

Terms of Reference:

The inquiry will consider –

a. The cost of type 2 diabetes to the community

See “The Economic Consequences of Diabetes: More than just a health issue (2018)” - Dr Hannah Carter - Senior Research Fellow – Health Economics - AusHSI – Australian Centre for Health Services Innovation, School of Public Health, Institute of Health and Biomedical Innovation, Queensland University of Technology. <https://eprints.qut.edu.au/117984/2/117984.pdf>

b. The adequacy of prevention and intervention programs

Programs need to be:

- affordable to participants and sponsors,
- effective and value based,
- practical,
- extensible,
- sustainable and
- evidence based.

They should aim to reverse metabolic syndrome and adjust dietary behaviour in a sustainable way.

c. The use of restrictive diets to eliminate the need for type 2 diabetes medication

Recent medical opinion suggests that people with type 2 diabetes are carbohydrate intolerant

(See <http://doctoraseem.com/the-truth-about-fat-and-sugar/>).

A recent study has found that: “nutritional ketosis can be highly effective in improving glycaemic control and weight loss in adults with T2D while significantly decreasing medication use”. See McKenzie AL, Hallberg SJ, Creighton BC, Volk BM, Link TM, Abner MK, Glon RM, McCarter JP, Volek JS, & Phinney SD 2017, ‘A Novel Intervention Including Individualized Nutritional Recommendations Reduces Haemoglobin A1c Level, Medication Use, and Weight in Type 2 Diabetes’, JMIR Diabetes, vol. 2, no. 1.

d. Regulatory measures to encourage healthy eating*

One possible option is that sugar drinks are taxed to reduce the levels of sugar in beverages. Such a tax is now operating in many countries and states around the world.

e. Social and cultural factors affecting healthy eating*

Traditional diet theories like the food pyramid which advocates higher carbohydrate intake, are unchallenged and followed without question in Australia. It is still taught in our schools and practiced in healthcare, hospitals and aged care to the detriment of sufferers of some of our most common metabolic diseases like Type 2 diabetes. The very medications prescribed for type 2 diabetes are to

counteract high carbohydrate intake. It is far simpler to eliminate the cause rather than treat the effect.

The link between exercise and motivation is not fully realised in our culture but there is strong evidence of the clear linkage between exercise and feeling better about oneself. This in turn leads to individuals feeling more motivated to changing other aspects of their lives such as diet.

We propose that exercise is the kick-starter (catalyst) to diet and healthy eating as well as awareness of causal factors of diseases. I.e.; what you eat increases blood sugar levels and what you avoid can decrease them. Education about self-management of one's diet and exercise can be the enabler and motivator to empowerment and therefore control over health outcomes. No changes to diet can be initiated or sustained if the individual is not first motivated to make the changes.

f. Behavioural aspects of healthy eating* and effective diabetes self-management

Swimming365 proposes a focus on using swimming and water aerobic exercise as a catalyst to change and sustain dietary behaviour. People who have been previously following unhealthy eating often need a catalyst to change behaviour in a sustained way. Swimming365 aims to do this via regular monitoring of participant health via full health assessments, a focus on swimming and water aerobics technique and skills, social interaction and communication of common interests and goal setting of participants.

For a diet to be effective it needs to be sustained. Swimming365 seeks to provide this outcome.

with reference to the following groups:

- **at-risk adults**
- **children and adolescents**
- **Aboriginal communities**
- **ethnic groups at greater risk of developing diabetes**
- **people in rural and regional areas**

**Eating includes consumption of food and beverages (non-alcoholic and alcoholic).*

Swimming is applicable to all of the reference groups. It is the best form of exercise for people with diabetes type 2 due to its low impact and high aerobic intensity.

From Craig Stoltz - <https://www.verywellhealth.com/swimming-for-diabetes-getting-started-1086998>

“When exercising, muscle cells more efficiently absorb blood sugar. This is how exercising lowers blood sugar levels.

The glucose control benefits from exercise can last for hours—or sometimes days—but they are not permanent. This is why getting exercise regularly is more important for people with diabetes than is working out more intensely, but less frequently.

There are other benefits as well:

- It's less stressful on one's feet than many other forms of exercise. This is important because reduced blood flow in the small blood vessels of the extremities is common among people with diabetes, making foot injuries such as cuts or blisters slow to heal and prone to infection.
- Low-intensity exercise such as swimming has been shown to benefit people with type 2 diabetes.
- It relieves the pressure of gravity on the body, which helps prevent joint injuries for people who have arthritis or are overweight.
- Swimming is a resistance exercise using the large muscle groups which make it an efficient form of exercise for all levels of fitness

This is what makes swimming more sustainable than any other form of exercise for people with Diabetes.

Diagram 1: Swimming365 Operating Model

