



06 April 2020

Sydney, Australia

Nyrada Newsletter Released

Highlights:

- **Two lead R&D programs progressing as planned**
 - **Brain injury program leads to discovery of a new generation of more potent drug candidates**
 - **Confirmation that lead brain injury compound readily crosses the blood brain barrier following intravenous administration and has excellent drug-like properties**
 - **Update on COVID-19**
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Sydney, 06 April 2020: Nyrada, Inc (ASX: NYR) releases its first Newsletter to shareholders and the market.

The main article focusses on the brain injury program, explaining the Nyrada technology and progress being made in identifying the lead candidate.

The Newsletter will be available at www.nyrada.com

-ENDS-

About Nyrada Inc

Nyrada is a preclinical stage, drug discovery and development company, specialising in novel small molecule drugs to treat cardiovascular, neurological and inflammatory 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, USA, and the liability of its stockholders is limited.

www.nyrada.com

Authorised by John Moore, Non-Executive Chairman

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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 that could cause the actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statement.



Message from the CEO



I hope this newsletter finds you and your families safe and well in these difficult times.

It was my intention to be out presenting and meeting with you throughout March and April. Unfortunately, due to COVID-19, this is not possible.

Nevertheless, the intervening period since our successful listing in January has been extremely productive and I am pleased to report that the team has made tremendous progress in advancing the two lead programs – the cholesterol lowering and the brain injury product candidates.

In particular, I wanted to update you on the neuroprotectant drug that we are developing to prevent the secondary brain injury that causes devastating loss of life and long-term disability. As March was Brain Injury Awareness month, it is important to reiterate firstly that brain injury is a therapeutic area of largely unmet clinical need and, secondly, that our product candidate aims to treat both stroke and traumatic brain injury (TBI). A drug that mitigates secondary brain injury in the days following TBI and stroke, offers up the possibility of becoming a 'standard of care' treatment in a highly lucrative market estimated at US\$10 billion annually in the US alone.

A recent exploratory pharmacokinetic study of our current lead NYX-242, undertaken to evaluate different routes of administration, showed the compound has excellent drug-like properties. Following intravenous infusion, the desired route of administration for brain injured patients, the study showed NYX-242 readily crosses the blood-brain barrier and has a sufficiently long plasma half-life.

As we recently announced, another exciting development is the discovery of a more potent family of compounds that act on a different target to achieve the same result. These new compounds are currently being optimised and tested, and the aim is to run the best from each family head-to-head in an animal model of brain injury. The best will be selected to take forward to the clinic. Having two compounds to compare in this way greatly de-risks the neuroprotection drug program.

James Bonnar
CEO

Corporate Information

ASX Code	NYR
Funds Raised at IPO	A\$8.5m
Share Price (at 3 April 2020)	A\$0.135
Market Cap (at 3 April 2020)	A\$14.8m

Update on COVID-19

As recently announced, Nyrada has not been significantly impacted by COVID-19 to date. Our main CRO vendors in China and the US are operating as usual.

The drug synthesis vendor in India has just gone into a mandatory 3-week shutdown but this was signalled well in advance and measures were taken to avoid any disruption to Nyrada.

Stay in Touch



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Status Update from the Bench

Neuroprotection Program: Treatment for TBI & Stroke



- Progress in the brain injury program has led to the discovery of a new generation of more potent drug candidates
- The new compounds are novel, providing Nyrada with a strong competitive advantage
- Further analogues are being synthesised and tested, which includes a PK study for dose optimisation
- A provisional patent will be lodged for these new family of compounds
- The recent progress builds Nyrada's confidence that it will enter the clinic with a highly optimised drug

Scan the QR code to view the Neuroprotection animation



Cholesterol-Lowering Program: PCSK9 inhibitor



- The program remains on-track with the near term goal of identifying a lead candidate by mid-2020
- Once identified, the Company will advance plans towards a first-in-human clinical study

Scan the QR code to view the Cholesterol-Lowering animation



Technology in Focus

Brain Injury Program

Stroke and TBI remain the leading causes of death and disability around the world. The initial stroke or trauma event damages the brain within minutes and is referred to as the “primary” injury, which cannot be reversed.

In the hours and days following the initial event, the injury expands and is referred to as the “secondary” brain injury.

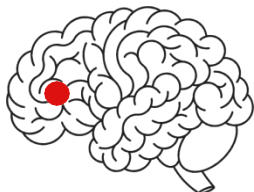
This occurs due to various biological mechanisms resulting in progressive expansion in the injury size, which can more than double over a week. A key mechanism involved in this progression is the build-up of calcium ions (Ca^{2+}) in brain cells which activates cell-death pathways and inflammation.

Nyrada’s small molecule inhibits this Ca^{2+} build-up in cells. A proof-of-concept study conducted with Nyrada’s first generation compound NYX-104, it was shown that animals treated for 5 days after brain injury had a 38% reduction in secondary brain injury volume, compared to placebo.

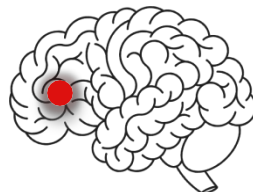
Nyrada’s second generation compound NYX-242 is more potent in blocking Ca^{2+} build-up in cells and more ‘drug-like’ compared to NYX-104 in terms of how it is absorbed and distributed in the body. A recent exploratory pharmacokinetic and tissue distribution study of NYX-242 confirmed that with intravenous delivery, significant levels of the drug are detected in the brain of a healthy animal.

There were no clinical signs reported in the study, suggesting the dose to be well tolerated. The dose will be further optimised and confirmed in a follow up pharmacokinetic study.

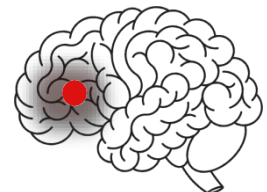
To improve the potency even further, the Nyrada team have designed novel compounds to block a cellular target, proven to be at the centre of Ca^{2+} build-up in cells following brain injury. These compounds are 10-times more potent than NYX-242 in a cellular assay and will be tested in a head-to-head comparison in animal brain injury models of stroke and TBI, commencing in early 2021. The results of these efficacy studies will determine which compound is taken forward towards the clinic.



Minutes



Hours



Days

Initial injury size

Final injury size

Nyrada Profile: Dr Alex Suchowerska, Neuroscience Researcher

Tell us a bit about your background

I studied science at the University of Sydney (B.Sc. majoring in Immunology and Physiology) including an honours year investigating the molecular cause of Alzheimer's disease. I further investigated brain pathology during my PhD in Neuroscience at UNSW Sydney. My research focused on the connection between brain cells (the synapse) and how this connection is affected in different neurological diseases.

What do you most enjoy about working at Nyrada?

I relish the multifaceted team environment. Our biologists, chemists and neuroscientists are complemented by an expert panel of scientific and business leaders, meaning there is always something new to learn from an expert in their field.

Where do you see yourself in 5 years time?

Working at Nyrada of course! Currently we are focused on the next 1-2 years and progressing at least one of our lead programs into the clinic. I have every confidence that we will succeed, and I am excited for the journey ahead. Beyond that, I see myself continuing working on the discovery programs and progressing them beyond the discovery phase.

Industry Profile

In October last year, Nyrada attended the Defense TechConnect Expo in the US and was invited to showcase our brain injury program. There was a high degree of interest from attendees including representatives from the military.

As part of Brain Injury Awareness Month, the Walter Reed Institute of Army Research released the following video to highlight the importance the Department of Defence places on brain health and wellness, and on finding a treatment for brain injury.

[Walter Reed Army Institute of Research: Brain Health & TBI](#)

