9th May; 8 – 15 May 2024.

Lee K, (on behalf of the ADDRI). Asbestos Related Lung Diseases - Pathological mimics of asbestos related lung diseases - Cases. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 - 9th May; 8 – 15 May 2024.

Lee K, (on behalf of the ADDRI). Asbestos Related Lung Diseases - Pathological Diagnosis of Mesothelioma. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 - 9th May; 8 – 15 May 2024.

Lee K, (on behalf of the ADDRI). Pathologic diagnosis of asbestos related lung diseases. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 - 9th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Malignant Asbestos-related lung disease – Lung cancer. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 Session 2 Talk 2 - 9th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Malignant Asbestos-related pleural disease - Mesothelioma. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 Session 2 Talk 1 - 9th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Benign Asbestos-related lung disease. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 Session 1 Talk 3 - 9th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Benign Asbestos-related pleural disease. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 Session 1 Talk 2 - 9th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Occupational lung disease and asbestos - overview. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 Session 1 Talk 1 - 9th May; 8 – 15 May 2024.

Kao S. Pleural Mesothelioma Treatment and Case Studies. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 2 - 9th May; 8 – 15 May 2024.

Rutland T, (on behalf of the ADDRI). The process of diagnosing pleural mesothelioma: Pathology. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 1 - 8th May; 8 – 15 May 2024.

Jones C, (on behalf of the ADDRI). Radiology Overview - Asbestos-related lung and pleural disease. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 1 - 8th May; 8 – 15 May 2024.

Kao S. Introduction to Asbestos-Related Diseases. Clinical training to improve diagnosis of asbestos-related diseases - Lao PDR & Vietnam; Don Chan Palace Hotel, Vientiane, Laos; Day 1 - 8th May; 8 – 15 May 2024.

Hosseini-Beheshti E. [Session Chair] Cancer Biomarkers - Introductory Talk and Oral Session: OS17. International Society for Extracellular Vesicles Annual Meeting 2024 - ISEV2024; Melbourne Convention and Exhibition Centre, Melbourne, VIC; 8-12 May 2024.

Takahashi K, Brislane K. Global spread of asbestos-related diseases: Still seriously under-recognised. ICOH 2024 - 34th International Congress on Occupational Health; Palais des Congrès - Marrakesh - Morocco; 28 April - 3 May 2024.

Linton A. [Symposium Presentation] Diagnosis, Prevention and Education on Asbestos-Related Diseases. Global Asbestos Awareness Symposium - NSCA Foundation; Doltone House, Hyde Park, Sydney; 3 April 2024.

Kao S. [Keynote Speaker] Innovation in Mesothelioma treatment and diagnosis. Asbestos Conference 2024 - Sustaining Innovation; Rydges Hotel Melbourne, VIC; 4-6 March 2024.

Brislane K. [Panel Discussion] 'Ask the World' - What does the asbestos future look like? Asbestos Conference 2024 - Sustaining Innovation; Rydges Hotel Melbourne, VIC; 4-6 March 2024.

Oostveen C, Logan, P. Navigating Mesothelioma. RNIG (NSW) Evening Seminar - Update on Topical Dust Diseases - Mesothelioma and Silicosis - All you and your patient need to know! Medical Education Centre, Concord Hospital; 21 February 2024.

Coles J. Navigating Silicosis. RNIG (NSW) Evening Seminar - Update on Topical Dust Diseases - Mesothelioma and Silicosis - All you and your patient need to know! Medical Education Centre, Concord Hospital; 21 February 2024.

2023

McArdle S. Preventing Asbestos-Related Diseases - Translating Knowledge to Action. FDC Building Presentation; FDC Construction and Fitout, Forest Lodge, NSW; 13 December 2023.

Brislane K. Health impacts and research. Beyond the Ban: Ending the Asbestos Legacy; Hosted by Victorian Asbestos Forum - An online event held via Microsoft Teams; 21 November 2023.

Johnson B. Novel RNA biomarkers to facilitate an improved diagnosis of mesothelioma. 2023 NCARD Scientific Symposium; Harry Perkins Institute for Medical Research Building, Room G24, Western Australia; Virtual Presentation; 20 September 2023.

Shi H. A combination of PD-1 and TIGIT immune checkpoint inhibitors elicits a strong anti-tumour response in patients and mouse epithelioid pleural mesothelioma (PM) model. 2023 NCARD Scientific Symposium; Harry Perkins Institute for Medical Research Building, Room G24, Western Australia; Virtual Presentation; 20 September 2023.

Kao S. Early Mesothelioma - Chair. IASLC 2023 World Conference on Lung Cancer; Suntec Singapore Convention & Exhibition Centre, Singapore; 9-12 September 2023.

Butler K. Understanding Mesothelioma. Mesothelioma Learning Module for Nurses and Professionals Caring for Patients; Nepean Hospital - Cancer Care Centre - Oncology Inpatient Unit, Sydney; 3 Aug 2023.

Shi H. Leptospermum extract (QVO) suppresses pleural mesothelioma tumour growth in vitro and in vivo. ANZAC Research Seminar Series 2023; ANZAC Research Institute, ANZAC 1 Meeting Room, Sydney Local Health District, Concord; 24 July 2023.

Butler K. Understanding Mesothelioma. Mesothelioma Learning Module for Nurses and Professionals Caring for Patients; Nepean Hospital - Cancer Care Centre, Sydney; 19 July 2023.

Financial summary



| Profit and Loss Statement | 2023-24 | 2022-23 |
|---|------------------|------------------|
| Revenues | | |
| Research | 2,896,517 | 1,090,764 |
| Fundraising | 827,442 | 835,250 |
| Interest | 113,902 | 74,758 |
| Total | 3,837,861 | 2,000,772 |
| Expenses | | |
| Employee Benefits | 2,246,462 | 1,450,732 |
| Research consumables/equipment | 488,764 | 187,079 |
| Office expenses | 671,618 | 430,337 |
| Depreciation | 267,568 | 259,661 |
| Finance costs | 125 | 186 |
| Total | 3,674,537 | 2,327,995 |
| Surplus / Deficit for the period | 163,324 | -327,223 |

| Balance Sheet | 30/6/2024 | 30/6/2023 |
|---|-------------------|------------------|
| Assets | | |
| Cash and cash equivalents incl Term Deposits | 3,076,857 | 2,468,357 |
| Trade and other receivables | 1,181,608 | 540,938 |
| Property Plant and Equipment | 6,281,030 | 6,414,407 |
| Total | 10,539,495 | 9,423,702 |
| Liabilities | | |
| Trade and other payables | 994,165 | 141,716 |
| Employee provisions | 223,694 | 123,674 |
| Total | 1,217,859 | 265,390 |
| Net Assets | 9,321,636 | 9,158,312 |

The figures above have been extracted from the audited Financial Statements of ADRF.

The full audited financial statements are available from info@addri.org.au

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