Behavioural Medicine: Health Psychology

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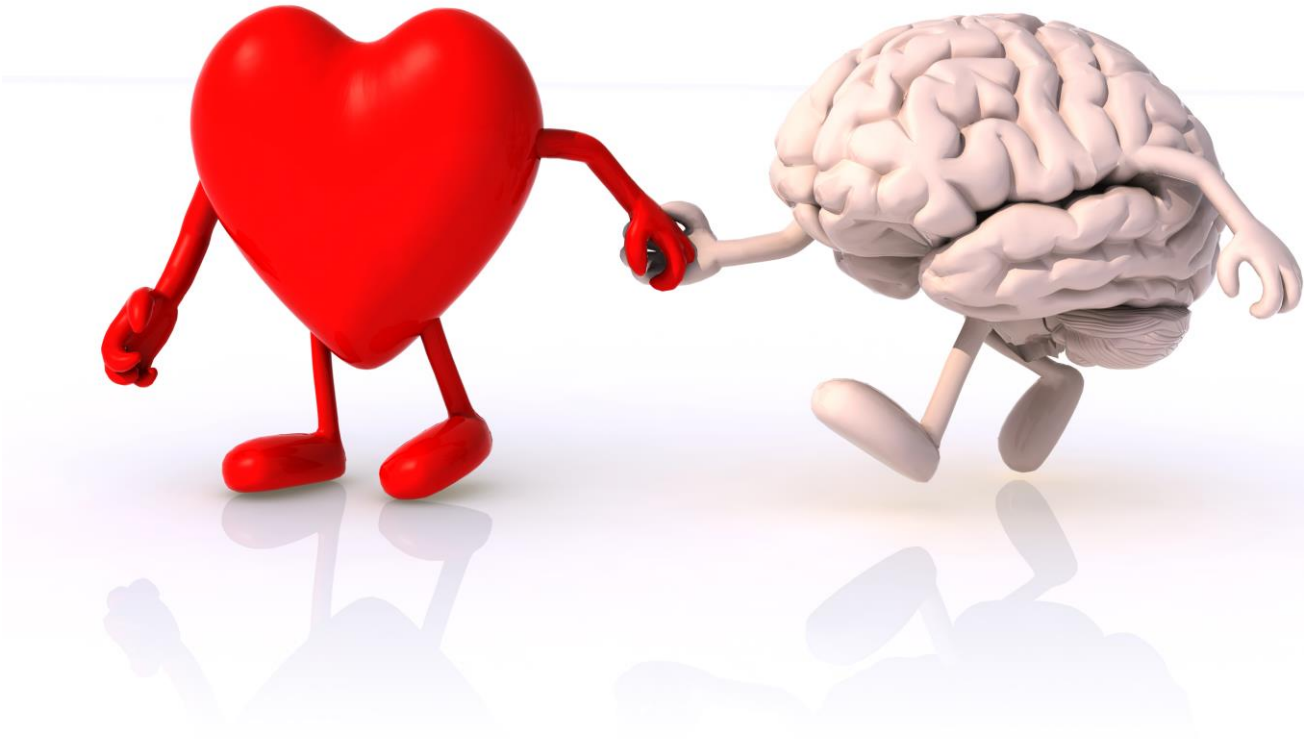


Learning outcomes

- Describe what is meant by health behaviours
- Explain the importance of behavioural factors in medicine
- Explain and evaluate theoretical models that involve developing and changing health behaviours

What is Health?

- WHO (1948) defines health as a complete state of wellbeing:
  - Physical wellbeing
  - Mental wellbeing
  - Social wellbeing

- Not merely the absence of disease of infirmity

- The state of optimal health is referred to as “wellness”

What is Health Psychology?

A branch of psychology that studies the scientific relations among psychological factors, behaviour, social factors, health, and illness

Applies psychological theories, methods & research to promote health, prevention and treatment of illness

Four key areas of health psychology

Health promotion

- E.g., How can we encourage children to develop healthy lifestyle habits?

Illness prevention and treatment

- E.g., How do we ensure adherence to medication?

Aetiology

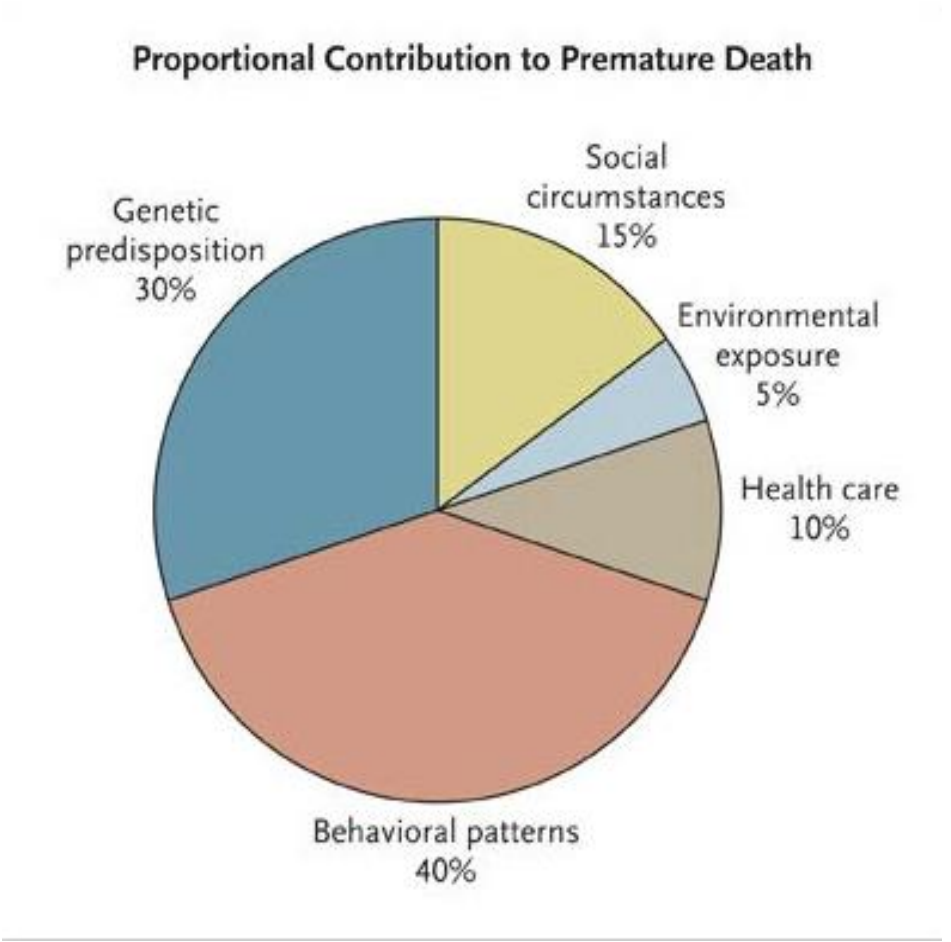
- E.g., How does stress cause illness

Public health

- E.g., How can we most effectively persuade individuals to change their lifestyle and behaviours?

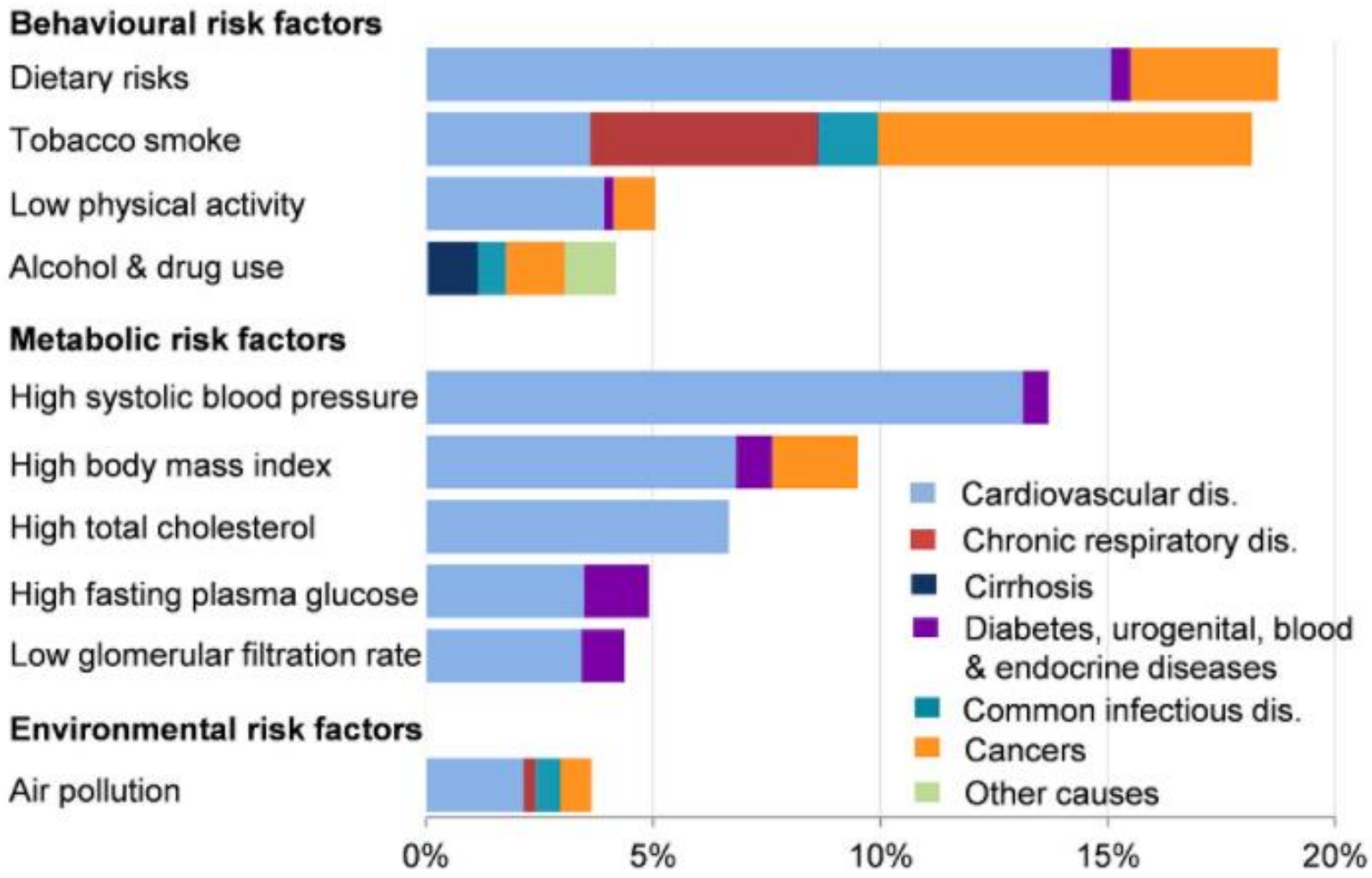
Behaviour: A critical determinant of health

- Greatest way to improve health & reduce premature death is by targeting behaviour
- Obesity, physical inactivity, and smoking are most common risk factors for premature death
- Important to consider SES, quality of and access to healthcare, disparities



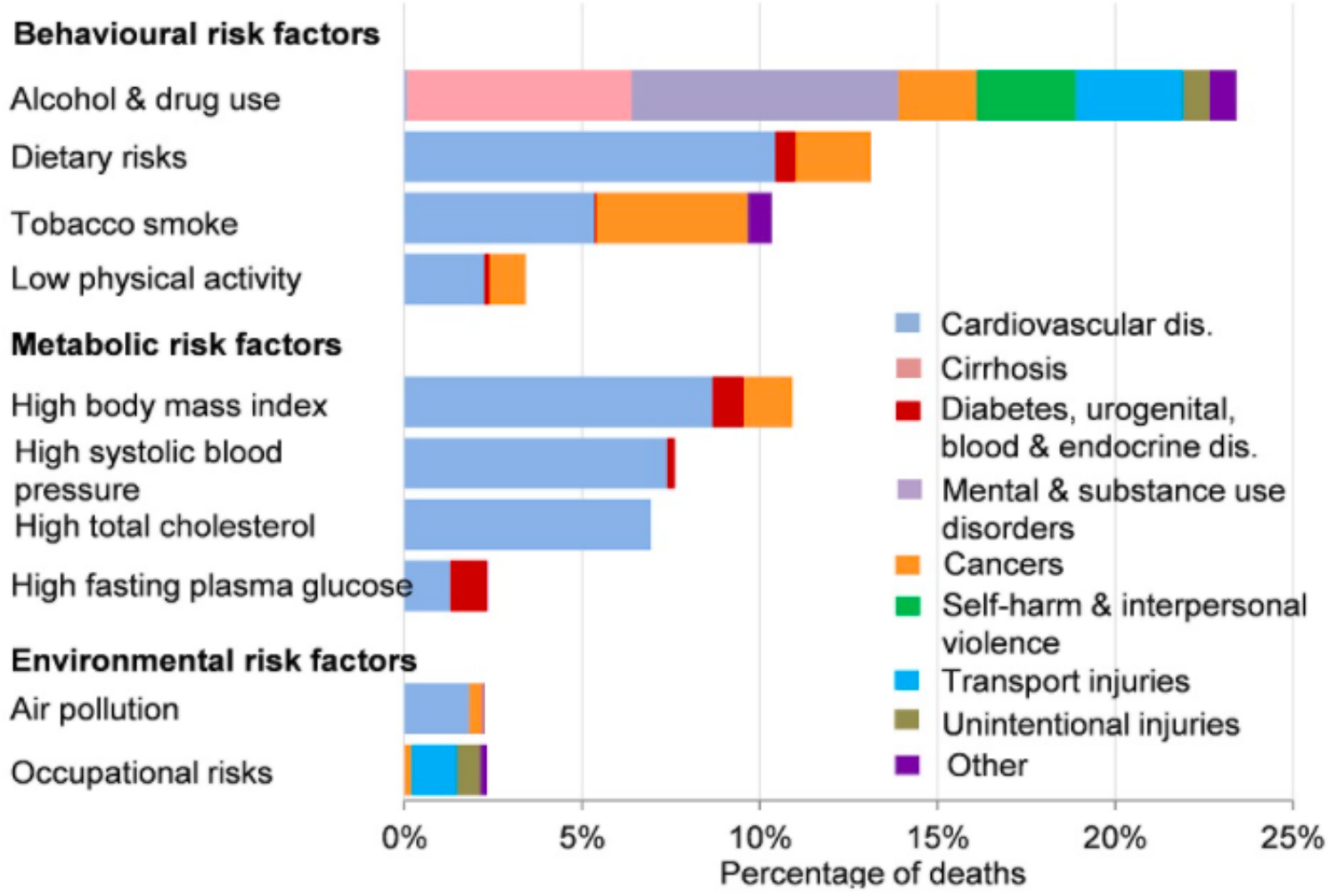
Source: Schroeder, N Eng J Med, 2007; 357:1221-1228

Causes of preventable death



Source: Global Burden of Disease (2013)

Causes of preventable death (15-49 years of age)



Source: Global Burden of Disease (2013)

Estimated costs of lifestyle related illness & prevalence of those lifestyles in Wales

Risk factor	Estimated cost to the NHS in Wales (million)	Prevalence in Wales
Overweight and obese[b]	£86	57%
Obese		21%
Tobacco	£386	
Adult smokers[b]		24%
Adult non-smokers reporting regularly being exposed to other people's tobacco smoke		33%
Secondary school pupils reporting smoking at least once a week		6%
Alcohol	£69.9 - £73.3	
Adults reported drinking above recommended guidelines in past week		45%
Secondary school pupils report drinking at least one alcoholic drink weekly		16%
Secondary school pupils reporting having been drunk 4 or more times in their life		12%

Source: Hale et al. BMC Public Health, 2012; 12:460

Introduction to health behaviours: health habits

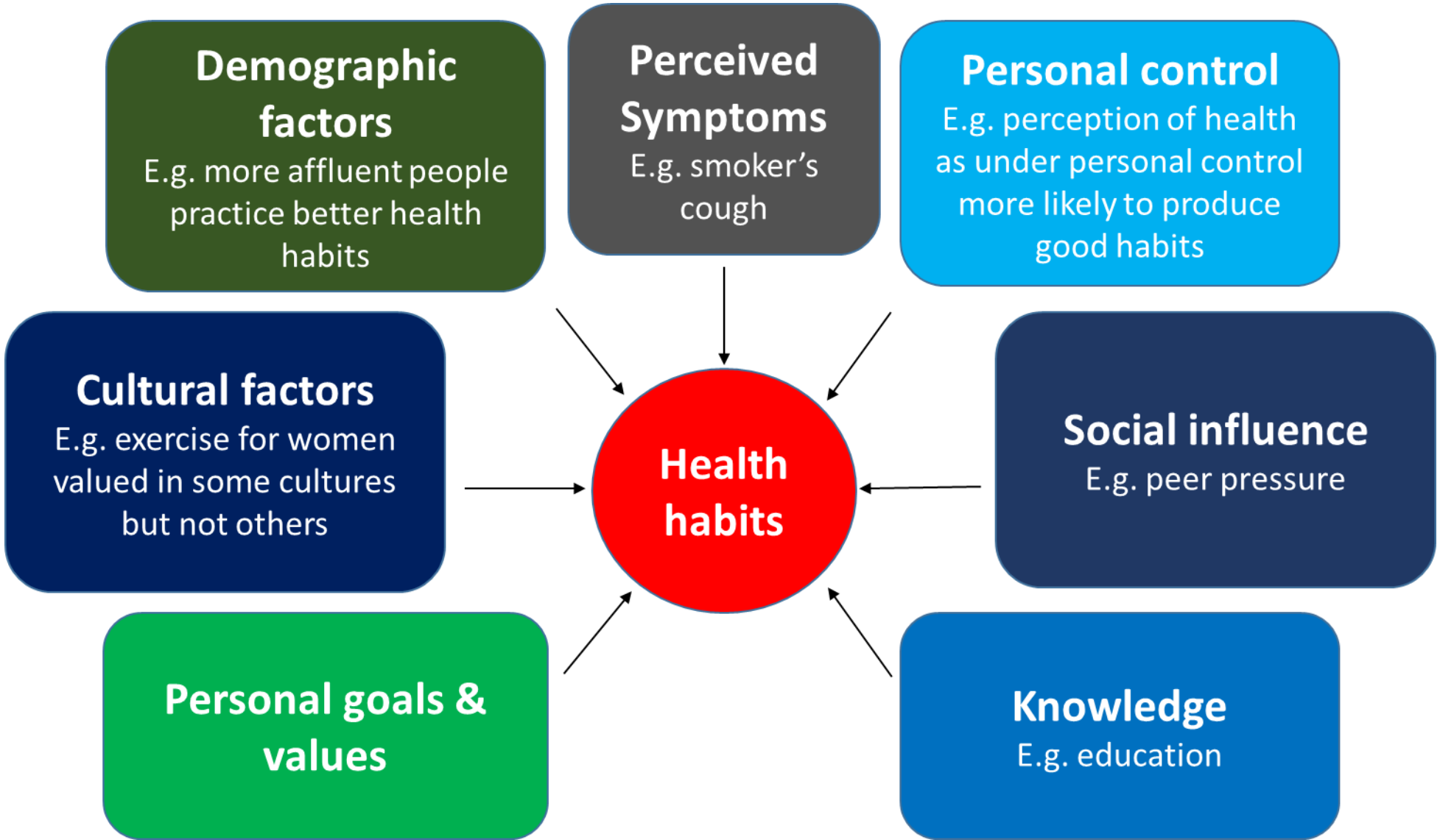
- Behaviour is shaped by its consequences. This occurs in 4 ways:
    - Positive reinforcement
    - Negative reinforcement
    - Positive punishment
    - Negative punishment

- Health habits develop in the same way
    - E.g. parental approval for brushing teeth

- Health habits are eventually maintained by environmental cues

- As a result, poor health habits become ingrained or automatic (highly resistant to change)

Key factors to practicing health habits

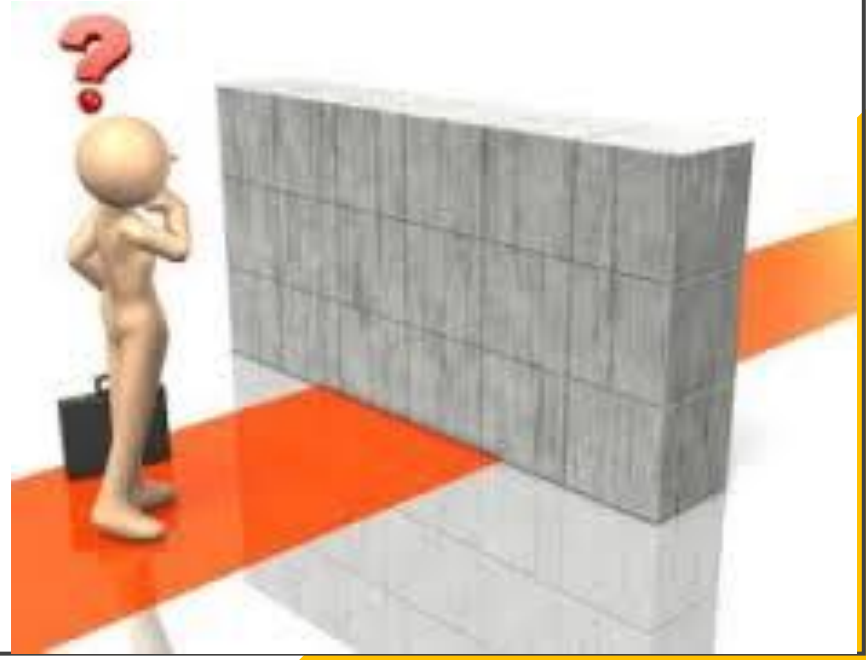


Barriers to modifying poor health behaviours

- Automatic habits occur without awareness, are difficult to monitor and change

- Little immediate incentive for practicing good health behaviours (cumulative effect isn't apparent for many years)

- Emotional factors (avoidance, denial)
  - People may enjoy their bad habits
  - People may deny risk to reduce threat-related negative emotions



Barriers to modifying poor health behaviours

- Health habits are only modestly related to each other and are unstable over time
    - A person who exercises may continue to smoke
    - A person may stop drinking for years but take it up again after a period of stress

- Why?
    - Different habits are controlled by different factors
    - Different factors may control the same health behaviour for different people
    - Factors may change over the history of the behaviour
    - Factors controlling a health behaviour may change over the lifespan

Introduction to health behaviours: intervening with children/adolescents

- Using the “teachable moment”
  - Certain times are better than others for teaching particular health practices. Many such arise in childhood (e.g. eating habits), whereas others arise with experiences later in life (e.g. pregnancy, A&E)
- Closing the window of vulnerability
  - Adolescence vulnerable period for smoking, drug use, excessive dieting
- By adulthood, may be too late to intervene

The teachable moment in action

- Nurses in trauma & facial injury clinics talk to patients as having alcohol-related wounds treated
- Informal & empathic
- Fast alcohol screening test (FAST) performed
- Patients feel sorry for themselves, more receptive
- Quarter of hazardous drinking reduced to safe drinking levels

Nurse advice cuts binge drinking in Cardiff University project

By Gemma Ryall
BBC Wales News

Nurses will be trained to help patients with alcohol problems across Wales after a pilot project led to about a quarter of people cutting drinking.

Staff at trauma clinics asked people with injuries a series of questions while taking out their stitches as part of the Cardiff University project.

Researchers found patients were more likely to address their issues as they were "feeling sorry for themselves".

The pilot project saw about a quarter of patients reduce drinking from "hazardous" to "safe"

Intervention with at-risk people

- Focus on early intervention and prevention
    - E.g. daughters of women who have had breast cancer
- Early identification may prevent poor health habits that contribute to vulnerability
- Knowledge helps individuals monitor their situation
- Problem – people don’t perceive risk very well, overly optimistic
- Ethical issues include:
    - At what point should people be alerted to their risk?
    - Unknown effectiveness of interventions

Health promotion in older adults

- A healthy older population is essential for controlling health care costs

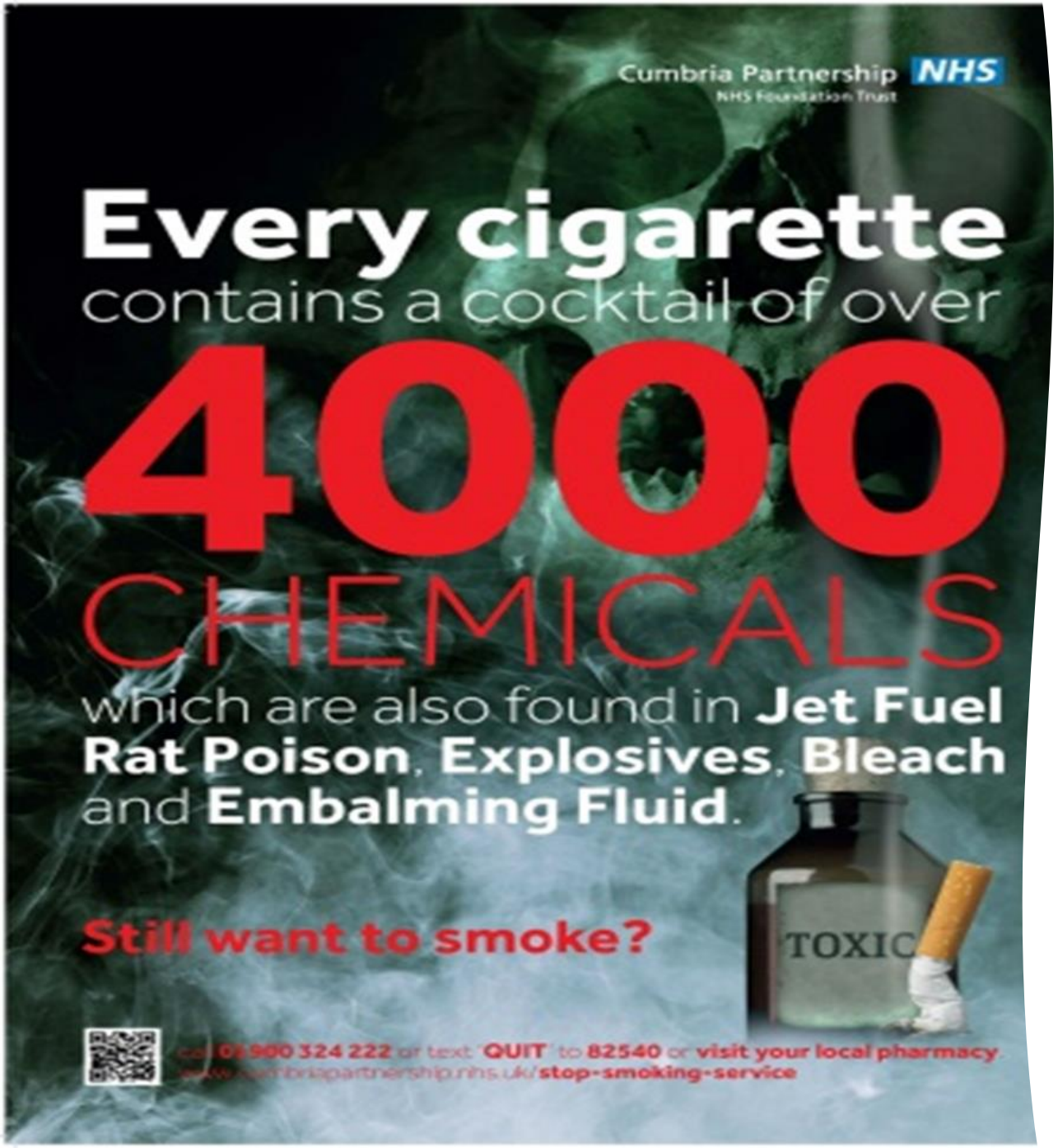
- By age 80, health habits are a major determinant of whether a person will have an infirmed old age

- Behaviours that are targeted to promote healthy lifestyle in older adults include:
  - Exercise (enhanced mobility, social benefits)
  - Controlling alcohol consumption
  - Ensuring medication adherence

Healthy Lifestyles Reduce the Incidence of Chronic Diseases and Dementia: Evidence from the Caerphilly Cohort Study

Peter Elwood[1]*, Julieta Galante[1], Janet Pickering[1], Stephen Palmer[1], Antony Bayer[1], Yoav Ben-Shlomo[2], Marcus Longley[3], John Gallacher[1]

1 Cochrane Institute of Primary Care and Public Health, Cardiff University, Cardiff, United Kingdom, 2 School of Social and Community Medicine, University of Bristol, Bristol, United Kingdom, 3 Welsh Institute for Health and Social Care, University of South Wales, Pontypridd, United Kingdom

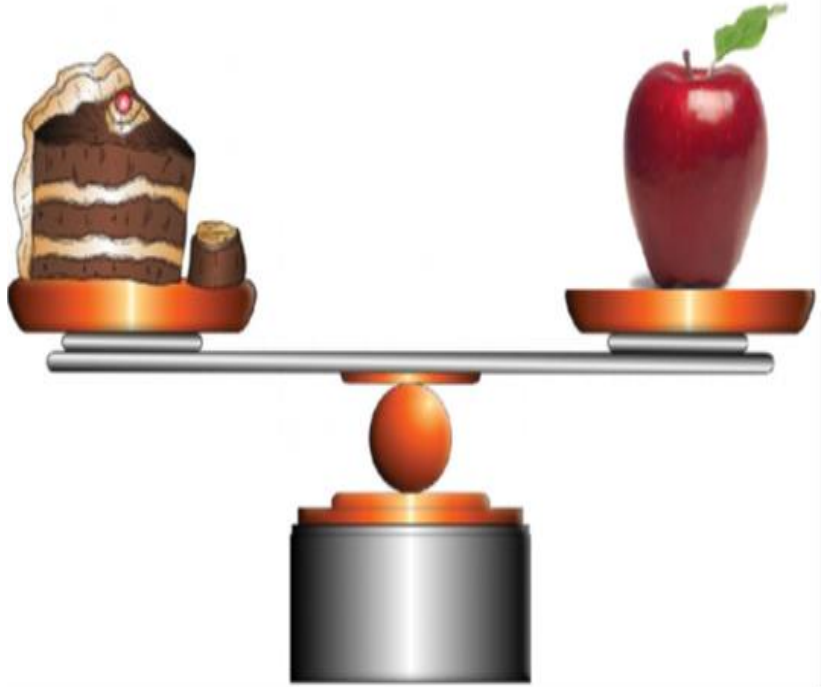


Changing health habits

- Attitudinal approaches to health behaviour change - focus on attitudes in motivating and changing behaviour
- Assume that, if we give people correct information about their poor health habits, they will be motivated to change those habits
- Underpins educational appeals, health campaigns

Health Belief Model

- Considered the most influential attitude theory of why people practice health behaviours (Hochbaum, Kegels & Rosenstock, 1952)
- Developed initially for the US Public Health Services to investigate public health concerns regarding failure of public engagement in disease prevention and screening tests
- Underlying concept is that health behaviour is influenced by:
    - personal beliefs or perceptions about a disease or health threat
    - beliefs or perceptions about available strategies that reduce threat of disease



Health Belief Model

- Perception of personal health behaviour is influenced by 3 factors:
    - General health values (i.e. interest and concern about health)
    - Specific beliefs about vulnerability to a particular health threat
    - Beliefs about the consequences of the particular health threat

Patient Case

Carl tries to keep fit and places great importance on his health. He has recently discovered that an important risk factor for coronary heart disease is a strong family history of the disease. As his father and two of his paternal uncles have all had coronary artery bypass graft surgery, he is now feeling rather vulnerable.

He has decided to drastically alter his diet in an effort to reduce his risk of developing the disease, as he believes that the consequences of developing a heart condition can be very serious.

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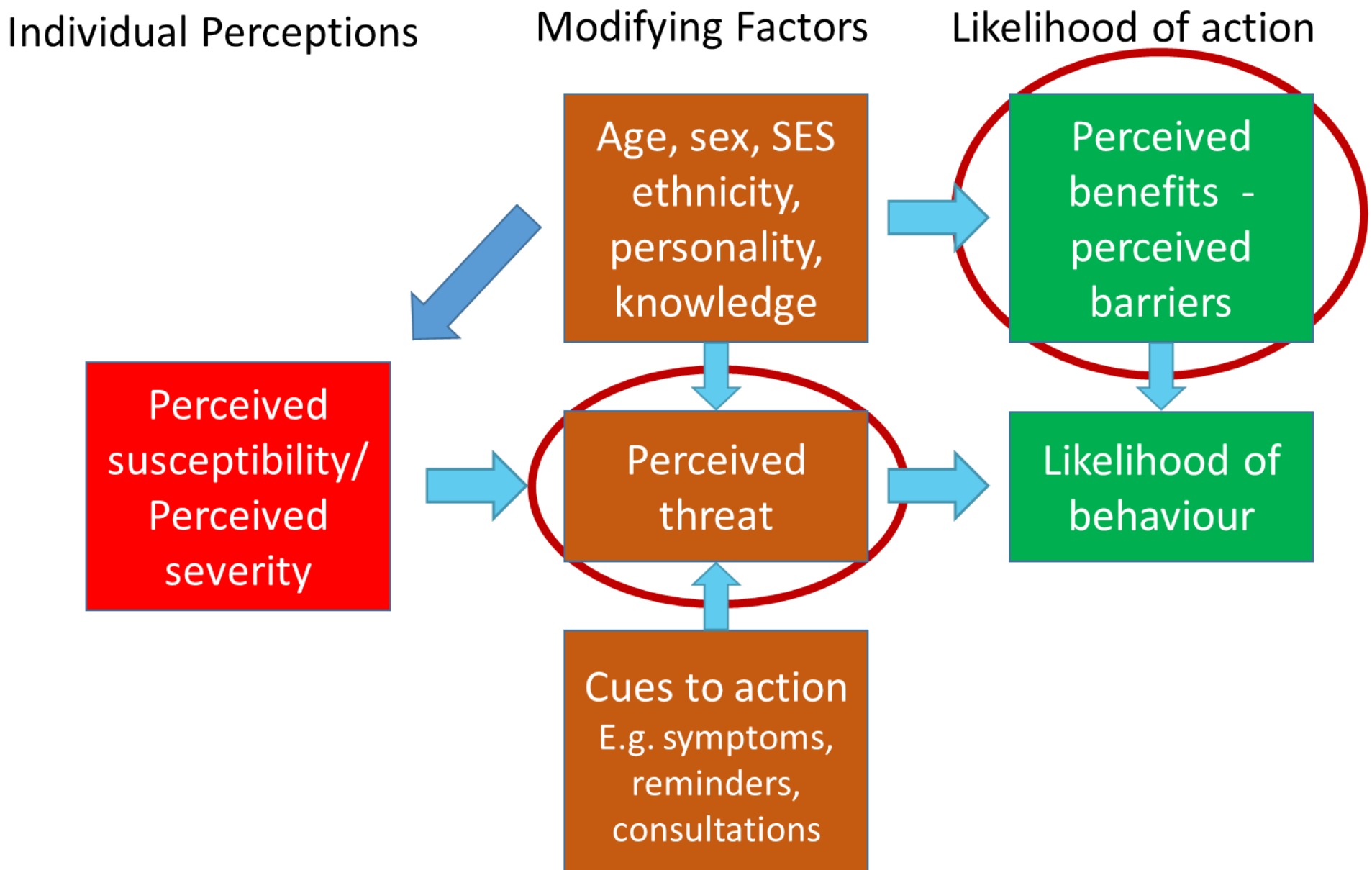
Health Belief Model

- The model consists of 4 perceptions held by individuals that serve its main constructs:
  - **Perceived seriousness/severity** (i.e. beliefs about effects of disease and problems it would create)
  - **Perceived susceptibility** (i.e. how great is the personal risk)
  - **Perceived benefits** (i.e. will adopting healthier behaviours reduce the risk)
  - **Perceived barriers** (i.e. do the benefits of the new behaviour outweigh the consequences of the old behaviour?)
- An additional perception is **Cues to Action**. The cue to act may be internal or external.

Health Belief Model



Application of the Health Belief Model in modifying behaviour

- Interventions that draw on the health belief model generally support its predictions

- Highlighting perceived vulnerability & simultaneously increasing the perception that a particular health behaviour will reduce a threat has shown to be effective in:
    - Preventative dental measures
    - Breast self-examination
    - Smoking prevention

Additions to the Health Belief Model

- Self-efficacy, a key component of behaviour change, was not included in the model
- An addition to the model included in more recent versions
- Involves the belief that one is able to **exert control** over one's **behaviour** as well as an individual's belief in his/her their **capacity** to **carry out behaviours** that will produce a desired outcome
    - E.g. smokers who don't believe they have the "will power" to quit smoking will not try to quit

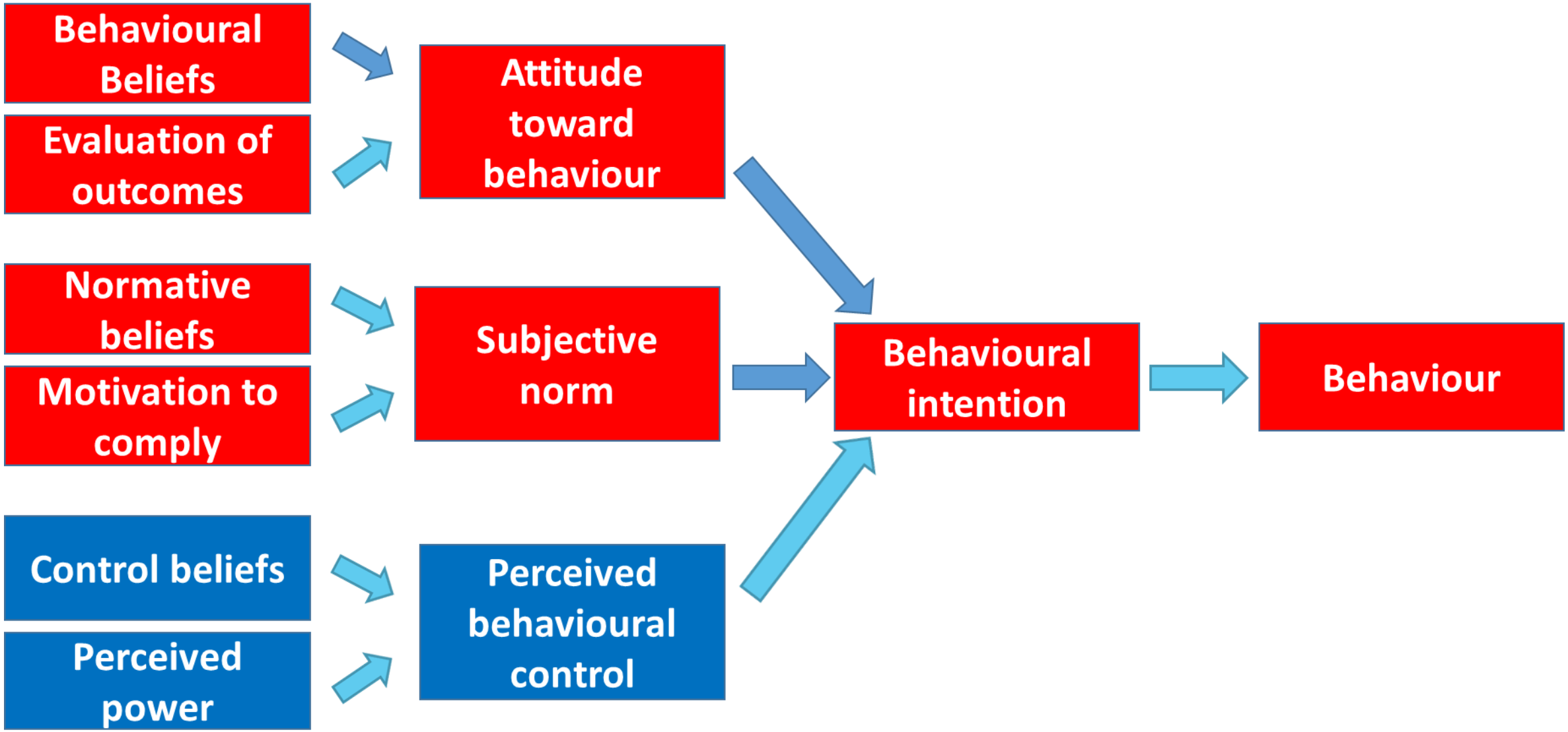
Criticisms of the Health Belief Model

- Phenomenological orientation of the model's design has been questioned (emphasis on subjective experience, perception of meaning of event & feelings)
- Behaviour assumed to be under volitional control as opposed to being determined by reinforcement history, habituation, emotional reactions
- Emphasis is on rational reactions, health behaviours can also result from non-rational reactions to the external world
- Still relevant today regarding factors that influence health inequality & reasons for individuals not practicing protective behaviours?

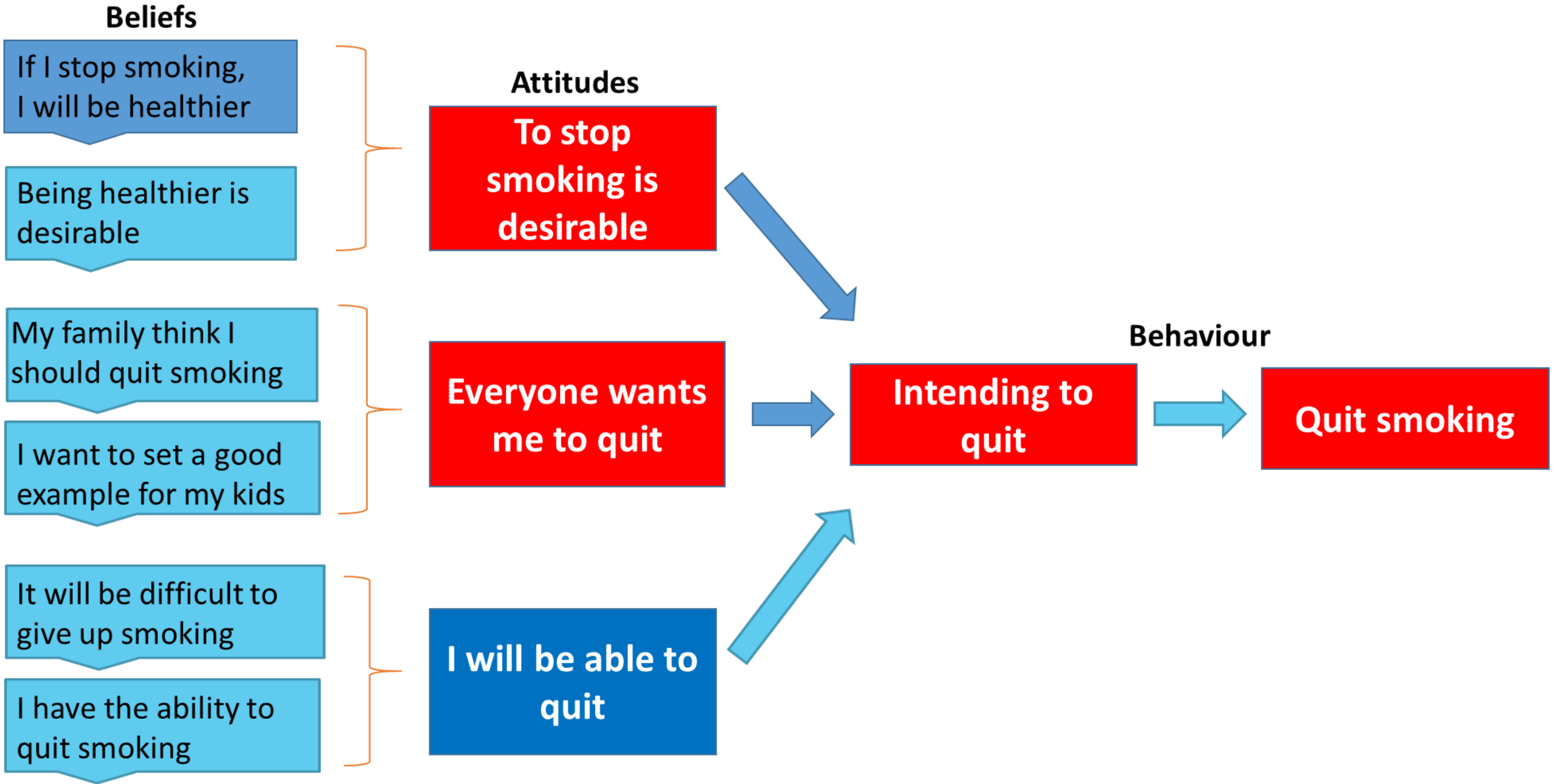
Theory of Planned Behaviour (Ajzen, 1985)

- Developed from the Theory of Reasoned Action (Ajzen & Fishbein, 1980), focusing on voluntary behaviour
- As behaviour appeared **not** to be **entirely under voluntary control**, **perceived behavioural control** was added to the model
- Attempts to link health beliefs directly to behaviour
- Behavioural intent is seen as the key component, with intentions influenced by:
  - Attitude towards a specific behaviour
  - Subjective norms – perception of behaviour influenced by what others think
  - Perceived behavioural control

Theory of Planned Behaviour



Theory of Planned Behaviour



Trans-theoretical model of behaviour change (Prochaska & DiClemente, 1983)

- People spiral through a series of stages when changing a bad health habit:
    - Precontemplation
        - No intention of changing behaviour
    - Contemplation
        - Aware of problem, but not yet made a commitment to change
    - Preparation
        - Form intention to change
    - Action
        - Modify lifestyle
    - Maintenance
        - Prevent relapse

Trans-theoretical model of behaviour change (Prochaska & DiClemente, 1983)

"It's been more than 6 months. I feel healthier but it's still hard especially when I'm stressed"

"It's been 5 months since my last cigarette. It was hard at first, and still is, especially when I'm out with friends"

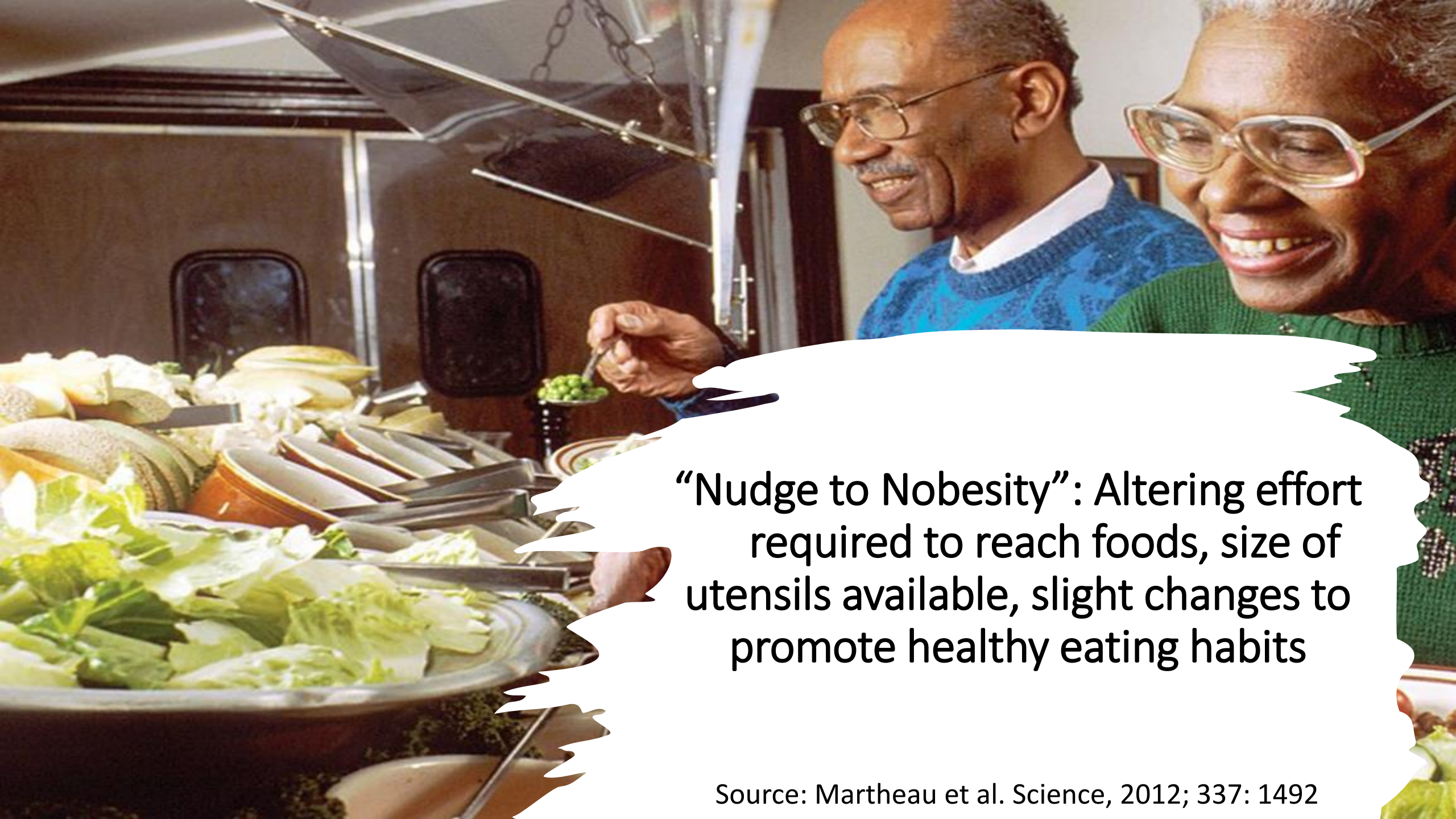
"I'm going to give it a go. I've tried cutting down to 5 a day so far, will quit within the month"

"I don't want my smoking to affect my children, and I'd like to be a good role model. I might try quitting at some point" **(< 6 months)**

"I know smoking isn't good for me but most things aren't. I don't intend quitting any time soon"

Attitudes and changing health behaviours: limitations

- Focus heavily on beliefs about risk rather than emotional responses to risk
  - Health appeals can evoke irrational fear responses
- People may distort health-relevant messages
  - May falsely see themselves as less vulnerable than others
- Health habits are deeply ingrained, can be triggered by environmental cues outside of awareness
  - Attitude-change procedures may instil motivation to change but not provide ability to actually alter behaviours (**intention-behaviour gap**)
- Move towards interventions targeting environmental cueing of behaviours
  - Social or environmental “engineering” – reinforcement management, stimulus control



"Nudge to Nobesity": Altering effort required to reach foods, size of utensils available, slight changes to promote healthy eating habits

Source: Martheau et al. Science, 2012; 337: 1492

The COVID-19 Vaccination Programme

How to protect yourselves and others during the pandemic

Megan Edwards, Sanya Trikha,
Dr Athanasios Hassoulas
School of Medicine
Cardiff University

Myth Debunking!

MYTH: COVID VACCINE WILL ALTER MY GENETIC CODE

FACT: The COVID vaccine cannot alter any genetic material but has one main job: to instruct the body on how to fight the virus.

MYTH: I DON'T NEED THE VACCINE BECAUSE I HAVE ALREADY HAD COVID

FACT: Natural immunity varies from person to person, with early evidence suggesting that natural immunity may not last very long. Re-infection is therefore possible.

The vaccine will still be offered to you if you have already had COVID-19, and you are still encouraged to get vaccinated.

MYTH: SIDE EFFECTS FROM THE VACCINE ARE WORSE THAN HAVING THE VIRUS

FACT: Most side effects are very mild; ranging from a sore arm for a day or two at the site of the injection, to muscle aches and a mild fever. This means that the vaccine is working and is training your immune system to protect you from the virus. If you have pre-existing conditions or you are taking certain medications, you could also have a chat with your GP to discuss any concerns you may have.

Vaccine Benefits

The COVID vaccine provides us all with protection from the virus.

After receiving both doses of the vaccine, we will once again be able to meet with our loved ones and not worry about spreading coronavirus.

The vaccine can help the country get back to the normal activities of daily life!

What will happen when I get the vaccine?

You will be asked to arrive at least 10 minutes before your appointment. You will then be called in and asked some questions about your medical history by a healthcare professional.

A trained member of staff will then administer the vaccine. You might feel a small, sharp scratch on your upper arm but many people don't report even feeling that.

You will be observed for 15 minutes afterwards, before you can go home. If you have any allergies, or have a history of allergic reactions, you will be observed for 30 minutes as a precaution before you can go home.

Which Vaccine will I receive?

There are currently three vaccines available in the UK. Each vaccine has been rigorously testing before being made available to the public.

PFIZER VACCINE

The Pfizer vaccine contains instructions from the virus for your own cells to generate an immune response.

ASTRA-ZENECA VACCINE

This vaccine is made from a weakened form of a common cold virus modified to look like coronavirus. It trains the body to fight off COVID.

MODERNA VACCINE

The Moderna vaccine works in a similar way to the Pfizer vaccine. They are both mRNA vaccines, which allows the body to learn to attack the virus.

Where you can find more information

You can find more information about the vaccines and the vaccination process by visiting the following reliable websites:

NHS website
https://www.nhs.uk/conditions/coronavirus-covid-19/

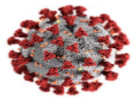
World Health Organisation
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines

If you are concerned about receiving the vaccine, please either visit the NHS website and see the 'What happens at your appointment' section or contact your GP surgery.

You will not be forced to have the vaccine, but with the right information, you can make an informed decision on how to keep yourself and others safe.

WHAT IS COVID-19?

SARS-CoV-2, more commonly known as COVID-19 or coronavirus, is an infectious disease that can cause significant illness and has led to over two million deaths worldwide.



The vaccination programme offers a real opportunity to protect us from severe illness. This guide explains why it is important to receive the vaccine, to protect yourself and those you care for.

HOW DOES THE VACCINE WORK?

A vaccine acts as a training ground for our immune system and helps to teach your body to recognise the virus and destroy it, protecting you from serious illness.

There are several different vaccines currently available that you may already be aware of (Pfizer, AstraZeneca, Moderna). They have all undergone safety testing before being approved and rolled out to the public.

All three vaccines work by helping the immune system to recognise the COVID-19 virus. This means that if you come into contact with COVID-19, your immune system kicks into action, recognises the virus and takes immediate action against the virus to protect you.

COMMON MYTHS ABOUT THE VACCINE

MYTH: THE VACCINE WILL GIVE ME COVID-19 AND MAKE ME ILL

The coronavirus vaccine contains a very small segment of the virus. This teaches your body to recognise COVID-19 and produce immune cells that destroy the virus. This does not harm you nor does it give you coronavirus.

MYTH: I'VE ALREADY HAD COVID-19 SO I DON'T NEED THE VACCINE

You can be reinfected with the virus and spread it to others every time you are infected. Receiving the vaccine will protect you and your loved ones from remaining at risk.

MYTH: THE VACCINE WAS RUSHED AND NOT TESTED PROPERLY

Although the three vaccines were developed very quickly, researchers have been working on the the new technology that was used to create the vaccines for years. The vaccines have also been thoroughly tested, and have undergone the same checks as all other vaccines have.

INFORMATION ABOUT THE COVID-19 VACCINATION PROGRAMME

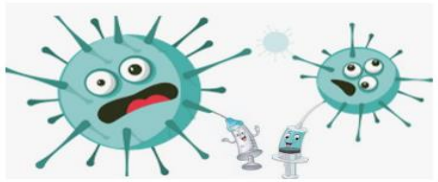
What you should know about the vaccine

Praveena Pemmasani, Molly Sherriff, Je Yin Chooi, Rebecca James,
Dr Athanasios Hassoulas & Dr Eliana Panayiotou
School of Medicine
Cardiff University

TYPES OF COVID-19 VACCINES

There are currently three vaccines that have been approved for use in the UK. These are the Pfizer-BioNTech vaccine, the Oxford-AstraZeneca vaccine, and the Moderna vaccine.

Each vaccine has been tested to make sure it is safe and will protect you from getting very unwell if you get coronavirus. All three vaccines have proven to be very effective and are being rolled out at vaccination centres throughout the UK.



WHY SHOULD I GET VACCINATED?

Even if you are healthy and at low risk of developing severe symptoms from the virus, it is still important to get vaccinated. We still do not know what the long-term effects of having the virus might be, so we should all try to prevent getting infected and make sure we do everything we can to be protected. The vaccine will also help us all get back to doing the things we enjoy.

FOR MORE INFORMATION

The Public Health Wales website contains guidance, advice and more accurate information about COVID-19, the vaccine, and how to keep safe:

https://phw.nhs.wales/topics/latest-information-on-novel-coronavirus-covid-19/

This information includes, but is not limited to:

- Where you can receive the vaccine
- Who will contact you to arrange your vaccination
- Possible side effects of the vaccine and the 'Yellow Card' scheme
- Your eligibility for the vaccine
- Vaccination record cards

The NHS also contains helpful information and advice about the coronavirus vaccine:

https://www.nhs.uk/conditions/coronavirus-covid-19/coronavirus-vaccination/coronavirus-vaccine/

HOW DOES ETHNICITY AFFECT CHILD HEALTH OUTCOMES?

Zeshan Qureshi, Alexandra Richards, Ian Sinha, Oluwakemi Lokulo-Sodipe, Anna Rose

Written on 25/11/2021, Last updated 26/11/2021

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Paediatricians have a moral obligation to promote health and wellbeing for all children. The Royal College of Paediatrics and Child Health (RCPCH) in the UK has stated: "**The college is totally opposed to all forms of racism and it should have no place in our society. Everyone in society must take an active role in ending it and we are committed to doing our part**". (1) To achieve this for our patients, we must recognise when some individuals have a greater or unmet health need and in response, think carefully about how to adjust healthcare delivery to accommodate for it.

In this, our second article of a blog series, we describe racial disparities across common paediatric conditions. There is indisputable and widespread evidence that child health outcomes vary between ethnic groups. By looking at the wider societal factors and care delivery, we will argue that at least some of this may be attributed to institutional or systemic racism and, more controversially, bias from healthcare professionals.

Task

- Design a public information leaflet focusing on **health and climate change**
- Consider the **models** discussed and how these will guide the creation of the leaflet (e.g. perceived severity, susceptibility, benefits, barriers)
- Ensure that your leaflet is **appealing** (i.e. not too wordy, no advanced statistics included, make use of images but be aware of copyright, etc.)
- Best leaflets will be **presented** on programme social media accounts!

Summary

Individual behaviour is a key factor in risk for non-communicable disease

Health behaviours are determined by demographics, socialisation, values, beliefs, and learned behaviour

Research using the Health Belief Model & Theory of Planned Behaviour has identified attitudes related to health behaviour modification

Behavioural intentions important determinants of health behaviour

Some health habits best changed by modifying the environment