

Frequently Asked Questions

Use of statins to prevent cardiovascular events and mortality



What are statins and why are they important?

- Statins (hydroxymethylglutaryl CoA reductase inhibitors) are a class of drugs that lower the levels of LDL cholesterol in blood. Statins work by reducing cholesterol synthesis/production in the liver.
- Over time, high LDL cholesterol contributes to plaque buildup in arteries, increasing the risk of heart attack and stroke. Statins significantly reduce this risk by lowering cholesterol in the blood stream and artery walls and stabilizing existing plaques.
- Statins also stabilize and reduce the risk of rupture of plaques through lipid-lowering and “pleiotropic” effects that alter plaque composition.
- Based on extensive research, statins are strongly recommended for people with cardiovascular disease, diabetes, very high cholesterol, or a high estimated ten-year risk of heart attack or stroke.
- When taken daily, statins significantly reduce cardiovascular (CVD) events such as heart attacks, strokes and thereby cardiovascular mortality, making them useful in both primary and secondary prevention of atherosclerotic CVD.
- Statins are a cornerstone of CVD prevention and currently save millions of lives worldwide. However, there is substantial unmet need for these essential medicines in low- and middle-income countries (LMICs): among adults with CVD in LMICs, only 32% are taking antihypertensive medicines and only 16% are taking a statin for primary prevention. Among people with hypertension, only 31% are taking blood pressure lowering medicines and only 7% of statins eligible patients are receiving statins.

Commonly used statins include:

- ◇ atorvastatin
- ◇ rosuvastatin
- ◇ simvastatin
- ◇ lovastatin

Who should receive statins?

- World Health Organization (WHO) and major scientific organizations recommend statins for:
 - ◇ History of CVD event (heart attack or stroke)
 - ◇ People with diabetes of 40 years or older (WHO global diabetes compact)
 - ◇ People with chronic kidney disease of 40 years or older
 - ◇ 10-year CVD risk >20% (based on WHO CVD risk scoring)
 - ◇ Individuals without established CVD who have a total cholesterol ≥ 8 mmol/l (320 mg/dl) or low-density lipoprotein (LDL) cholesterol ≥ 6 mmol/l (240 mg/dl) or TC/HDL-C ratio >8.

Statins are prescribed in low, moderate and high intensities based on the indications.

Statins should not be prescribed to women who are or who may become pregnant.

Ensuring at least 50% of eligible people with existing CVD or at high risk will receive effective drug therapies including statins by 2025 is one of the target of the Global Monitoring Framework on NCDs.

Are statins safe?

- Statins are safe and are generally well tolerated.
- Myopathy with muscle weakness occurs in fewer than 1 in 10 000 patients and resolves with discontinuation.
- Serious side effects are rare.

Are statins affordable to low middle income countries?

- Approximate median cost of low intensity statin treatment (atorvastatin 10 mg or rosuvastatin 5 mg) in public sector clinics of the countries of South-East Asia varies from 3 USD - 35 USD per patient per year.

What is the pattern of use of statins in the WHO South-East Asia Region?

- An analysis of population survey data on statin use in 2022 indicate that use of statin at primary care level remains limited in the countries of the WHO South-East Asia region
 - ◊ For prevention of CVD among those who have not had a CVD event 5.5% (95% CI 3.6–8.4).
 - ◊ For secondary prevention among those who have had a CVD event to prevent further CVD events- 21.9% (96% CI 16.9–27.9).

What are the common challenges in offering statins at primary health care (PHC) in WHO South-East Asia Region?

- Benefits on deaths averted, safety profile and cost-effectiveness is under-recognized among policymakers and providers.
- Non-inclusion of statins in nationally approved protocols for hypertension and diabetes management at PHC.
- Statins perceived as ‘specialist-level’ therapy requiring initial and follow up laboratory monitoring in spite of WHO recommendation on use of non-lab WHO CVD risk-chart to identify those meeting the eligibility criteria of 10-year CVD risk $\geq 20\%$.
- Assumption of statins being expensive and not affordable to the health systems or patients.
- Weak supply and forecasting of statins with procurement not aligned with the need causing frequently out of stock.
- Gaps in adherence by patients due to fear of muscle pain and misinformation causing early discontinuation.

What approaches can promote statin use?

- Integrate statins for eligible patients into the steps of standardized management protocols for hypertension and diabetes management at PHC level ensuring full alignment to the recommended criteria. Ensure that eligible patients are treated automatically—risk assessment not required for these groups.
- Institutionalize non-lab CVD risk charts in PHC where lab test is not available and train staff on interpreting risk without cholesterol tests to identify those eligible for statin.
- Include statins in National Essential Medicines Lists and use forecasting and supply chain management tools to ensure consistent supply at primary health care levels.
- Where available, use of fixed-dose combination (FDC) pills combining antihypertensive and statin (e.g. statin + ACE inhibitor or statin + calcium-channel blocker). FDCs improve adherence, reduce pill burden, and lower discontinuation rates.
- Use facility performance indicators to monitor statin drug stock (patient-days based on number of eligible patients) and the proportion of eligible patients receiving statins.
- Integrate statin initiation into health worker training modules to normalize PHC-level use.
- Train providers in counselling scripts addressing myths around statin side effects.

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