Background
Current focus in prevention of cardiovascular disease has changed recently to consider the use of lifetime risk estimation rather than shorter 10-year-based risk calculation. Also, there is still considerable debate over the wider use of LDL lowering drugs, principally statins, in primary prevention. Availability of the unprecedented 20-year patient-level followup of a landmark primary prevention study permits insight into the long-term clinical and economic benefits of LDL lowering in subjects initially free of CVD.

Cohort and methods
The West of Scotland Coronary Prevention Study was a randomized, placebo controlled trial of LDL lowering with pravastatin (40mg/d) in 6595 men aged 45 to 64 years old with raised LDLc but no history of myocardial infarction at randomization. Extended follow up through record linkage provided comprehensive information on a range of end points including site-specific cancer, coronary outcomes, heart failure, stroke, coronary revascularizations and hospital admissions (causes, duration).

Cox proportional hazards models for major safety and efficacy outcomes demonstrated that the impact of 5 years of pravastatin therapy continued over 20 years with 13% and 27% reductions respectively in total and CHD mortality (both P<0.001) over the entire period. Stroke was not reduced at the 20 year time point but heart failure hospitalisations were 31% lower in the statin treated group (P<0.0001). Likewise total length of stay (days) across all CVD admissions was reduced by 25% in the statin treated subjects (P<0.0001). Cancer rates did not differ between the two treatment arms. The relative benefit appeared to be equal in all age groups.

Conclusions
Debate continues over the use of statin based LDL lowering in primary prevention due in part to a failure to take into account the full impact of treatment on disease trajectory. The 20-year follow up data from WOSCOPS provide clear clinical and economic evidence of the 'lifetime benefit' (since the subjects mean age is now 75 years compared to 55years at study start) of LDL lowering therapy.
Disclosure:

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