All people over 75 years with a five-year CVD risk of ≥15% should be treated with statins unless specifically contraindicated

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Wells S. All people over 75 years with a five-year CVD risk of ≥15% should be treated with statins unless specifically contraindicated—the 'yes' case. J Prim Health Care. 2010;2(4):330–332.

YES

'I don't think about my age. It's only a number.' —James Biggs (104-year-old resident in a Dallas retirement community)

Short answer

Older men and women—the grandparents of our society, are treasures. As a group, they are at the highest risk of CVD and, if they survive an event, it may have considerable impact on their quality of life and independence. Observational studies show that older people with favourable CVD risk factor levels are more likely to have a healthier end of life as well as less life spent living with disability. Systematic reviews of primary prevention trials demonstrate that statins will reduce CVD event rates by about 20% within five years in people over 65 years, with little risk of serious side effects. There is no good evidence that this will simply change their mode of death (i.e. to cancer). Therefore, if elderly patients are thought to have a healthy life expectancy of five years or more, those meeting guideline criteria for statins should be offered them.

This commentary addresses three questions related to the health of older people:

- What do we want to achieve?
- How applicable are CVD risk prediction tools?
- What is the evidence for statin benefit and harm?

What do we want to achieve?

Ideally we want to delay the onset of illness and disability, reduce the impact of morbidity and support our older patients to retain independence and quality of life (QoL) as long as possible. The probability of death is 100%; the manner of living prior to our dying is more negotiable.

Cardiovascular disease (CVD) is a leading cause of death and healthy life years lost in New Zealand.[1] While having a heart attack and dying in your sleep may seem to be a good way to go, many people will not die in this manner. The prevalence of having had (and survived) a CVD event rises exponentially after retirement age in New Zealand; 35% of 75-year-old women (45% of men) and 45% (50% of men) by the age of 80 years will have suffered an event.[2] The QoL for those following a myocardial infarction or stroke is

BACK TO BACK this issue:


Sue Wells


Derelie Mangin

While evidence can help inform best practice, it needs to be placed in context. There may be no evidence available or applicable for a specific patient with his or her own set of conditions, capabilities, beliefs, expectations and social circumstances. There are areas of uncertainty, ethics and aspects of care for which there is no one right answer. General practice is an art as well as a science. Quality of care also lies with the nature of the clinical relationship, with communication and with truly informed decision-making. The **BACK TO BACK** section stimulates debate, with two professionals presenting their opposing views regarding a clinical, ethical or political issue.

variable, with some left with profound disability. A significant proportion of people with coronary heart disease progress to congestive heart failure where QoL, as measured by symptom burden, depression, and spiritual well-being, is akin to that of people with advanced cancers.[3]

'And in the end it's not the years in your life that count. It's the life in your years.'
—Abraham Lincoln

Prospective cohorts about late-life function and survival to 90 or 100 years,[4,5] show that CVD risk factors mirror longevity. Furthermore, those with healthy behaviours and lower CVD risk factors at age 70 years are likely to have better late-life physical function, mental well-being and lower incidence of chronic diseases. If they do develop a chronic disease, the onset is typically three to five years later.[5]

How applicable are CVD risk prediction tools?

CVD risk is typically presented as the predicted probability of having a symptomatic CVD event during a subsequent time period and is derived from cohort studies that estimate the combined effect of multiple risk factors on event rates. Of all the risk factors, age is not surprisingly the most powerful predictor of a future CVD event, because age is a proxy for the amount of exposure to the combined known and unknown risk factors.

CVD risk prediction tools used in New Zealand are based on the Framingham Heart Study which only investigated people between 30 and 74 years of age. A recent study has questioned the validity of the Framingham equation for those over 85 years, but the cohort was very small (250 participants) and the authors conclude that their findings require validation in a separate cohort.[6] As the accuracy of CVD risk prediction over 75 years is not well studied, New Zealand guidelines recommend risk assessing a person over 75 years as if they were 75 years. This will deliver a conservative estimate of their five-year CVD prognosis, so if older patients are estimated to have a CVD risk over 15% in five years they will almost certainly have been correctly classified as being at high absolute risk.

Erratum—Clarification about citation of *Back to Back* debates.

It has been brought to my attention that both authors may be included in a joint citation, for example 'Marks R, Potter JD. New Zealand should have mandatory fortification of bread with folic acid. J Prim Health Care. 2010;2:74–8.' This is confusing because it appears as though the author arguing against a moot actually supports it. All *Back to Back* articles should therefore be cited separately, as in:

Marks R. New Zealand should have mandatory fortification of bread with folic acid—the 'yes' case. J Prim Health Care. 2010;2:74–5.

Potter JD. New Zealand should have mandatory fortification of bread with folic acid—the 'no' case. J Prim Health Care. 2010;2:76–8.

—The Editor

The greater the short-term absolute CVD risk, the greater the short-term benefit of interventions that lower risk factors. Hence most CVD guidelines recommend management to be based on short-term absolute risk. While lifestyle advice on a healthy heart diet, smoking cessation and physical activity are key recommendations for all, our current guidelines recommend commencing statin therapy for those estimated to be ≥15% five-year CVD risk.

What is the evidence for statin benefit vs harm?

The Cholesterol Treatment Trialists' Collaboration was an enormous meta-analysis of 90 056 individuals who participated in randomised trials of statin treatment.[7] They demonstrated a 12% proportional reduction in all-cause mortality per mmol/L reduction in LDL cholesterol. Benefits from treatment were significant within the first year of treatment and increased in subsequent years. After five years of follow-up, they demonstrated a 21% decrease in any major vascular event (including 23% reduced risk of heart attacks and 17% reduced risk of stroke). This meta-analysis included five trials that included participants over 75 years. They found that there was nothing magic about age that makes drugs work differently—the proportional reductions were about the same.

In terms of major harms, rhabdomyolysis was exceedingly rare 9/39 884 patients (0.023%) on

statins and 6/39 817 control patients (0.015%).[7] Combining multiple trials found no consistent evidence that statins increased overall cancer risk, or at any particular site, for any particular age group or by duration of treatment.[7] All-cause mortality was reduced[7] allaying fears suggested by a single trial re-analysis.[8]

Given that so many older patients already have CVD, it is also important to examine the effect of statins in secondary prevention. A meta-analysis of nine secondary prevention trials with almost 20 000 patients aged 65–82 years reported a 22% reduction in all cause mortality within five years of starting statins. Just under 30 patients required treatment to prevent one death.[9]

A significant proportion of people with coronary heart disease progress to congestive heart failure where QoL, as measured by symptom burden, depression, and spiritual well-being, is akin to that of people with advanced cancers

Some practical considerations

There will always be a need to balance quality of life and comorbidities (e.g. dementia, disability or major physical illnesses such as cancer, renal failure and COPD) along with exploring preventive care possibilities. Adding a statin will contribute to polypharmacy. Therefore this needs to be part of the discussion. Life expectancy is also pertinent. If a man has survived to 75, 80 or 85 years, Statistics New Zealand estimate they will on average have a further 11, eight and six years—long enough to reap the full benefits of five years of statin treatment. Women fare slightly better (add a couple of extra years).

Contrary to many beliefs, prescribing statins to those over 15% CVD risk, will not result in prescribing for all the over 75s. The New Zealand PREDICT cohort currently has about 10 000 people over 75 years who have been risk assessed in routine general practice. Just over one-third of these elderly have had a CVD event, just under one-third are at high estimated risk (≥15% five-year CVD risk) and the remaining third are at moderate or low estimated risk for whom lifestyle advice, not drugs, is recommended.

In conclusion, people over 75 years with a five-year CVD risk of ≥15% and a healthy life expectancy of five years can substantially reduce their risk of CVD and all cause mortality by taking statins and should all be offered this opportunity unless specifically contraindicated.

'The idea is to die young, as late as possible.'
—Ashley Montagu

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