

AUSTRALIAN  
CANCER  
RESEARCH  
FOUNDATION



ACRF AUSTRALIAN CENTRE OF EXCELLENCE IN

# Melanoma Imaging and Diagnosis

HIGHLIGHTS OF THE 2022 ANNUAL REPORT  
Finalised on 24th February 2022



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA



THE UNIVERSITY OF  
SYDNEY



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# Executive Summary

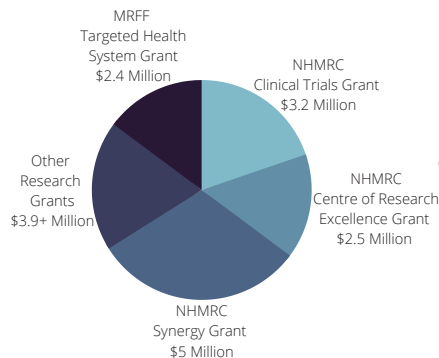
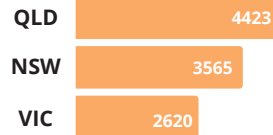
## ACRF AUSTRALIAN CENTRE OF EXCELLENCE IN Melanoma Imaging & Diagnosis

**Vision:** A World Without Melanoma

**Purpose:** Establish a network of 3D total body imaging systems to improve early diagnosis and surveillance of melanoma

### 10,000+ Expressions of Interest

To enrol in our clinical trials from across Australia.



### \$17 Million+ in Research Funding

Leveraged across ACRF ACEMID partners.

## ACRF ACEMID is conducting the WORLD's largest melanoma imaging study

Providing the foundation for 3D total body imaging within a telemedicine network and advancing melanoma research.

### ACRF ACEMID Recruitment

Each site aims to **recruit 1,000** participants.

### Since 2021, ACRF ACEMID have installed 7 sites across Australia.

#### QLD Enrolments

**Almost 700 people** have been enrolled into the Princess Alexandra Hospital site in Brisbane.

#### NSW Enrolments

**Over 200 people** have been enrolled into the Melanoma Institute Australia site in Sydney.

#### VIC Enrolments

Enrolments **to commence 2022!**

**Sept 2021**  
ACEMID Launch

**Feb 2021**

Princess Alexandra Hospital Brisbane (QLD)

**May 2021**

Melanoma Institute Australia Sydney (NSW)

**May 2021**

Alfred Hospital Melbourne (VIC)

**June 2021**

Westmead Hospital Sydney (NSW)

**Aug 2021**

Skin Health Institute Melbourne (VIC)

**Feb 2022**

Herston Imaging Research Facility Brisbane (QLD)

**Jan 2022**

Cairns Hospital Cairns (QLD)

ACRF ACEMID plans to **expand to 16 sites by 2023**, including sites in regional Australia.

## THE ACRF ACEMID PROJECT

The vision of the **ACRF Australian Centre of Excellence in Melanoma Imaging and Diagnosis** (ACRF ACEMID) is a "World Without Melanoma". To achieve this vision, ACRF ACEMID will deliver a next-generation, precision strategy of skin imaging technology integrated within a telemedicine network spanning 16 dermatology research nodes across Queensland, New South Wales, and Victoria to reconceive how melanoma is screened for and detected. ACRF ACEMID will:

- Establish a network of state-of-the-art 3D total body imaging systems and informatics infrastructure to form a multidisciplinary and multi-site centre of excellence; the first of its kind internationally.
- Integrate and leverage world-class research expertise that is unique to Australia to provide technologically disruptive and reliable solutions for the early diagnosis of melanoma, particularly for people at high and ultra-high risk and spanning urban and regional/rural areas.
- Champion a reduction in the overarching burden, morbidity and mortality associated with the 16,000 melanomas occurring yearly in Australia by helping ensure that healthcare services are targeted effectively and equitably to Australians most in need. Channelling people into risk stratified screening or surveillance programs will enable significant personal and health care system cost-savings.

The ACRF ACEMID lead researchers are Prof H. Peter Soyer (QLD), Prof Pablo Fernandez-Peñas (NSW) and A/Prof Victoria Mar (VIC). The core research team, in combination with an exceptionally strong, multidisciplinary team of additional researchers, and alongside senior health, informatics, and hospital staff, enable the successful implementation of ACRF ACEMID.

## ACRF ACEMID OFFICIAL PROJECT LAUNCH

The ACRF ACEMID project held its official launch on the 13th September 2021. Due to COVID restrictions this event was a blend of pre-recorded webinar and live content, coordinated by the ACRF and the ACEMID project team. An in-person event was held at the Translational Research Institute, Brisbane, QLD, which was attended by approximately 100 people, and there were over 500 registrations for the online webinar. The event can be viewed via recording links of the [pre-recorded webinar](#) (~14 min) and the [entire launch event](#) (~49min).

The launch was very successful, generating significant media coverage and catalysing an enthusiastic response from the community and consumers. Media coverage included an exclusive on Channel 7 News on 12th September, and coverage on 13th September on Sunrise (Ch 7) and Channel 10 News. This media exposure generated a huge public response with over 7300 expressions of interest (EOI) received that week to participate in ACEMID research. Interest was also received from consumers in SA, WA, ACT and TAS, states not included in the currently funded project rollout. With subsequent media exposure arising from successful grants the project has now received over 10,000 EOIs.

## ACRF ACEMID COHORT STUDY

The ACRF ACEMID Cohort Study is the core study utilising the ACRF funded 3D total body imaging systems for the monitoring of skin lesions and the early detection of melanoma and other skin cancers. It will enrol up to 15,000 adult participants across the 16 ACRF ACEMID sites in QLD, NSW and VIC. Study participants will be placed into 3 groups based on their calculated risk of melanoma with study visits occurring 6 monthly for the very high-risk group, 12 monthly for the high-risk group, and 24 monthly for the low/average risk group. The Cohort Study collects a range of data including total body and linked dermoscopy images, questionnaire data (including demographics, behavioural, quality of life, personal and family history), and clinical data.



L to R: Mr Tim Crommelin (ACRF Board Member), Mrs Julieanne Gilbert MP (Assistant Minister for Health and Regional Health Infrastructure), Professor H. Peter Soyer (Lead Investigator, UQ), Professor Deborah Terry AO (Vice-Chancellor and President, UQ)



The Cohort Study obtained ethical approval by the Metro South Human Research Ethics Committee (Approval number: HREC/2019/QMS/57206) and The University of Queensland (Approval number: 2019003077). The trial is registered on the Australian New Zealand Clinical Trials Registry (ANZCTR12619001706167).

Approval to access Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Schedule (PBS) data was also obtained. This MBS and PBS data will provide a valuable resource to identify and monitor health service use and will provide additional insights that complement and enhance the other data collected.

The Princess Alexandra Hospital pilot site commenced study recruitment in February 2021, and monitoring of the study processes resulted in ethics amendments to improve study procedures - approved in January 2022.

The Cohort Study has enrolled 876 participants to date at two active ACRF ACEMID sites.

*The ACRF ACEMID Cohort Study was awarded a NHMRC Clinical Trials And Cohort Studies Grant, announced in June 2021. This funding contributes to supporting the research personnel and many of the activities associated with conducting the ACEMID Cohort Study.*

## IMAGE TRIAL

Whilst Melanoma Surveillance Photography (MSP) is recommended in the Australian melanoma clinical practice guidelines for surveillance of high-risk individuals, the Medical Services Advisory Committee (MSAC) identified several gaps in the evidence which require addressing before an informed recommendation about Medicare Benefits Schedule listing of MSP can be made. The IMAGE Trial will address these evidence gaps and determine the extent to which MSP, comprised of 2D and 3D total body photography (TBP) plus digital dermoscopy, improves diagnostic performance for melanoma and reduces the number of unnecessary biopsies during the surveillance of high- and very high-risk individuals.

The IMAGE Trial officially launched in February 2021 and currently has 8 sites open for recruitment across metro and regional QLD, VIC and NSW with further sites coming on

board. ACRF ACEMID 3D total body imaging systems are utilised where available, otherwise 2D TBP is used. To date 157 participants have joined the IMAGE Trial, and of these, 40 are undergoing 3D TBP at ACRF ACEMID sites (Princess Alexandra Hospital, QLD; Skin Health Institute, VIC).

The Alfred Hospital (VIC), an ACRF ACEMID site, commenced 2D TBP IMAGE Trial recruitment prior to establishment of the 3D imaging system and COVID lockdowns in mid-2021. Bass Coast Health, an as yet to be established ACRF ACEMID site, has also commenced 2D TBP IMAGE Trial recruitment until the 3D total body imaging system is installed.

*The IMAGE Trial is funded by an MRFF Targeted Health System and Community Organisation Research Grant – Melanoma Surveillance Photography to improve early detection of melanoma in very high risk (or high risk) patients.*

## ESTABLISHMENT OF ACRF ACEMID SITES

Several ACRF ACEMID sites were established during 2021 and in early 2022. With nearly all ACRF ACEMID sites being hospital and health service locations, the COVID lockdowns in 2021 and the Omicron COVID situation in early 2022 impacted and continue to impact on the ability of the sites to conduct research activities.

- **Princess Alexandra Hospital, Brisbane (QLD)** – already established pilot site where Cohort Study recruitment commenced in February 2021 with 655 participants enrolled. IMAGE Trial recruitment commenced in February 2021, with 15 participants enrolled.
- **The Alfred Hospital, Melbourne (VIC)** – installed 30th April – 2nd May 2021 – Cohort Study recruitment is anticipated to commence in late Q1/early Q2 2022. IMAGE Trial recruitment commenced in March 2021, with 62 participants recruited for 2D TBP prior to VIC COVID lockdowns in mid-2021.
- **Melanoma Institute Australia, Sydney (NSW)** – installed 14th – 16th May 2021 – Cohort Study recruitment commenced in August 2021 with 221 participants enrolled.
- **Westmead Hospital, Sydney (NSW)** – installed 18th – 20th June 2021 – Cohort Study recruitment is anticipated to commence in late Q1/early Q2 2022.



Cairns Hospital, QLD



Westmead Hospital, NSW



The Alfred Hospital, VIC

- **Skin Health Institute, Melbourne (VIC)** – installed 13th – 15th August 2021 – Cohort Study recruitment is anticipated to commence in late Q1/early Q2 2022. IMAGE Trial recruitment commenced in October 2021 with 25 participants enrolled.
- **Cairns Hospital (QLD)** – installed 28th – 30th January 2022 – Cohort Study recruitment is anticipated to commence in Q2 2022.
- **Herston Imaging Research Facility, Brisbane (QLD)** – installed 1st – 3rd & 16th -17th February 2022 – Cohort Study recruitment is anticipated to commence in early Q2 2022.

## CONSUMER ENGAGEMENT FOCUS

### Consumer & Community Engagement Working Group (C&CE WG)

The ACRF ACEMID project team established a Consumer & Community Engagement Working Group to ensure the consumer voice is represented in the project and informs the projects research activities. This Working Group includes representatives from key melanoma consumer / advocacy entities. This group identified 3 initial priorities – communications, co-design of clinical processes, and regional / rural engagement. They developed a framework to guide ACEMID's approach to consumer and community engagement, with key networks identified for communication and engagement activities. They reviewed and contributed to all major documents and reports prepared by ACEMID, and also contributed significantly to the development of key documentation about the project to be shared through sites and consumer and community networks.

### Consumer Perceptions of 3D Total Body Imaging

The ACRF ACEMID project team and C&CE WG developed a 3D imaging questionnaire to determine consumer perceptions towards 3D total body imaging for melanoma early detection. This online questionnaire was distributed via the C&CE WG networks and included three sections: one section on consumer demographics and professional skin checks habits; and two sections on views about 3D total body imaging and perceived barriers and facilitators.

Initial analyses indicated that very few (2.5%) of the 1056 respondents had undergone 3D total body imaging and most (95%) said they would use it if available. A large percentage of respondents also indicated they would be prepared to travel and pay to access 3D total body imaging. There was a high level of acceptance around utilisation of 3D total body imaging with five main themes identified regarding perceived benefits – 1) early detection, 2) accuracy and efficiency, 3) monitoring, 4) assist doctors, and 5) 'peace of mind'. The major identified barrier was the limited number of 3D imaging systems available, and perceived concerns included accessibility (cost, travel, and time), and privacy.

Analysing consumer perceptions of 3D imaging will help the ACEMID team understand and overcome some of the common barriers / concerns and also help to highlight potential benefits for better adoption of 3D imaging during the research project, as well as informing future use in clinical practice.

## ADDITIONAL RESEARCH FUNDING

The ACRF ACEMID research team are constantly endeavouring to obtain additional funding to support the project's research activities. Since commencement of the ACRF ACEMID project in 2019 the research team have been successful in obtaining

over \$17 Million in additional funding to support the project's associated research activities, from a variety of funding bodies including the MRFF, NHMRC and ARDC.

### Funding highlights of 2021 include:

- **NHMRC CLINICAL TRIALS AND COHORT STUDIES GRANT** - 'Reconceiving early detection of melanoma'. A/ Prof Victoria Mar (Monash University), Principal Investigator. Announced in June 2021. This grant provides \$3.2M funding across 5 years. It will deliver a risk stratified imaging-based approach to melanoma prevention, early detection and surveillance. This funding contributes to supporting the research personnel and many of the activities associated with conducting the ACEMID Cohort Study, the core study utilising the ACRF funded imaging systems and ICT network.
- **NHMRC CRE GRANT** - 'Centre of Research Excellence in Skin Imaging and Precision Diagnosis'. Prof Monika Janda (The University of QLD), Principal Investigator. Announced in September 2021. This CRE provides \$2.5M funding across 5 years. The CRE will focus on improving early melanoma detection and diagnosis through improved diagnostic processes and procedures, including novel 3D total body imaging biomarkers, AI, and non-invasive biopsy methods. This funding supports research personnel and research activities utilising data collected as part of the ACEMID Cohort Study.
- **NHMRC SYNERGY GRANT** - 'Roadmap options for melanoma screening in Australia (Melanoma-ROSA)'. Prof Monika Janda (The University of Queensland), Principal Investigator. Announced in November 2021. This Synergy grant provides \$5M funding across 5 years, with the aim of co-designing with consumers and healthcare stakeholders, a precision targeted melanoma screening approach to inform clinical and policy recommendations for an effective national risk-stratified melanoma screening program. This grant will utilise data collected as part of the ACEMID Cohort Study, with funding supporting the associated research personnel and research activities.

### FUNDING WISHLIST

While the additional funding obtained to date will allow the ACRF ACEMID research team to advance several key project objectives, there are still many opportunities to expand and enhance project outcomes with additional resources including:

- Development of robust, tailored telehealth solutions for the early detection of melanoma, utilising the 3D total body imaging systems and telemedicine network established for the ACRF ACEMID project. This is of particular relevance for regional and rural areas of Australia where specialist expertise and care is not readily available.
- Progression of the project's Health Informatics research, and interaction with hospital and health service eHealth/IT personnel, around standards development for 3D total body imaging data, and interoperability and integration of this data with clinical information systems spanning numerous health jurisdictions.
- ACRF ACEMID site personnel support, supplementing the sites in-kind contributions, to boost site research activity and data collection
- Operational personnel support, across participating states, to ensure a well managed 3D total body imaging network is maintained



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