# Promoting Healthy Lifestyles in Adolescence

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Department of Health

Positive Choices

# Overview

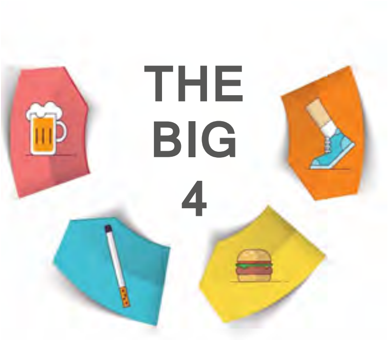
- The Big 6 risk factors for chronic disease

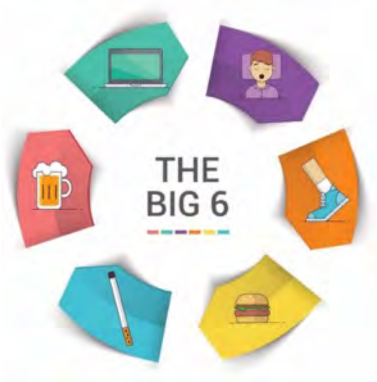
- The Health4Life Study
  A) Development
  B) Program Content – *how to promote healthy lifestyles among youth*
  C) Implementation
  D) Evaluation

- How to get involved

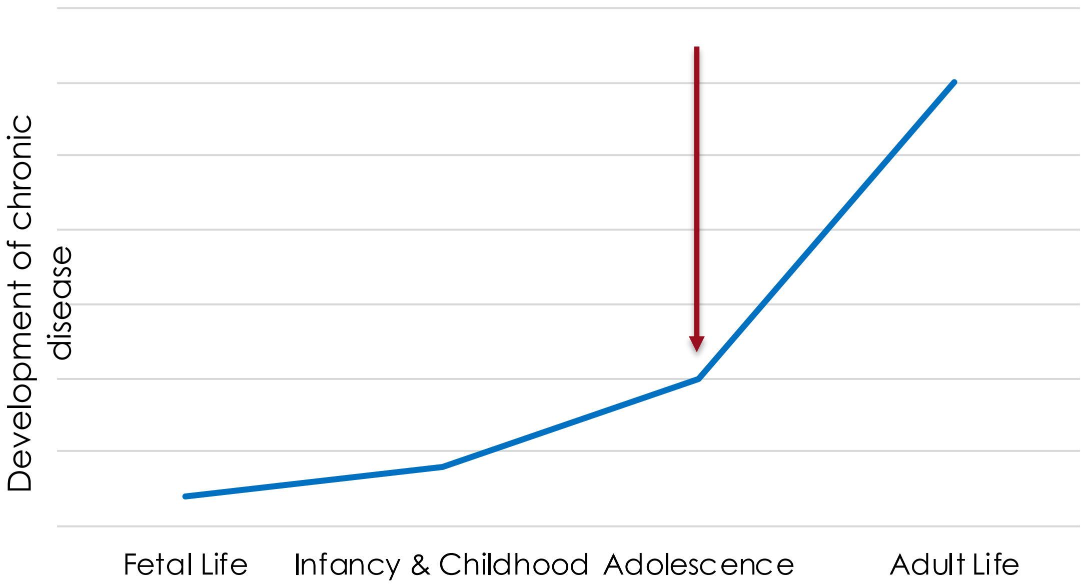
# Risk factors for chronic disease

- Chronic diseases are the leading cause of death (AIHW, 2014).
- Physical inactivity, poor diet, alcohol use and smoking = key risk factors.
- Poor sleep and sedentary behaviour (recreational screen time) and have emerged as important risk factors





# Accumulation of risk



Adapted from World Health Organization (2005).

- Unhealthy habits emerge during adolescence, as they have greater autonomy over their lifestyle choices.
- Also a time where exposure to risky behaviours, e.g. alcohol use, occurs.

# The "Big 6" Snapshot

- Among young Australians (12-17 years):

**32%**
have not consumed alcohol

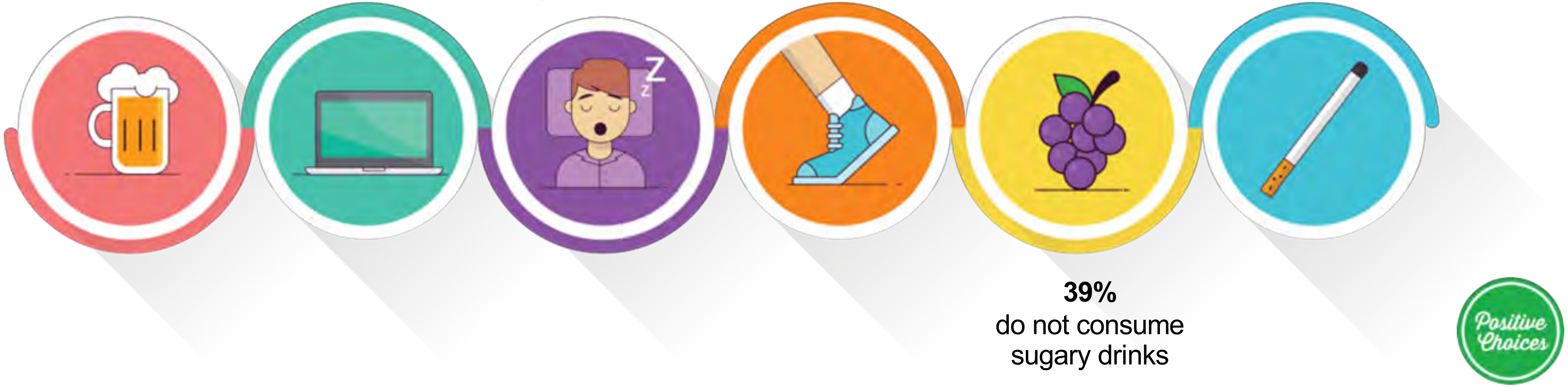
**14%**
meet guidelines for screen time

**30%**
do not have a sleep problem

**28%**
meet guidelines for physical activity

**5%**
eat enough fruit & veg

**81%**
have not used tobacco



**39%**
do not consume sugary drinks

# The "Big 6" co-occur

- Having multiple unhealthy behaviours are associated with increased risk of:
  - Depression,
  - Anxiety,
  - Psychological distress,
  - Obesity
  - Increased risk of later chronic disease

# The Good News!

- Adopting a healthy lifestyle in adolescence can have protective effects against the onset of chronic disease.
- Adolescence is an opportune time to prevent the onset of disease by strengthening protective factors and reducing risk factors.
- A **Multiple Health Behaviour Change approach** is a timely and efficient way to promote a healthy lifestyle
  - Positively changing one behaviour, can lead to improvements in another.

# The Health4Life Study

Aims to:

1. Develop an evidence-based eHealth intervention to concurrently target the Big 6 among adolescents, known as ***Health4Life.***

2. Compared to a control group, evaluate the effectiveness of ***Health4Life*** in:
   A) Improving the Big 6, and
   B) Improving mental health among adolescents.

# What is Health4Life?

- Evidence-based program to empower adolescents to improve their physical and mental health and prevent chronic disease.

- Based on the latest evidence and aligned with the Australian HPE and NSW PDHPE curriculums.

- Health4Life encourages students to:
  - **Eat healthily,**
  - **Be physically active,**
  - **Limit sedentary recreational screen time,**
  - **Adopt healthy sleep habits,**
  - **Resist pressure to drink alcohol and smoke.**

# What is Health4Life?

1. Web-based cartoon program, delivered during PDHPE/HPE
2. Smartphone application
3. Booster content

Health4Life

Physical and mental wellbeing
in adolescence and beyond

# How was it developed?

1. Expert Advisory Group
Physical activity, dietetics, addiction, mental health, sleep, behaviour change, eHealth

2. Systematic Review and Meta-Analysis
Of existing MHBC eHealth school-based interventions

3. Youth Consultation
Online survey of 815 adolescents

4. Web + App development

5. User Testing
Focus groups with students and interviews with teachers

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# Expert Advisory Group

Physical Activity

Sleep

Diet

Addiction

Screen Time

Mental Health

Educational Sector

Behaviour Change

eHealth interventions

THE UNIVERSITY OF SYDNEY
Matilda Centre

PREMISE
NHMRC CENTRE OF RESEARCH EXCELLENCE

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Curtin University

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

UNSW SYDNEY

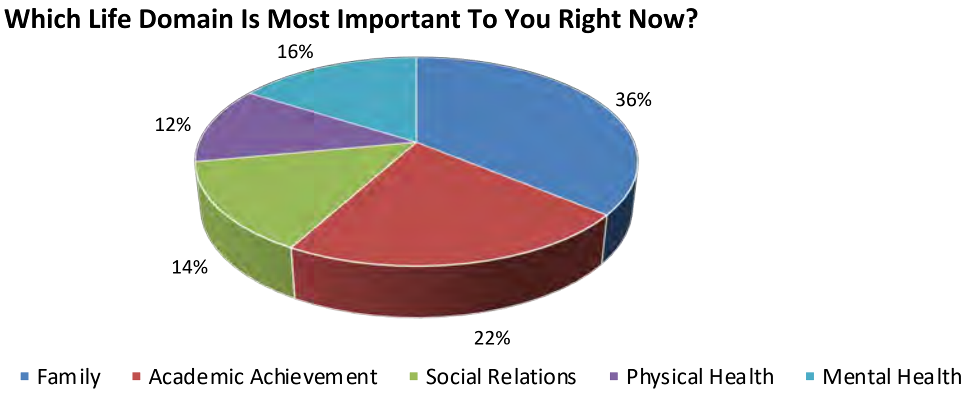
Northwestern Medicine®
Feinberg School of Medicine

Positive Choices

# Youth Consultation: Online survey

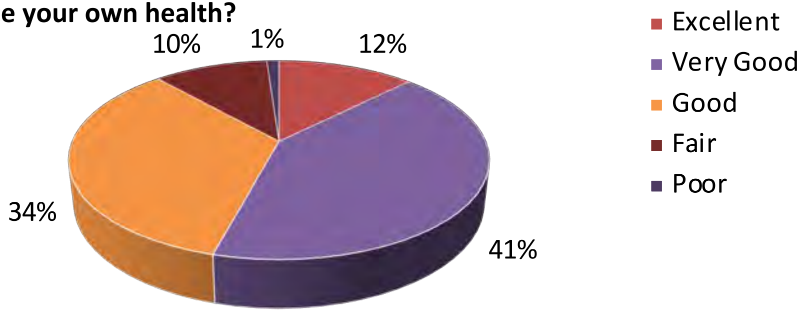
- Online survey to explore:
  - Knowledge of the Big 6
  - Engagement with health behaviours
  - Attitudes about health
  - Use of mobile phones and smartphone applications

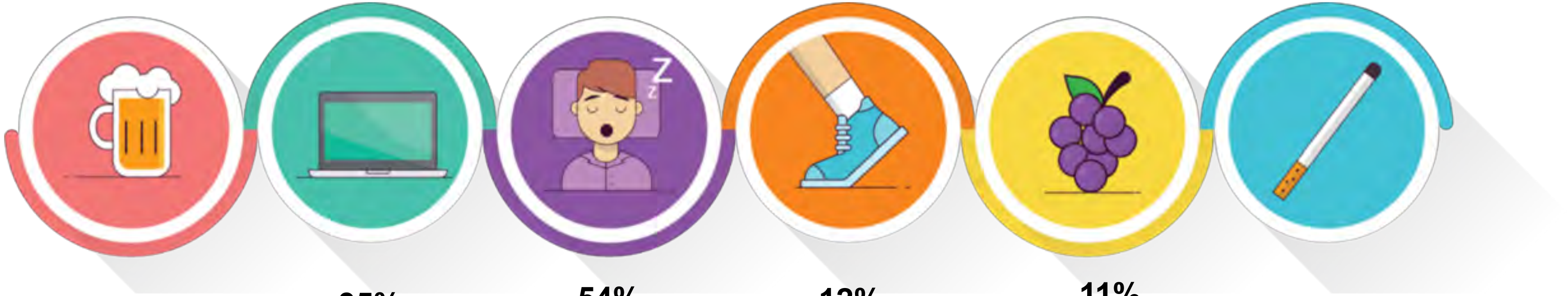
- 815 students from 3 schools
- Mean age=13.9 years
- 84% were female
- (Ethics Approval: HC180224)



# Youth Consultation: Online survey

**1. How would you rate your own health?**





**39%**
had not consumed a full alcoholic drink

**35%**
met guidelines for screen time

**54%**
met sleep guidelines

**12%**
met guidelines for physical activity

**11%**
ate enough veg
**76%**
enough fruit

**96%**
had tried tobacco

# Youth Consultation: Online survey

- There were clear opportunities to improve knowledge:

*% of respondents who knew the correct guidelines:*

88%

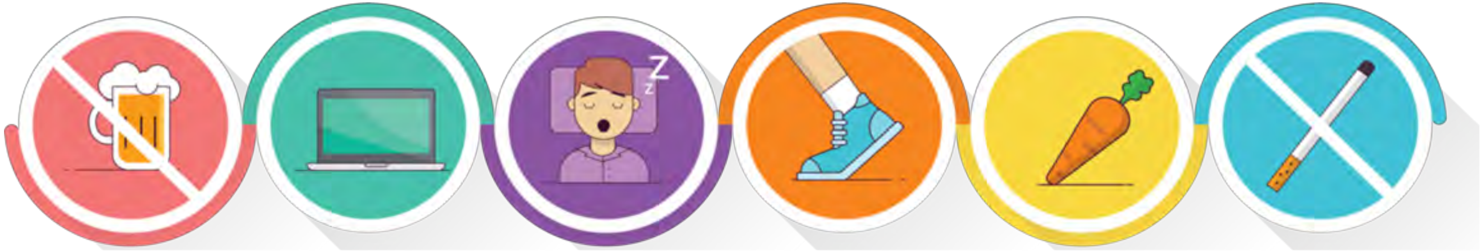
49%

27%

26%

35% fruit
33% veg

n/a



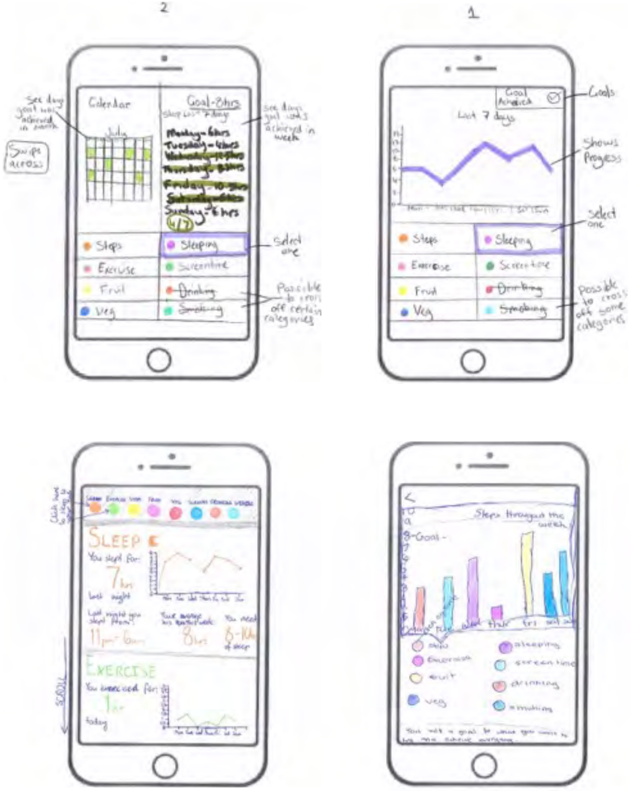
# User Testing

- Focus groups with students and interviews with teachers will be conducted to get feedback on:
  - Language
  - Relevance
  - Acceptability
- Focus group held with 12, 11-14 year old females to get feedback on the Health4Life smartphone app (Ethics Approval: HC180224)

# User Testing: Results

- Displaying Health Behaviours
  - Display Big 6 individually on graphs
  - Data should be displayed for a week-long period with the option to view previous weeks for comparison
  - Information should be displayed as a line graph

- Goal Setting
  - App should set goals specific to age and gender
  - Make goal setting a rewarding experience (‘winning’ an icon/emoji when reaching a goal)
  - Include motivational comments or explanations of why you should try to reach each health behaviour goal


2
1
Swipe across
See days goal was achieved in month
Calendar
Goal-8hrs
See days goal was achieved in week
Steps
Sleeping
Exercise
Screentime
Fruit
Drinking
Veg
Smoking
select one
Possible to cross off certain categories
Goal Achieved
Goals
Last 7 days
Shows Progress
SLEEP
You slept for:
7hrs
last night
EXERCISE
today
Steps throughout the week
8-Goal

# What is Health4Life?

1. Web-based cartoon program, delivered during PDHPE/HPE
2. Smartphone application
3. Booster content

Health4Life | Physical and mental wellbeing in adolescence and beyond

Positive Choices

# 1. Health4Life Web-based program

- Builds on our effective *Climate Schools* prevention programs (Newton et al., 2009; 2010; Champion et al, 2016)
- Uses cartoon storylines and web-based delivery to increase engagement.
- Aims to increase knowledge about the Big 6, and encourage students to maintain and achieve good health.
- Provides tailored feedback to students relative to national guidelines with motivational advice.

Positive Choices

# What are the national guidelines?

| Behaviour | Guideline |
|---|---|
| **Physical Activity** | • 60 minutes or more of moderate to vigorous physical activity involving mainly aerobic activities (which can be accumulated over the day).<br>• This should include activity of vigorous intensity as well as activity to strengthen muscle and bone, at least 3 days per week. |

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| **Diet** | • Limit sugar sweetened beverages and discretionary food items<br>• Minimum of 2 servings of fruit/day<br>• Minimum of 5 serves of vegetables/day |
| **Alcohol** | For children and young people under 18 years of age, not drinking alcohol is the safest option. |
| **Tobacco** | Do not smoke |

# Overarching messages

- Associations and clustering between health habits
- Relationships between physical and mental health
- Physical, social and emotional benefits of health and wellbeing
- Skill development: self-management & interpersonal

# What does H4L Cover?

# Alcohol & Smoking

- Short-term consequences
- Assertive communication & refusal skills
- Identifying reasons teenagers choose not to drink
- Keeping yourself and others safe
- Normative education - Correcting student misperceptions about peer use

# Physical Activity

- Move more often
- Strive to achieve 60 minutes of MVPA daily.
- Variety of PA options & finding activities that you enjoy.
- Benefits of regular PA e.g. cognition and academic performance, improved sleep and mood.

# Sedentary recreational screen time

- Limit to no more than 2 hours/day
- Get off screens and interact face to face
- Switch off screens in the afternoon and at night in the bedroom
- Benefits of limiting screen time e.g. increased PA, improved sleep, reduced bullying, improved mental health
- Responsible use of social media

# Sleep

- Sleep needs:
  - 8-10 hrs (14yrs+) or 9-11hrs (<13yrs)
- Importance of regulating sleep patterns: "social jetlag" – avoiding oversleep on weekends
- Benefits of sleeping well e.g. improved mood, daytime functioning, school performance.
- Restrict electronic devices before bed time

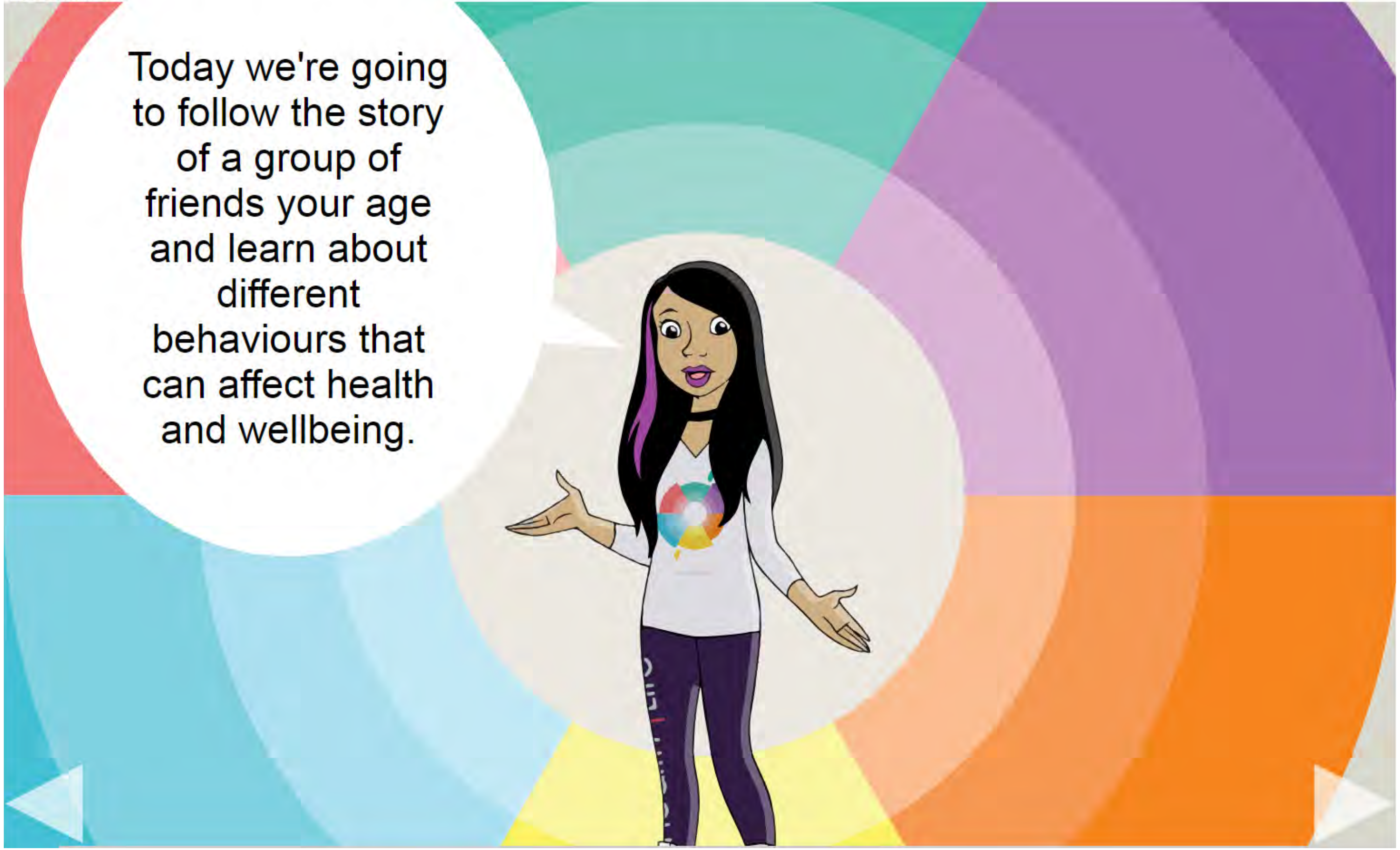
# Diet

- Reduce sugar-sweetened beverages
- The Five Food groups: fruit, veg, grains, meat, dairy + water
- 2 fruit & 5 vegetables per day
- Limit sat fat, added salt, added sugars
- Benefits of eating well e.g. mood, weight control, brain function

# Program Implementation

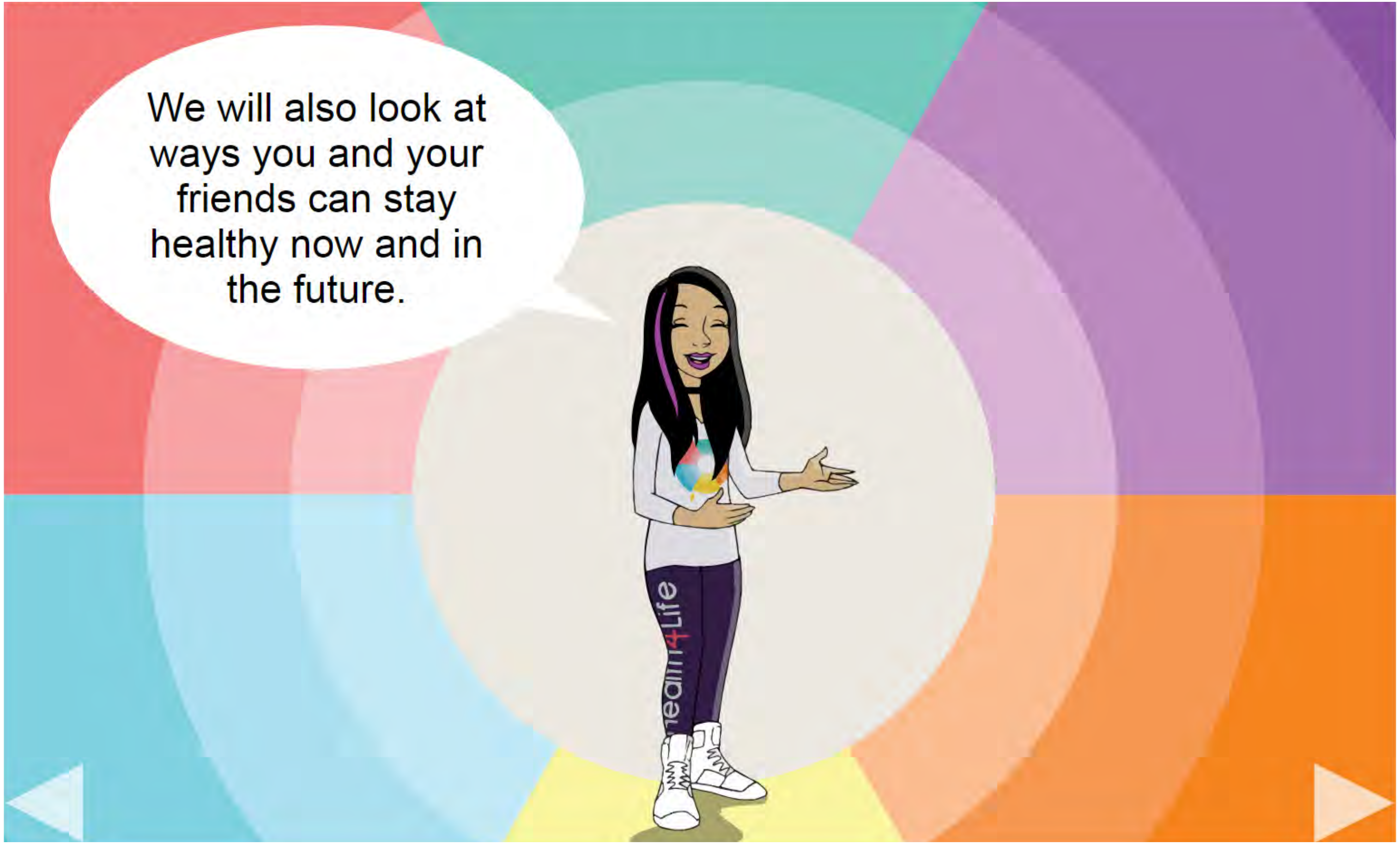
- Accessed via the Health4Life study website
- Students and teachers register and to create unique username (email) and password
- 6 x 40 minute lessons, delivered once per week in PDHPE/HPE classes
- Students complete 20-minute cartoons individually.
  - "Stop & Think" scenarios
  - Quizzes at the end of each lesson

Positive Choices

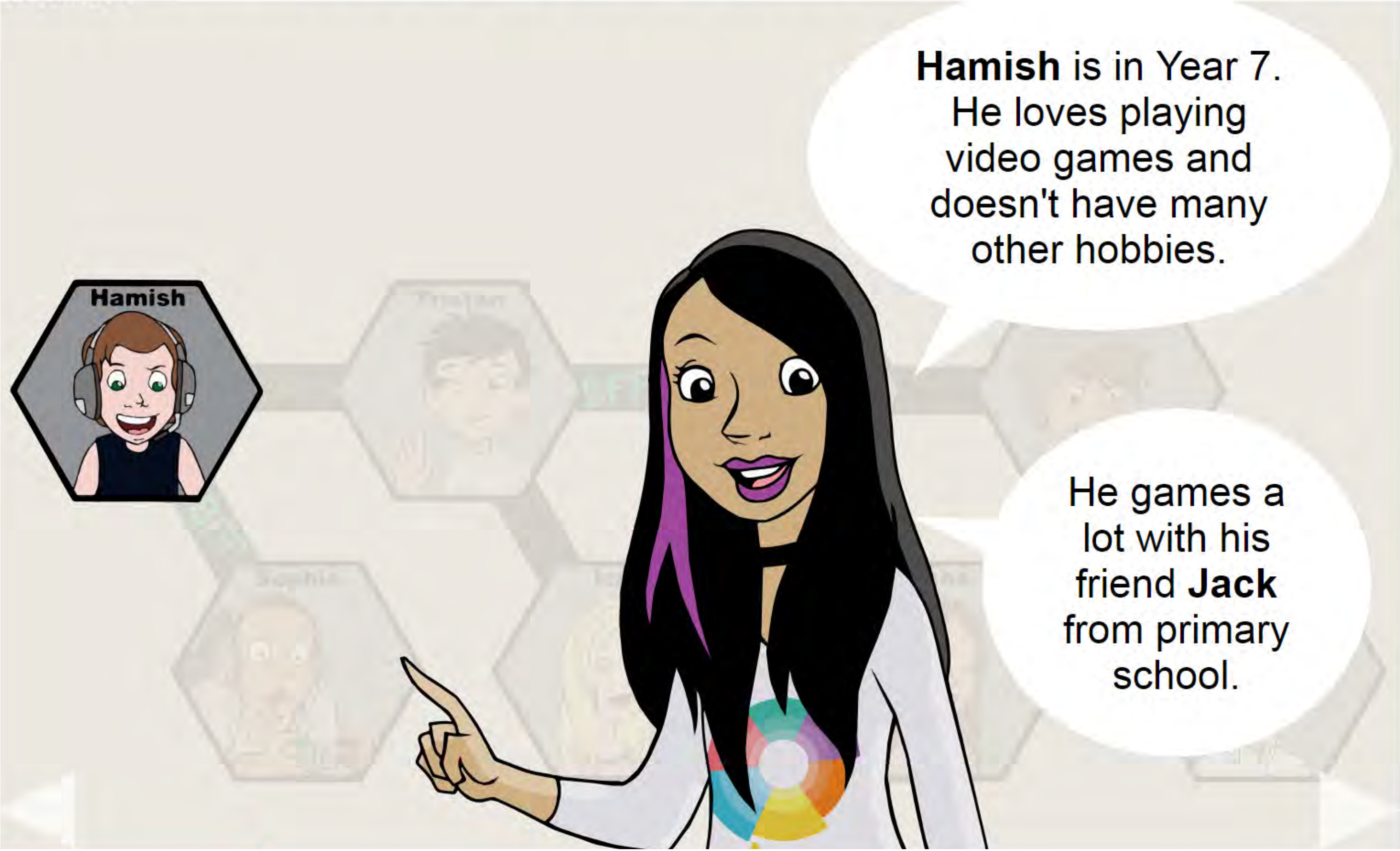

Today we're going to follow the story of a group of friends your age and learn about different behaviours that can affect health and wellbeing.

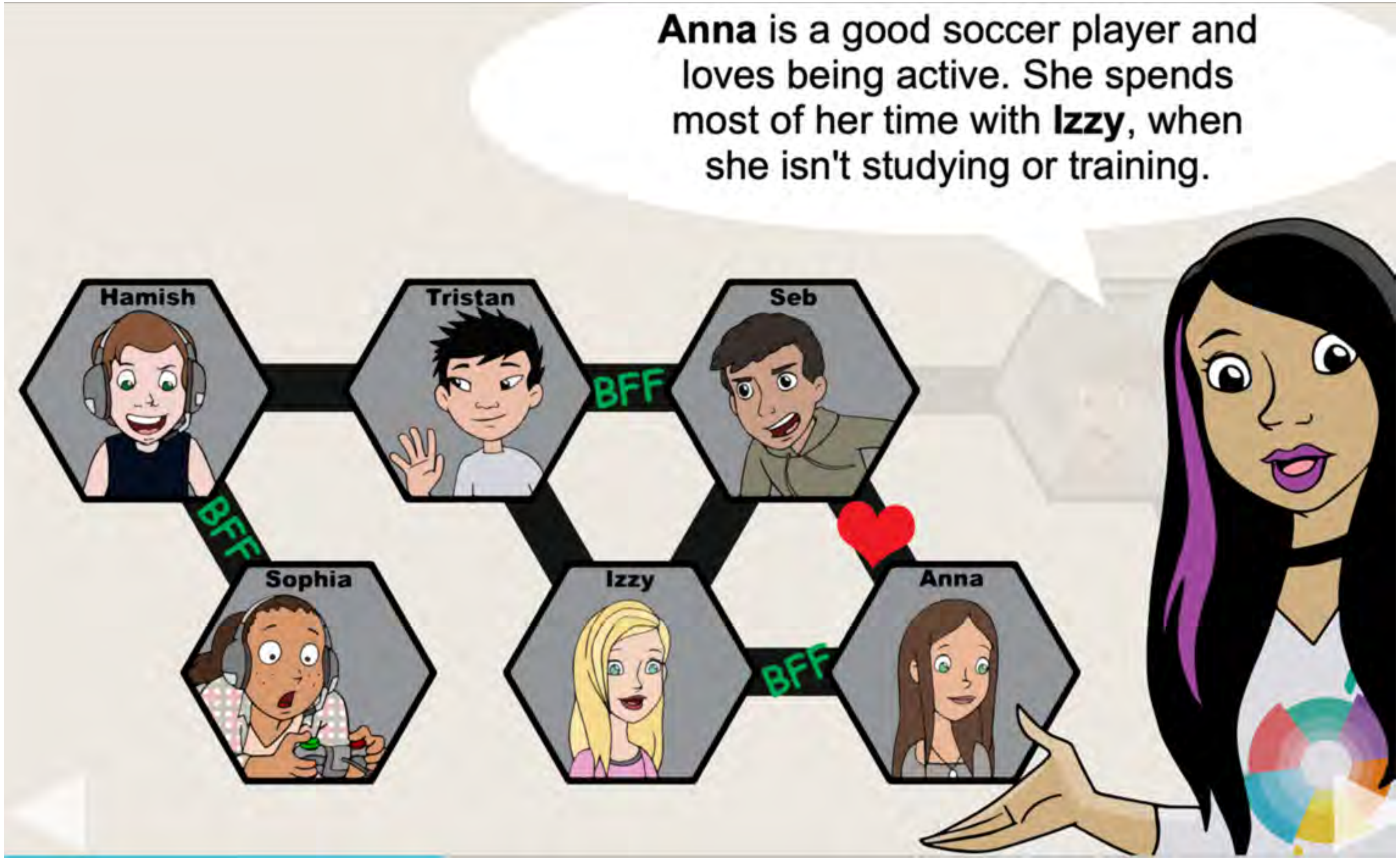
The main things we'll be talking about throughout the story are:

# THE BIG 6


We will also look at ways you and your friends can stay healthy now and in the future.

Let's meet some of the characters!


Hamish
**Hamish** is in Year 7. He loves playing video games and doesn't have many other hobbies.
He games a lot with his friend **Jack** from primary school.


Hamish
Tristan
Seb
Sophia
Izzy
Anna
BFF
BFF
BFF

**Anna** is a good soccer player and loves being active. She spends most of her time with **Izzy**, when she isn't studying or training.

# Program Implementation – PART 2

- Optional activities to suit needs of class e.g.:
  - Online worksheets
  - Interactive online tasks
  - Class discussions
  - Small group work
  - Homework assignments

Optional Class Activities

Worksheet

- Teachers and students provided with lesson summaries

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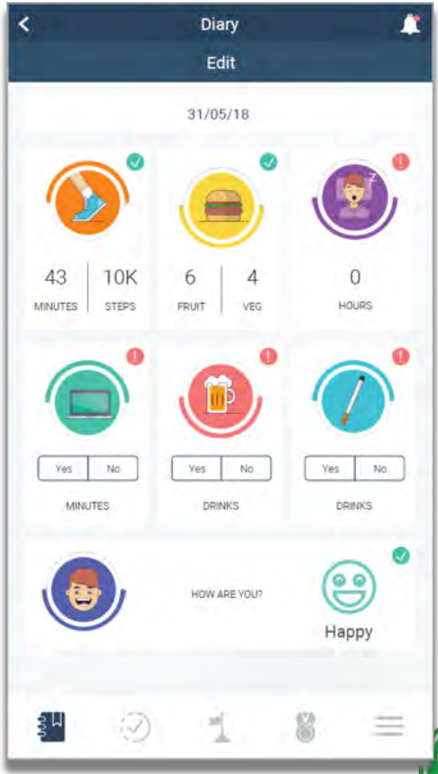
Positive Choices

# 2. Health4Life Smartphone App

- Companion to the school-based program
- Includes self-monitoring, goal setting and tailored feedback.
- Completed outside the classroom setting (but some app-related homework).
- Students can track their progress & earn ‘badges’ for logging behaviour.


Diary
Edit
31/05/18
43 MINUTES
10K STEPS
6 FRUIT
4 VEG
0 HOURS
Yes No MINUTES
Yes No DRINKS
Yes No DRINKS
HOW ARE YOU?
Happy

Positive Choices

# What is Health4Life?

1. Web-based cartoon program, delivered during PDHPE/HPE
2. Smartphone application
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# 3. Health4Life Booster

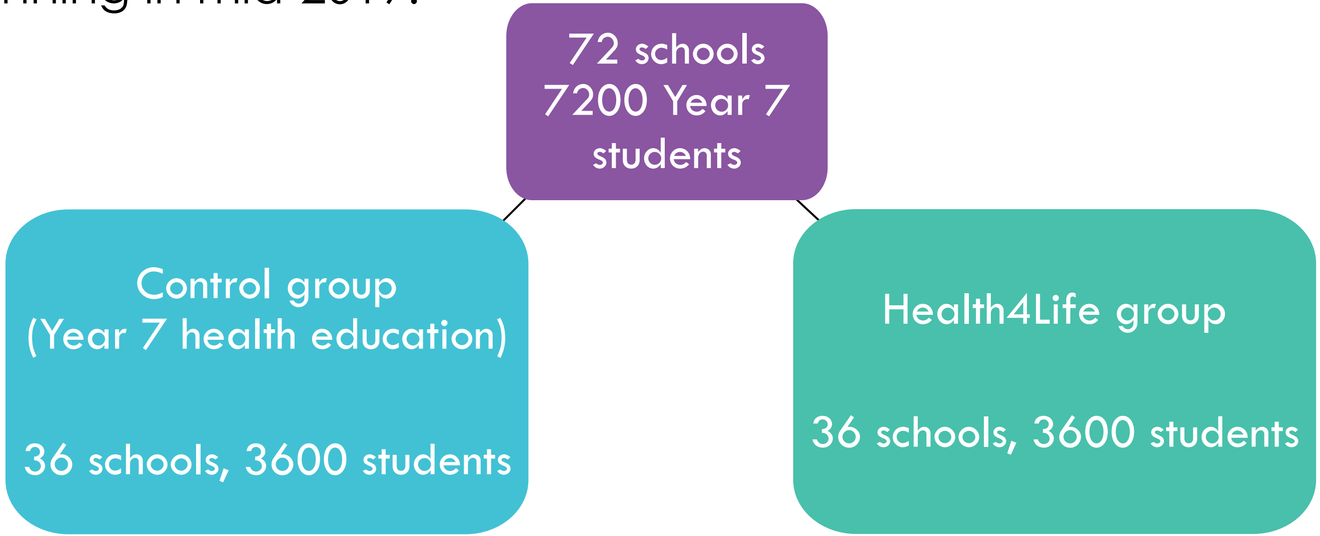
- Delivered 12- and 24-months after initial intervention to:
    - Students with 2+ risk factors, based on survey responses
    - 30-40% of youth
- Used outside of the classroom setting so that students will not be identifiable to peers.
- Uses CBT and motivation enhancement principles to teach students the skills needed to put their knowledge into practice.

# What teacher training is required?

- None!
- Teachers will be provided with implementation guidelines, links to the syllabus, and lesson summaries and class activities.
- Researchers will meet with teachers at participating schools in Term 2 to assist in navigation of study website.

# How will we evaluate Health4Life?

A cluster RCT in secondary schools across NSW, WA & QLD, beginning in mid-2019.



72 schools
7200 Year 7 students

Control group
(Year 7 health education)

36 schools, 3600 students

Health4Life group

36 schools, 3600 students

Not possible to choose the group to which a school is assigned.

# Evaluation

Students will complete **5 online surveys (30-40mins)** over three years:

| | **Pre** | **Health4Life Program + App** | **Post** | **12 month + booster** | **24 month + booster** | **36 month** |
|---|---|---|---|---|---|---|
| **Time** | Term 3, 2019 | Term 3, 2019 | Term 3 or 4, 2019 | Term 3, 2020 | Term 3, 2021 | Term 3, 2022 |
| **Year** | Year 7 | Year 7 | Year 7 | Year 8 | Year 9 | Year 10 |
| **H4L** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Control** | ✕ | ✕ | ✕ | ✕ | ✕ | ✕ |

# Evaluation

- Assess the students' health behaviours, knowledge about the Big 6, self-efficacy, and mental health symptoms.
- Survey completed during PDHPE/HPE, or another convenient time.
- Absent students contacted by the research team inviting them to complete the survey at home.
- Participant data is de-identified – linked over time via unique code.

# What are the benefits of participating?

- Access to an innovative, evidence-based eHealth intervention.
- Control schools will get complimentary access to the Health4Life program at the end of the study.
- Contribution to science and understanding of healthy lifestyles interventions
- No guarantee of benefits but students may improve their health behaviours and mood.
- If effective, Health4Life has the potential to not only improve physical and mental health in the short-term, but to enhance health outcomes in adulthood.

# Acknowledgements

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# Want to participate in Health4Life?

**Get in touch!**

[www.health4life.org.au](http://www.health4life.org.au)

[info@health4life.org.au](mailto:info@health4life.org.au)

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