Metabolic monitoring at Totara House

Dr Mike Clarke (Psychiatric Registrar), Alison Ford (Registered Nurse), Phil Keene (Registered Nurse)
Metabolic monitoring

- Metabolic monitoring in Early Intervention Services
- Setting a life course
- Shaping attitudes to medications
Health disparities

- Significant gap in mortality between individuals with serious mental illness and the general population.
- Life expectancy of those with serious mental illness estimated to be up to 25 years shorter.
- Within New Zealand more than double the mortality rate of the general population.
- Those with psychotic illness most at risk.
- The majority of deaths are due to physical illnesses, with cancer and cardiovascular disease the most common amongst these.

Te Pou o Te Whakaaro Nui. The physical health of people with a serious mental illness and or addiction: An evidence review. June 2014
Any three (or more) of the following factors constitute a diagnosis of metabolic syndrome:

- **Increased waist circumference**: ethnicity-specific - eg, Caucasian men ≥94 cm and women ≥80 cm; South Asian men ≥90 cm and women ≥80 cm or body mass index over 30 kg/m²

- **Raised triglycerides**: 
  - >1·7 mmol/L

- **Reduced HDL-cholesterol**: 
  - <1·0 mmol/L in men or <1·3 mmol/L in women

- **Raised blood pressure**: 
  - Systolic ≥130 mm Hg or Diastolic ≥85 mm Hg.

- **Raised fasting plasma glucose**: 
  - Fasting plasma glucose ≥ 5·6 mmol/L

Metabolic syndrome and cardiovascular risk

- Meta analysis including 37 studies and 172,573 individuals.
- Individuals with metabolic syndrome had a relative risk (RR) of cardiovascular events and death of 1.78 (95% CI 1.58 to 2.00).
- The association remained after adjusting for traditional cardiovascular risk factors (RR 1.54, 95% CI 1.32 to 1.79).

Drivers of Poor Health Outcomes

- Socio-economic status
- Reduced physical activity
- Poor nutrition
- Smoking
- Psychotropic medications (particularly antipsychotics)
Mean weight gain during initial 10 week treatment period

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Psychiatric burden of Metabolic Syndrome

- Prevalence of Metabolic Syndrome in 143 outpatients in China with bipolar disorder was 29.4%.
- Prevalence of Metabolic Syndrome in patients treated with atypical antipsychotics plus mood stabilizers (36.3%) and atypical antipsychotics alone (36.0%) was significantly higher than those treated with mood stabilizers alone (10.5%).
- Patients with Metabolic Syndrome had more hospitalisations, more tardive dyskinesia, poorer insight, poorer global function.
- Presence of Metabolic Syndrome may not only cause physical burden but also negatively affect psychiatric outcomes.

Managing metabolic side effects

- Lifestyle interventions
  - Diet
  - Exercise
  - Smoking cessation
- Switching antipsychotics
- Withdrawing medications
- Pharmaceutical interventions
  - Metformin
  - Statins
  - Antihypertensives
- Collaboration with primary care
- Identifying the problem is the first step!
TH Stock take planning day: Equally well, What can we be doing better.

TH team set about developing a standard on monitoring and managing metabolic issues, inline with the evidence base (cardio-metabolic health resource: Endorsed by NICE (2014) and the Australian Clinical Guidelines for early psychosis (2015).

We developed a smaller working group looking at: What we are currently achieving, where are the shortfalls, what are the barriers and solutions?
Our aim was to record all Metabolic information within out MDT meeting board (spreadsheet): Creating a central database and allowing us to view metabolic data/issues within meeting – Keeping it high on our agenda.

Our vision shifted to include developing a Visual clinical Tool with our client base: To enhance health-education/Lifestyle intervention; thereby allowing health promotion to help maximise prevention in the longer term. (in particular weight gain)

We have been working with the CDHB quality team to develop this tool: visually.

Formulas have been created to enable a metabolic display – reflecting outcomes based on healthy-unhealthy ranges with a traffic light colour coded system.
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Clinical Example

Weight & Waist Tracker

Weight Kg

Waist Cm >94
Blood pressure

BP Systolic <90 or > 140
BP Diastolic <60 or > 90
Challenges & Actions

Barriers
- Numbers (Interpretations)
- Allied health CM' (scope)
- Initiation / switching – 6 week monitoring (guidance)
- Consistent blood monitoring: 3monthly. Typically problematic

Solutions
- Visual, colour coded: Traffic light system
- Dr have equipment, Equally well Active links Colleague. Forward Planning, Outreach with travelling equipment (typically monitoring occurs at TH)
- Actively supporting and developing within tailor met lifestyle/physical health & nutritional planning.
What now?

- Finalise draft to a working seamless system.
- Further feedback & consultations with TH clients on their thoughts, what would they add/change?
- Implement – Using solution to the barriers.
- Evaluate and measure if this tool reduces/prevents the onset of Metabolic conditions inline with life-style interventions coupled with increasing Health literacy on metabolic conditions.