Communicating cardiovascular risk

A toolkit for health practitioners

Ministry of Health guidance states that an estimated five-year CVD risk of 15 per cent or more is equivalent to the risk for people with prior CVD.[1] For these people, lipid-lowering and blood pressure-lowering drug treatment is strongly recommended and aspirin should be considered in some groups. However, the effectiveness of calculating accurate CVD risk predictions for individuals is diminished if these risk scores, and the implications of them, are not well communicated to the patient. How well information is relayed to individuals will influence how likely they are to engage in risk reduction strategies, including behaviour change.[15]

Patient understanding of risk varies widely. Risk is an abstract and complex concept, set in the future and relies on basic numeracy skills. Even health professionals can have difficulty understanding and interpreting health statistics. One study found that one in five highly educated people misunderstood basic statistical information.[16] In addition, the same calculated CVD risk can mean different things to different people and can depend on other factors such as other life demands, concurrent medical conditions, personal experience, risk tolerance, and willingness to take life-long medicine. Therefore, an individualised approach is recommended. We have provided a selection of useful information and tools to guide successful communication about risk.

Risk term	Explanation	PANEL 1
Absolute risk (AR)	The number of events (good or bad) in treated or control groups, divided by the number of people in that group	
Absolute risk reduction (ARR)	The ARR is the difference in risks between the absolute risk in control and treatment groups. For example, a risk of 25 per cent in the control group and a risk of 20 per cent in the intervention group results in an ARR of 5 per cent	
Relative risk (RR)	The RR is the absolute risk in the control group divided by the absolute risk in the treatment group. For example, a risk of 25 per cent in the control group and a risk of 20 per cent in the intervention group results in an RR of 0.8 (20/25 = 0.8)	
Relative risk reduction (RRR)	The RRR is the reduction of risk in the intervention group relative to the risk in the control group. It can be calculated as 1 - RR. Using the previous example, the RRR would be 20 per cent (1 - 0.8 = 0.2)	
Number needed to treat (NNT)	The NNT is the number of patients who must be treated for a period of time to prevent one having the outcome of interest. It is the inverse of the absolute risk reduction (1/ARR). For example, if the absolute risk reduction is 5 per cent, then the number needed to treat is 20 (1/0.05). Twenty people would need to be treated to prevent one adverse outcome. This means that the outcome of interest will be unchanged for the 19 other people who took the treatment	

References are available with the online article

Basic health statistics for health professionals

To ensure that they can appropriately explain risk to patients, health professionals should be familiar with the terminology and definitions in the panel above.

1. Communicating the score and the use of different communication aids

People understand and respond differently to different types of risk communication tools. When it comes to CVD risk, there are various options available to help with presenting risk scores, and the effectiveness of different interventions, to patients. Studies evaluating how different risk presentation formats influence the perception of risk and willingness of patients to start treatment, have had conflicting results. For example, one study found risk perception and willingness for treatment were highest when patients were shown estimates for lifetime risk, followed by 10-year CVD risk and then 10-year risk of a CVD death. The use of pictograms led to lower risk perception and willingness for treatment than a bar graph or no graphic.[17] However, this contrasts with a systematic review that found visual aids (icon arrays and bar graphs) improved patients' understanding and satisfaction.[18]

While there are several methods for presenting CVD risk to patients, there are core components that improve understandability:

- **Use absolute risk rather than relative risk to reduce bias.** A Cochrane Review found both patients and health professionals understood absolute risk reduction and relative risk reduction approximately equally, but relative risk reduction was perceived to be larger and was more persuasive.[19] Present the benefits of treatment to minimise CVD risk using absolute risk reduction.
- **Simple frequencies may be better understood than percentages or fractions.** For example, a 15 per cent risk of a CVD event over the next five years is best presented as 15 out of 100 patients like them will experience a CVD event over the next five years. Use comparable numbers, for example, compare 3 in 200 with 24 in 200 rather than 3 in 200 with 3 in 25 as this can be confusing.[20]
- **Visual tools for risk discussions may help.** Visual methods of communicating risk and outcomes may be beneficial particularly for those with low health literacy.

Using more than one method for communicating CVD risk, and shaping risk discussions to individual patients may increase communication effectiveness. Below are some options that can be chosen depending on the patient's literacy level and ability to understand numbers, their cultural beliefs, and readiness to change.

- The Absolute CVD Risk/Benefit Calculator: https://cvdcalculator.com – Gives a dynamic visual representation of how risk increases with age and of interventions to reduce risk.
- Heart Foundation. My Heart Check: www.heartfoundation.org.nz/your-heart/my-heart-check – Allows a rough assessment even without blood tests, which may be useful for initial engagement based on height, weight, and family history. Also displays heart age, which has been shown in another model to significantly support CVD risk communication and shared decision-making.[21]
- Health decision: www.healthdecision.org/tool# – An American tool for communicating risk in several clinical situations. You can build your own pictogram.
- QRISK – lifetime cardiovascular risk calculator: https://qrisk.org/lifetime/index.php – Showing younger patients, whose 5-year CVD risk may appear low, their lifetime risk of heart attack, stroke or related death, may help motivation to initiate efforts to reduce their cardiovascular risk.
- The various practice management systems may have their own visual tools for discussing risk with patients.

2. Discussions with younger patients

Questions to prompt CVD risk contemplation by younger adults **PANEL 2**

- How often do you think about your health?
- Do you sometimes think about your health/weight/exercise/smoking?
- Tell me why young men/women like you might want to eat healthier foods?*
- What do you hope for when you reach older age? Enjoying grandkids/mokopuna, and seeing them grow up? Being around to help whānau? Being fairly fit and able to look after yourself/loved ones?
- Do you know Māori and Pacific peoples have heart problems at a much younger age than other New Zealanders? By about 15 years!
- Have any older immediate whānau members had early heart problems?
- Is there any diabetes within your family?
- Did you know that risk assessments for Māori and Pacific peoples start at a much younger age (at age 30 for men and age 40 for women)?
- Might there be some value in you taking an assessment?
- If it was a loved one here having this conversation, how do you hope they would respond? And what would they want for you?

Other discussion points**

- Do you know that it is not just about CVD risk? (Talk about the effect of CVD risk factors on other health conditions, eg, dementia, stroke, heart failure, erectile dysfunction).
- Are you supporting a family? (Discuss the impact of CVD on financial security, such as the impact of a significant CVD event on future ability to work. Discuss the impact on finances of quitting smoking).
- What is important to you? (Personalise the conversation, for example, discuss sex-specific risk factors/risk enhancers or burden of subclinical CVD).

* Young adult males' motivators and perceived barriers towards eating healthily and being active: a qualitative study https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-015-0257-6

** Communication approaches to enhance patient motivation and adherence in cardiovascular disease prevention www.ncbi.nlm.nih.gov/pmc/articles/PMC8427972

3. Motivational interviewing can improve risk communication

The role of health providers in CVD risk communication has evolved over time from educators to motivators. Factoring in emotions and personal values as the key drivers shaping priorities and motivations for everyone, is one of the central elements to motivational interviewing.[22] It fits within a culturally safe practice by working in partnership with patients to identify their priorities, emotions and values and empowering them to be involved in decision-making around their health. The motivational interviewing approach has been shown to be more successful at creating sustained lifestyle change, improving medicine adherence, and producing improvements in substance use outcomes.[23] However, the technique only works if it is genuine, authentic and non-judgmental.

Training for effective motivational interviewing is available online (see below). These courses/articles are not specific to discussion of CVD risk, but the techniques can be used to guide conversations with patients that motivate long-term change. The panel above presents points that may help guide discussions with younger patients around CVD risk reduction. This includes discussing patient's hopes for the future, for family, and for old age. It may help to talk in practical terms about the loss of independence, income and time with whānau and to discuss with patients 'what could you do with 15 more years?'.

Resources

1. Communicating risk

- Basic health statistics for health professionals (Panel 1 above)
- Cardiovascular risk communication article:
  https://bpac.org.nz/bpj/2014/september/cvrisk.aspx
- The Absolute CVD Risk/Benefit Calculator:
  https://cvdcalculator.com
- Heart Foundation. My Heart Check:
  www.heartfoundation.org.nz/your-heart/my-heart-check
- Health decision:
  www.healthdecision.org/tool

2. Discussions with younger patients (Panel 2 above)

- Young adult males' motivators and perceived barriers towards eating healthily and being active: a qualitative study:
  https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-015-0257-6
- Communication approaches to enhance patient motivation and adherence in cardiovascular disease prevention:
  www.ncbi.nlm.nih.gov/pmc/articles/PMC8427972

3. Motivational interviewing

- Motivational interviewing:
  https://bpac.org.nz/2019/motivational.aspx
- BMJ free online course:
  https://learning.bmj.com/learning/modules/elucidat/5a0ef78ce4f18.html?elucidatModuleType=EL2&moduleId=10051582&status=LIVE&action=start&_flowId=EL2&sessionTimeoutInMin=90&locale=en_GB&shouldStartAtQuestionSection=false

Module 4 : Activity 1	Learning notes	Reflections on practice
Using the definitions listed, or those you find from your own research: • create useful examples for the terms 'absolute risk reduction' and 'relative risk reduction' and ensure you can readily explain the differences to your staff, colleagues and patients • look at various pictorial methods for communicating risk and become familiar with different options that you can use with your patients.	Write your notes here (editable text box)	Write your notes here (editable text box)

Module 4 : Activity 2	Learning notes	Reflections on practice
Methods other than formal CVD risk assessment (eg, heart age, risk trajectory) can be used to facilitate patient understanding of longer-term risk and assess benefits of longer-term lifestyle changes. Read the two resources provided for this exercise and Panel 2 (above) to: • think about how you can prompt CVD risk contemplation with your younger adult Māori and Pacific patients • think of other motivating discussion points you could use with your younger patients.	Write your notes here (editable text box)	Write your notes here (editable text box)

Module 4 : Activity 3	Learning notes	Reflections on practice
Complete an online motivational interviewing course and then: • identify techniques that can be applied when talking to your patients about CVD risk • consider how motivational interviewing aids culturally safe practice.	Write your notes here (editable text box)	Write your notes here (editable text box)