

# Healthy eating for a healthy future

By Katherine Bathgate

Lecturer | Nutrition & Dietetics | School of Public Health  
Curtin University

## How did this project start?

'Do something you are passionate about', was the valuable advice given to me when I was considering a PhD research project. As the mother of a son with Down syndrome (Mark, now aged 17) and a dietitian passionate about helping people to achieve their best health through healthy food choices, I was keenly interested in good nutrition for people with Down syndrome. Subsequent discussions with Professor Helen Leonard and her team at the Telethon Kids Institute (Perth), the Down Syndrome Association (WA) and my supervisors at Curtin University confirmed this would be an area of interest for the community. My research into nutrition, physical activity and body composition is only part way through but I would like to share what my research is about and how the findings may be useful in the future.

## What does previous research tell us?

The latest Australian Health Survey identified that in 2011/12 almost 4 out of every 10 young adults aged 18-24 were overweight or obese (Australian Bureau of Statistics, 2014). Not being physically active enough and eating too many foods high in saturated fat, added sugar, added salt and alcohol can contribute to these rates. The Australian Health Survey highlighted that young adults compared to other age groups were more likely to be consuming soft drink and takeaway food and eating less fruit (Australian Bureau of Statistics, 2014)

Research conducted by the Telethon Kids Institute in 2011 involving young adults aged 18-30 years with Down syndrome living in WA (and featured in the September 2014 edition of the Voice) identified that 57% of young adults were overweight and obese, with the prevalence higher in young women than men (Pikora et al. 2014). Two thirds of the parents of these overweight or obese young people reported that the young person's weight impacted on their daily life including the ability to participate in physical activity (Pikora et al. 2014). To find out more about this, my research aims to describe what young people with Down syndrome aged 12-30 years (of all body sizes) are eating and how much physical activity they do. For example, are young people with Down syndrome eating enough fruit and vegetables? How active are young people with Down syndrome and what types of activities are they participating in? My research also involved measuring the body composition of young people with Down syndrome (weight, height, waist circumference, and where body fat is situated).

## How have families contributed to the research?

Mark and I have (together and separately) happily participated in research projects over the years on many aspects of Down syndrome including health, functioning, parenting, relationships, communication and others. It was my participation in one large research project back in 2004 which in fact led me back to Professor Helen Leonard and her team; I can still recall sitting on the patio with a cup of tea, questionnaire in hand, filling out all the answers. Now, as a research student on the other side of the questionnaire I appreciate all the more, the time, energy and commitment given by families and people with Down syndrome who willingly consent to research and I cannot thank the 60 families who have participated in my project enough.

There are many ways to find out what people normally eat, from a 24-hour recall (recalling what you ate yesterday) to food diaries and questionnaires. As many people are now familiar with using smart phone technology, participants in my study used an App called CHAT (Communicating Health and Technology) running on an iPod Touch to take images of their meals, drinks and snacks over four days. The CHAT App was designed by a research team of dietitians and engineers with the intention of making it easier for people to record their food intake (Boushey et al., 2015). The benefits of using images is that they can tell a lot about the type and amount of food or beverage and taking an image is a lot less time consuming than keeping a paper-based food diary. The images included the time of day the meals were taken and in some cases participants included the labels and packages of the meal ingredients, which provided me with additional information. The meals and snacks in the images are currently being analysed by a trained dietitian and put into food groups (grains, fruit, vegetables, meat and alternatives, dairy and alternatives and discretionary foods) to provide a clear picture of what young people with Down syndrome, in this study, like to eat.

To find out how much young people with Down syndrome move, participants wore an ActiGraph accelerometer each day for a week. This device works like a pedometer, calculating and recording the number of steps taken as well as measuring the intensity of the physical activity (sedentary, light, moderate, etc). Wearing the small device around their waist for a week captured the quiet days and more active days experienced in a normal week.

Body composition was measured using height, weight and waist circumference with the option for participants of also having a DEXA scan. A DEXA scan is a low dose x-ray scan of the whole body which gives information about the amount of fat, bone and muscle mass and the location of body fat. Families also completed a questionnaire, which included questions on food behaviours, physical activity and health.

Data collection has concluded and the analysis is continuing. I will be very excited to share the results of this study when it is completed.

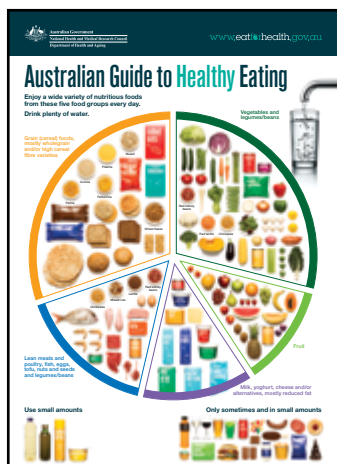
## How will the results be used/ disseminated

The results will be useful for identifying how young people with Down syndrome and their families can best be supported to make good choices about nutritious food and physical activity, with practical and useful ideas and strategies for a healthy life.

The outcomes and recommendations of this research will be shared with many people who have taken part in, have an interest in, or would be impacted by this research. This includes the wider community of people with Down syndrome and their families, nutrition and other health professionals who work with people with Down syndrome both nationally and internationally, organisations such as the Down Syndrome Association and the Disability Services Commission, other researchers and the participants and their families. This communication of the findings and recommendations will be through Down syndrome specific publications as well as at meetings and conferences for families and health professionals, scientific literature and a report specifically for the participants who generously contributed their time and effort to support the research.

## So what does a healthy diet look like?

The Australian Guide to Healthy Eating (NHMRC, 2013) demonstrates what a healthy diet should look like for all Australians



**Citation:** National Health and Medical Research Council, 2013

A healthy diet consists of a wide variety of foods from the five food groups shown in the guide, including wholegrain breads and cereals, vegetables, legumes and fruit from all colours of the rainbow, dairy and/or dairy alternatives, lean meat, fish, eggs, nuts and seeds. In addition small amounts of oils such as olive oil provide us with essential fats and we should drink water throughout the day. Foods and beverages high in saturated fat, added salt, added sugar and/or alcohol as shown in the picture at the bottom of the diagram should only be eaten occasionally and in small amounts, as eating too much of these foods, or eating them too often can lead to an increased risk of health problems.

The Australian Guide to Healthy Eating resources provides information on the specific amounts or number of serves from each food group people from different age groups should be eating each day as well as recipes and interactive nutrition calculators. The Eat for Health website ([www.eatforhealth.gov.au](http://www.eatforhealth.gov.au)) is a good place to start for more information.

Another good website for tips, ideas, delicious recipes and more is Live Lighter (<https://livelighter.com.au>). This website includes information specifically for families, around good nutrition and physical activity at home, at school and in the community.

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## Author CV

Katherine Bathgate is an Accredited Practising Dietitian, Lecturer at Curtin University and PhD student at Curtin University and the Telethon Kids Institute. Katherine is also the very proud mother of three children, the eldest of whom has Down syndrome.

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Mark enjoying a healthy snack

