



## METRO NORTH CLINICIAN RESEARCH FELLOW 2021-2025

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## Greater Recovery After Critical IllnEss (GRACE)

After critical illness, many survivors continue to experience a range of impairments associated with immense personal, social and economic burdens. “Post Intensive Care Syndrome” (PICS) encompasses various constellations of physical, psychological and cognitive impairments. Up to 70% of patients may be affected with a significant personal and financial impact on survivors, their families and society.

My research seeks to develop an improved conceptual model of the syndrome, developing clinical decision aids, and developing new ways of optimising critical illness recovery. Ultimately, this will allow patients function independently, return to work and remain out of hospital.

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## Research Impact:

In 2024, we published in *Critical Care* that there are high rates of post-ICU complications in patients in ICU for less than 72 hours, as well as those not invasively ventilated. This challenges previous assumptions about a dose response relationship between exposure to the ICU environment and a complicated recovery trajectory. Later in 2024, we gathered 33 experts from around the world to a roundtable held at Cambridge University. This culminated in a paper published in *Thorax* in 2025 called “Greater recovery after critical illness (GRACE): a call to action to create a new roadmap for critical illness research”, and proposes that in the next decade, further discussion should review progress towards Precision Recovery through metrics such as an increase in the use of adaptive trial designs and patient- specific outcome measures in literature, and pragmatic implementation frameworks.

My PhD student Zemedu Aweke has since developed a predictive model to identify patients for targeted interventions in the Gold Coast Post Trauma Follow-Up Service. This will be validated in the RWH service. Two meta-analyses have been completed and are under review for publication.

At Redcliffe Hospital, the ‘Early Psychiatric Assessment, Referral and Intervention Study’ (EPARIS) involved a pilot RCT of incorporating an early psychiatric intervention into the Redcliffe Post-ICU multidisciplinary clinic. Findings have shown patients receiving the intervention had a greater reduction in PTSD, anxiety and depression symptoms 6 months post-intervention. These findings have led to the development of a new psychological intervention which appears to provide a lasting improvement in patients’ psychological recovery. A multi-site one year trial called Psychosocial Recovery After Injury ServicE (PRAISE) is planned in collaboration with the trauma and psychology services at Gold Coast University Hospital, Princess Alexandra Hospital, Royal Brisbane and Women’s Hospital and Townsville Hospital.

## Reflection from Researcher:

This project is one of the examples of where a patient is likely unaware what an impact they had on their doctor. This journey began for me when I saw a patient in a Metro North clinic, where I knew something was missing from the picture. I am proud of how much this Fellowship has allowed me to change things for critical illness survivors. Challenging the assumption that time in ICU and severity of illness/injury is the key factor, identifying the challenges to prompt diagnosis and treatment, and putting forward a model of precision recovery. The goals I see ahead are to promote awareness among my fellow clinicians and society at large, and build a service that is equipped to promote recovery for every survivor of major illness or injury in Queensland.

## Selected Publications:

- Flaws D, Stewart JD, Haines KJ, et al. Greater recovery after critical illness (GRACE): a call to action to create a new roadmap for critical illness research. *Thorax* 2025
- Flaws D et al. Time in ICU and post-intensive care syndrome: how long is long enough? *Critical Care*. 2024
- Tronstad O, Flaws D et al. Evaluation of the sensory environment in a large tertiary ICU. *Critical Care*. 2023
- Tronstad O, Flaws D, et al. Creating the ICU of the future: patient-centred design to optimise recovery. *Critical Care*. 2023

## Selected funding that has arisen during the Fellowship:

- Common Good Foundation - \$200,000 (AUD) to fund PhD candidate to develop standardised outcome measures for Mental Health Short Stay models within Metro North
- Astra Zeneca - \$20,000 (USD) to support travel costs for Early Career Researchers and delegates from Low- Middle Income Countries attending the GRACE Conference
- Fisher & Paykel - £25,000 (GBP) to cover food and accommodation in hosting GRACE Conference