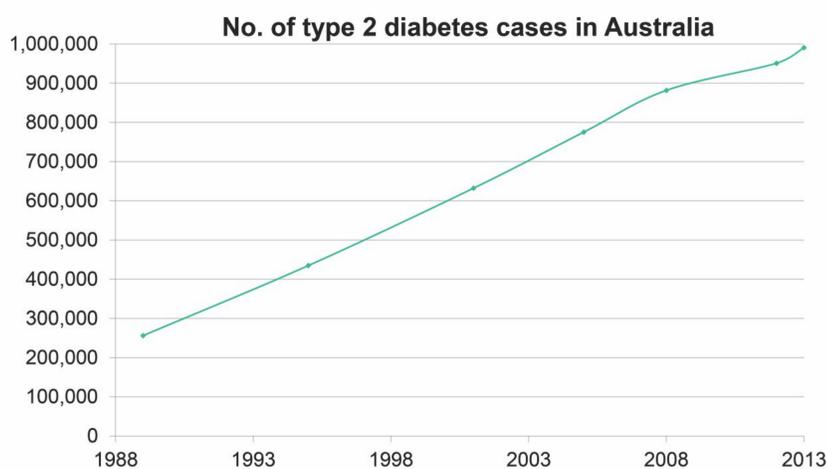


Project 4.42 | Reducing the burden of Type 2 Diabetes to our community

Project Leader Prof Kerrie Mengersen, QUT
Research Team Dr Nicole White, QUT; Dr Jannah Baker, QUT
Project Participants Queensland University of Technology, School of Mathematical Sciences; Curtin University of Technology; University of Sydney Cancer Council QLD; Telethon Institute for Child Health Research; WA Health
Objectives To identify areas at excess risk of type 2 diabetes, accounting for geographic risk factors and spatial correlation in Queensland
Outcomes By knowing where to place additional resources, we can reverse and prevent long-term consequences and costs of diabetes in the future.

CRISIS IN DIABETES CARE! - British Medical Journal



Type 2 Diabetes has risen catastrophically in the last 25 years, from 25,000 to almost a million cases. We are close to a crisis in service provision.

Our Approach

Our spatial model estimates relative excess risk (RER) and geographic risk factors for Type 2 Diabetes across 71 Queensland Local Government Areas. The RER indicates regions where the estimated risk is greater or smaller than would be expected after accounting for the influence of risk factors in that region.

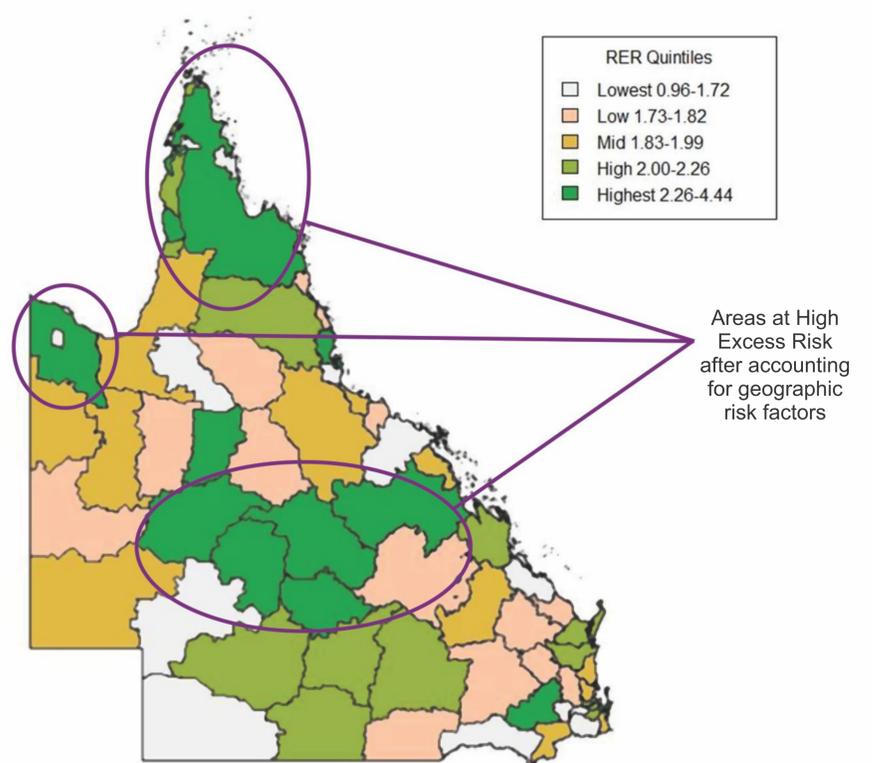
Benefits of our Approach

The model borrows strength across neighbouring regions, accounting for sparse data, missing data, and estimates from small areas –thus producing more robust results using spatial smoothing.

Outputs

Estimates of spatially smoothed relative excess risk for each Queensland Local Government Area and estimates of the effect of individual geographic risk factors.

Relative Excess Risk (RER) of Type 2 Diabetes across Queensland Local Government Areas



Our work identifies areas in Queensland at high excess risk of Type 2 Diabetes after accounting for area-level risk factors – these areas would benefit the most from additional resources to detect and manage diabetes early.

Area-level risk factors accounted for:



Socioeconomic status



Age >45 years



Overweight/Obesity



Daily smokers



Insufficient Physical Activity



Lack of adequate fruit consumption



Lack of adequate vegetable consumption

IMPACT

By knowing where to place additional resources, we can reverse and prevent long-term consequences and costs of diabetes in the future