



HALF YEAR RESULTS FY2023

Highlights:

- **Cholesterol-Lowering Program:**
 - Formulation development work completed, *in vitro* preclinical safety and toxicology studies progressing well
 - *In vivo* preclinical studies underway and on track
 - Phase I/IIa study set to start 2H FY23
- **Brain Injury Program:**
 - *In vitro* preclinical safety and toxicology studies well advanced, *in vivo* studies to follow
 - Phase I study to start 2H FY23
 - Stroke study results expected during Q3 FY23
 - Collaboration with WRAIR and UNSW extended to 2025
- Research and development costs of \$2.2M as Nyrada's preclinical programs approach Phase I (HY FY2022: \$1.1M)
- Well placed to undertake Phase I studies in 2H FY2023 with a cash balance of \$9.3M

Sydney, 24 February 2023: Nyrada Inc (ASX: NYR), a preclinical stage, drug development company specialising in novel small molecule drugs to treat cardiovascular and neurological diseases, today released its Financial Report for the half year ended 31 December 2021, together with an update on the Company's two lead drug development programs.

Commenting on the first half, CEO James Bonnar said, "I am pleased with the progress we have made during the reporting period, which positions our drug development programs strongly to start Phase I clinical trials in the second half of the financial year.

"The US remains the largest target market for both our Cholesterol-Lowering and Brain Injury drug programs. We have two very strong programs targeting markets of significant unmet need which our promising novel drug candidates are well placed to capitalise on," Mr Bonnar added.



Cholesterol-Lowering Program Activity

The necessary formulation development work has been completed to ensure Nyrada's drug candidate can be dosed to achieve sufficiently high exposures in toxicology studies. Australian Human Ethics Committees and regulators such as the US Food and Drug Administration (FDA) require high dosing in these studies in order to provide acceptable data on the safety margin between efficacious and toxic dose levels.

Pleasingly, the preclinical *in vitro* safety and toxicology studies underway at Nyrada's US-based Contract Research Organisation (CRO) partner, Inotiv continue to make good progress and the *in vivo* Good Laboratory Practice (GLP) studies which started in January are proceeding as planned. GLP studies must be completed prior to seeking human ethics committee approval to start a Phase I clinical trial in Australia.

Clinical Development

The planned Australian Phase I /IIa study remains on track to commence during the second half of FY23. The inclusion of high cholesterol patient cohorts will enable an accelerated path to a Phase IIb study, potentially saving up to 12 months in the development timeline. The Phase I/IIa study will inform on safety and tolerability, while also providing early efficacy signals in the target population; patients with elevated cholesterol and those already on statins.

Following completion of the Phase I/IIa study, Nyrada anticipates submitting an Investigational New Drug (IND) Application to FDA, for approval to run a Phase IIb study in high cholesterol patients in the US. The objective of the Phase IIb study will be to further evaluate the efficacy of Nyrada's Cholesterol-Lowering drug candidate in the target population.

As the world's population continues to age, demand for effective and well-tolerated cholesterol-lowering drugs continues to grow, with the US one of the largest target markets for Nyrada. While ~27 million people in the US are on statin medication, more than 18 million, or close to 70% are unable to reach their safe target cholesterol level¹ providing a large market for Nyrada.

Brain Injury Program Activity

Nyrada has been working closely with Charles River Laboratories (UK) to complete the formulation development work necessary to ensure Nyrada can deliver an optimal dose form suitable for intravenous administration of our brain injury drug candidate. This work is essential

¹ Wong ND et al. Prevalence of the American College of Cardiology/American Heart Association statin eligibility groups, statin use, and low-density lipoprotein cholesterol control in US. *J Clin Lipidology*. 2016.



for the upcoming *in vivo* GLP safety and toxicology studies, the scheduled Phase I trial and stroke model study.

The *in vitro* safety and toxicology studies are well advanced, with the required *in vivo* studies to follow. These preclinical studies will be used to evaluate the safety and tolerability of Nyrada's drug, along with the safe starting dose for the Phase I study.

Separately to the traumatic brain injury (TBI) and stroke studies, Nyrada recently completed an *in vitro* hERG ion channel study, which is designed to measure whether a drug candidate blocks hERG potassium channels. Blockage of these channels in patients can lead to a serious side effect of heart arrhythmia (irregular heartbeats). Pleasingly, activity of Nyrada's brain injury drug candidate on the hERG channel is within the acceptable range for the drug to be considered safe. The next step will be to further confirm our drug candidate's safety in an *in vivo* study.

Clinical Development

Nyrada will run its Phase I first-in-human studies in Australia during the second half of FY23, with 40 healthy volunteers participating. The study will evaluate the safety and tolerability of the Company's brain injury drug candidate, supporting its development in two indications, TBI and stroke.

It is anticipated that following completion of the Phase I study, the Company will submit an IND to the FDA for approval to run a Phase IIa study in the US, with potential to leverage the existing infrastructure for TBI trials supported by the US Department of Defense. The US remains a key target market for Nyrada's brain injury drug candidate. Approximately 4.8 million people are evaluated for TBI in US hospitals each year, with TBI being diagnosed in approximately 2% of total emergency department visits, hospitalisations, and deaths.²

TBI Efficacy Study and Extension of Collaboration with Walter Reed Army Institute of Research (WRAIR) and UNSW Sydney (UNSW)

In January 2023, Nyrada announced a two-year extension to its collaboration with WRAIR and UNSW, from February 2023 through to January 2025.

Changes made to the Collaborative Research and Development Agreement between the parties (Revised CRADA) will enable testing of Nyrada's brain injury drug candidate in a rodent model of penetrating traumatic brain injury (PTBI), (TBI efficacy study) which mimics the serious head injuries suffered by military service members. The TBI efficacy study will measure the degree to which intravenous administration of Nyrada's drug leads to a

² National Academies of Sciences, Engineering, and Medicine 2022. Traumatic Brain Injury: A Roadmap for Accelerating Progress. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25394>.



reduction in injury size following a PTBI. This study will be undertaken in 2H FY23, with results expected in 1H FY24.

This work builds on the studies already completed under the original CRADA, which included an extensive pilot study run by WRAIR and UNSW to determine the most suitable model for testing Nyrada's brain injury drug.

All work under the original CRADA has been completed as part of an in-kind non-financial arrangement between Nyrada and WRAIR. Pursuant to the terms of the Revised CRADA, Nyrada will provide WRAIR with sufficient drug quantities to complete the study, and US\$150,000 to cover key costs associated with the work. In exchange, the studies will be undertaken by WRAIR personnel at WRAIR's specialist TBI research facility in the US.

WRAIR and Nyrada will continue to work together to pursue non-dilutive funding opportunities to further progress the Company's Brain Injury Program.

Stroke Model Study

The efficacy of Nyrada's brain injury drug candidate is also being evaluated in a well-established preclinical stroke model, with results expected during Q3 FY23. This study is outside of the work being undertaken as part of Nyrada's collaboration with WRAIR and UNSW. WRAIR's focus remains solely on developing a drug to mitigate the impact of TBI on military service members.

- ENDS -



About Nyrada Inc

Nyrada is a preclinical stage, drug discovery and development company, specialising in novel small molecule drugs to treat cardiovascular and neurological diseases. The Company has two main programs, each targeting market sectors of significant size and considerable unmet clinical need. These are a cholesterol lowering drug and a drug to treat brain injury, specifically traumatic brain injury and stroke. Nyrada Inc. ARBN 625 401 818 is a company incorporated in the state of Delaware, US, and the liability of its stockholders is limited.

www.nyrada.com

Authorised by John Moore, Non-Executive Chairman, on behalf of the Board.

Investor & Corporate Enquiries:

Laura Vize
Investor Relations Manager
T: 0417 026 056
E: info@nyrada.com

Company Secretary:

David Franks
T: 02 8072 1400
E: David.Franks@automicgroup.com.au

Media Enquiries:

Catherine Strong
Citadel-MAGNUS
T: 02 8234 0111
E: cstrong@citadelmagnus.com

Forward-Looking Statements

This announcement may contain forward-looking statements. You can identify these statements by the fact they use words such as “aim”, “anticipate”, “assume”, “believe”, “continue”, “could”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “project”, “plan”, “should”, “target”, “will” or “would” or the negative of such terms or other similar expressions. Forward-looking statements are based on estimates, projections, and assumptions made by Nyrada about circumstances and events that have not yet taken place. Although Nyrada believes the forward-looking statements to be reasonable, they are not certain. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond the Company’s control (including but not limited to the COVID-19 pandemic) that could cause the actual results, performance, or achievements to differ materially from those expressed or implied by the forward-looking statement.