# Nurse Practitioner-led services supporting optimisation of treatment for depression in primary care

By Rasa Kabaila

**Depression is often a recurrent or chronic condition across a person's lifespan.[1] As well as the direct impact on health, depression has substantive direct and indirect costs for the individual, their families and society.**

The Australian Institute of Health and Welfare[2] reports that spending on mental health services in Australia increased from 9.3 billion in 2016-2017 to 11.6 billion in 2020-2021.

The goal of treatment for depression is complete remission from depressive symptoms. Achieving remission is crucial as residual depressive symptoms are the strongest predictor of early relapse and are strongly associated with poorer functional outcomes.[3] Achieving earlier remission from a depressive episode may be associated with reductions in the considerable indirect economic costs of the condition.[4]

However, *STAR*D*, the largest clinical trial examining outcomes for treatments of depression, highlighted that only a third of patients achieved remission on first-line treatments and up to four successive trials of different regimes were required to double the remission rate.[5]

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However, clinicians often treat depression sub-optimally.[6] Where treatment is initiated, clinicians often wait until at least six weeks prior to attempting optimisation of dosages or changing medications, with patients sometimes remaining on ineffective or even harmful treatments for six weeks or longer.[6]

Extended periods of suboptimal treatment result in a lost opportunity to achieving earlier remission and functional recovery, and thereby reduce the direct and indirect economic cost of depression.[6] Optimising treatment may take many months, with the lost opportunity of potentially achieving earlier remission and functional recovery, and a failure to realise the potential indirect economic savings for society.[6]

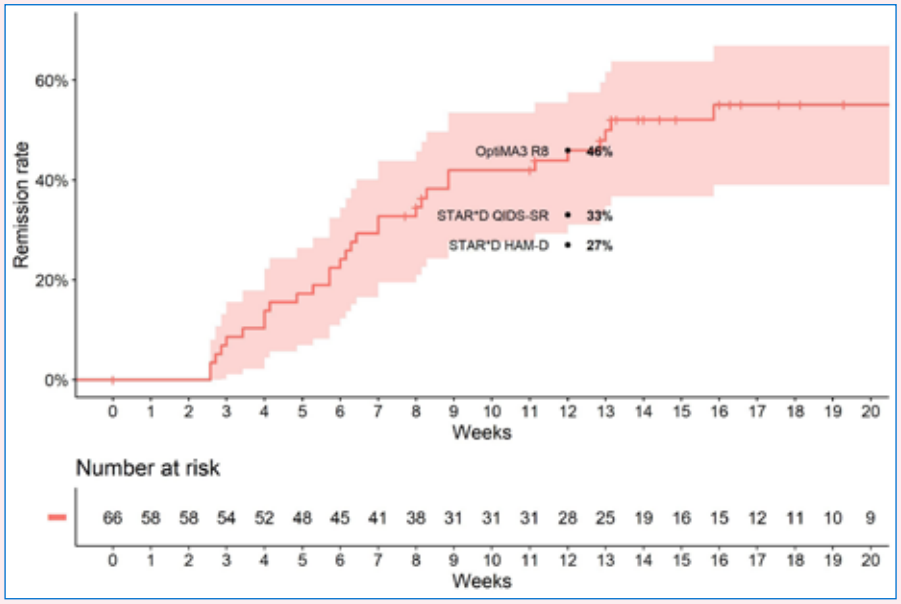
In order to address this need for timely and effective treatment for depression and anxiety, *OptiMA2* was introduced. *OptiMA2* was a pilot, mixed methods, service implementation study that used a novel software, Psynary, to support a Nurse Practitioner (NP)-led depression treatment optimisation care pathway, in a NSW primary care setting.[7] The focus group data from clients and GPs involved in *OptiMA2* demonstrated that *OptiMA2* was a safe and effective care pathway.[7]

This study was completed in 2021. *OptiMA3* 'stress-tested' this care pathway with larger client numbers. *OptiMA3* focused on quantitative outcomes, where machine learning was used to predict outcomes. Results of *OptiMA3* are discussed in this paper.

### STUDY PROCESS:

A naturalistic cohort follow-up study was undertaken to compare clinical outcomes of the Nurse Practitioner (NP)-led depression treatment optimisation care pathway to published literature and other parallel *OptiMA* studies. The primary outcome prediction is that over the course of three months of treatment optimisation will achieve an equivalent increase in cumulative remission rates seen in the *STAR*D* study (which reports 12-month outcomes of 37% after first line treatment and 67% after four iterations of treatment).

Primary outcomes include quantitative clinical outcomes measured by *Psynary*, which covers all the symptom domains associated with depressive and anxiety disorders. The R8 Depression scale is used within *Psynary* to measure depression symptom severity and establish remission.[8]




Legend: Estimated remission rate (red line) and 95% CI (pink shaded) from zero to 20 weeks for all patients.

This measure was validated in *OptiMA1* in a dataset from sites in New Zealand and Japan.[8] The R8 Depression scale is calibrated for remission rates of mild, moderate and severe depression, which in turn map onto *NICE* guidelines for staging interventions for depression.[8] *Psynary* also includes the *PHQ-9* scale used widely to identify and stratify presentations of depression in primary care.[9] There are also measures of patient- and clinician-rated global improvement, alcohol and illicit drug use over time, side-effect burden from treatments, patient treatment adherence, subjective cognitive functioning and progress towards patient-defined outcome goals.

## ANALYSIS:

We calculated a Kaplan-Myer curve with confidence intervals for readmission using the survival package in R. [10,11]

## OUTCOMES AND RECOMMENDATIONS:

In *OptiMA* we defined remission as ≤17 on the R8 Depression scale and found remission at 12 weeks to be 46% (95% confidence interval: 31–58%). The remission rate was 35% (95%CI: 21-64%) at eight weeks.

As a comparison, *STAR*D* used two measures of remission: *HAM-D* (Hamilton 1967) with which they measured a remission rate of 33% at 12 weeks, and the *Quick Inventory of Depressive Symptomatology-self- Report* (QIDS-SR), where, for a score of ≤5, they found a remission rate of 27% at 12 weeks. As different instruments were used to define remission, these are not directly comparable to *OptiMA*, however the high rate of remission reported in *OptiMA* is encouraging.

## IMPLEMENTATION AND EVALUATION:

The *OptiMA2* and *OptiMA3* studies demonstrated the effectiveness of the Nurse Practitioner (NP)-led depression treatment optimisation care pathway in providing a timely and effective depression and anxiety treatment. Because of these studies, Rasa Kabaila continues to provide depression and anxiety treatment using the *OptiMA* methodology in her practice as a Nurse Practitioner. She sees a broad array of people in the community, and aims to reduce barriers to accessing care. She sees people face to face where possible or alternatively delivers care via telehealth, which is particularly effective for people living in rural areas where they have difficulties accessing care.

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## Author:

**Rasa Kabaila** *is a Nurse Practitioner running her own holistic service - Broadleaf in Port Macquarie New South Wales, Australia*