

General practitioners' decision making about primary prevention of cardiovascular disease in older adults: A qualitative study – S1 Table

S1 Table. Evidence relating to GPs' decision making approach about primary prevention of cardiovascular disease in older adults as described in Table 2 (main text).

Approach	Related evidence
Applicability of primary CVD prevention guidelines for older people	
Same guidelines for all ages	Modelling work suggests minimal difference in potential life years gained with treatment for younger vs older people who are at the same 5-year CVD risk [1].
No valid guidelines for older adults	Data to derive FHS risk and QRISK models based on individuals <75 years [2-4], data to derive QRISK lifetime model included individuals up to 84 years [5]. Guidelines exist for use of both statins [6] and blood pressure lowering treatment [7] in older people.
Different guidelines for older adults	Major U.S. guidelines have relaxed systolic BP target for treatment to 150 mmHg [8], however there is substantial disagreement on whether there is an evidence base for this [8].
The older patient context	
Fit versus frail older adults	Randomised controlled trial evidence in the elderly supports treatment to lower blood pressure and cholesterol in healthy older people. There is limited evidence on the effects of these treatments in frail older people, but analysis of one trial suggests that treating hypertension is still beneficial for frail older patients [9]. Some guidelines specifically recommend different management of cardiovascular disease prevention for 'fit' and 'frail' older patients [6, 10, 11]. Additionally, the instability feature of frailty may make it difficult to identify which patients are actually frail [12].
Quality of Life (QoL) as treatment goal	In general, trial data in elderly people has found that pharmacologic treatment to lower blood pressure had no negative impact on QoL, or produced some improvement in QoL [13].
Multimorbidity	Most clinical practice guidelines (CPGs) do not discuss their recommendations in terms of elderly patients with multiple comorbidities. If the applicable CPGs are followed for all comorbidities, treatment may cause a considerable burden to patients and caregivers, as well as other adverse effects [14].

Prognosis and life expectancy	Trial data in older aged people demonstrates statistically significant reduction of cardiovascular disease after 3.2 years statin treatment to lower cholesterol [15] and after 2 years with treatment to lower blood pressure [16]. Modelling work suggests minimal difference in potential life years gained with cardiovascular preventative treatment for younger vs older people [1].
Balancing benefits and harms	The evidence is far more limited in older patients, making the benefits and harms of intervention difficult to estimate. The GRADE approach to evidence-based medicine and shared decision making suggests that considering patient values is particularly important when benefits do not clearly outweigh harms [17].

Treatment complexity and optimising care

Perceived modifiability of CVD risk in older people	For Australians aged 65 years, expected further life expectancy is 19 years in men and 22 years in women. For Australians aged 85 years, expected further life expectancy is 5.9 years in men and 7.1 years in women [6].
Less stringent treatment thresholds and targets	The reviews of trials of more versus less intensive blood pressure reduction also do not provide a clear picture. Wald and Law [18] found that combinations were more effective in lowering blood pressure, but the interpretation of impact on clinical events is confounded by drug class combinations. Susantitaphong's 2013 analysis for patients with CKD found small and non-significant effects favouring combinations, but with higher adverse effect rates.
Polypharmacy	The use of more drugs than are clinically indicated is common among frail older adults [7]. Polypharmacy is associated with increased risk of adverse events.
Deprescribing	There is limited direct evidence from clinical trials to be able to answer the question about whether deprescribing cardiovascular drugs is beneficial or harmful in older people. A recent clinical trial found that stopping statin was safer and may be associated with improved quality of life in people with advanced life limiting illness.

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