

Meta-analysis indicates widespread use of vitamin D supplements to prevent osteoporosis in healthy adults unjustified

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Taking vitamin D supplements does not improve bone mineral density at the total hip, spine, forearm, or in the body as a whole, a large meta-analysis involving more than 4,000 healthy adults published in *The Lancet* has found. With close to half of adults aged 50 and older using vitamin D supplements, the authors conclude that continuing widespread use of these supplements to prevent osteoporosis in healthy adults is needless.

"Most healthy adults do not need vitamin D supplements", explains study leader Professor Ian Reid from the University of Auckland in New Zealand. "Our data suggest that the targeting of low-dose vitamin D [supplements](#) only to individuals who are likely to be deficient could free up substantial resources that could be better used elsewhere in healthcare."

Reid and colleagues from the University of Auckland conducted a systematic review and meta-analysis of all randomised trials examining the effects of vitamin D supplementation on [bone mineral density](#) in healthy adults up to July 2012.

Analysis of data from 23 studies involving 4082 healthy adults (average age 59 years) did not identify any effects for people who took vitamin D for an average period of 2 years, apart from a small but statistically significant increase in bone density (0.8%) at the femoral neck.

According to the authors, such a localised effect is unlikely to be clinically significant.

The authors conclude, "This [systematic review](#) provides very little evidence of an overall benefit of vitamin D supplementation on [bone density](#)...Continuing widespread use of vitamin D for osteoporosis prevention in community-dwelling adults without specific risk factors for vitamin D deficiency seems to be inappropriate."

Writing in a linked Comment, Clifford J Rosen from the Maine Medical Research Institute in the USA discusses how our recent understanding of vitamin D lends support to these findings, confirming that, "Supplementation to prevent osteoporosis in healthy adults is not warranted. However, maintenance of vitamin D stores in the elderly combined with sufficient dietary calcium intake (800–1200 mg per day) remains an effective approach for prevention of hip fractures."

More information: [\(13\)61647-5/abstract](http://www.thelancet.com/journals/lan...)

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