

# New position paper addresses optimization of vitamin D status in global populations

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A position paper authored on behalf of the International Osteoporosis Foundation (IOF) Vitamin D Working Group summarizes the burden of vitamin D deficiency and public health approaches for its prevention in global populations, addressing key issues such as global variations in vitamin D concentrations, methodological issues with testing, guidelines,

screening, supplementation and food fortification.

The work is [published](#) in the journal *Osteoporosis International*.

Professor Bess Dawson Hughes, Professor of Medicine at Tufts University School of Medicine, senior scientist, Endocrine Division at Tufts Medical Center, and senior author of the publication, stated, "Vitamin D levels at the population level differ markedly around the world, and are dependent on a range of factors such as diet, [skin pigmentation](#), covering, latitude, effective sun exposure, and supplement use.

"We know that vitamin D is important for overall health and that severe vitamin D deficiency in some individuals may lead to serious health issues such as rickets or osteomalacia. In these patients, prompt vitamin D repletion is needed. However, at the level of public health, the role of vitamin D supplementation presents a different set of considerations. Here the goal is to keep vitamin D levels high enough, on average, to reduce the risk of health problems overall."

Building on recently published work from the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases, the position paper "Optimisation of vitamin D status in global populations" concludes that:

- Maintenance of adequate vitamin D status at the population level is obtained preferably through diet and lifestyle measures. Food fortification, as practiced in some countries, may provide an alternative route to optimizing vitamin D status. Vitamin D supplementation in modest daily dosing is another approach to meeting the intake requirement. Importantly, any intervention should account for individual population characteristics, including, for example, habitual calcium intake.

- Based on the current evidence base, there is insufficient justification for screening for vitamin D deficiency in the general population.
- Screening and/or routine supplementation may be appropriate in high-risk populations, for example older individuals in residential care and those with pigmented skin living in northerly latitudes.
- At the individual patient level, where clinical symptoms suggest vitamin D deficiency, testing is likely to be indicated, together with a more aggressive approach to vitamin D repletion.
- Where supplementation is recommended by a medical professional it should be in the form of a licensed product to ensure consistency between prescribed and actual dose. Owing to evidence of associated increased risk of falls and fractures, in general, bolus doses are not recommended unless there is a specific need for rapid correction.

The authors also point to the clear gaps in documentation of vitamin D deficiency worldwide, describing key methodological issues such as assay variability and lack of standardization in reporting. In terms of future studies on vitamin D epidemiology, and to strengthen future guidelines, the authors recommend that standardized measures of 25(OH)D, as per the Vitamin D Standardization Programme, should be reported in all studies and publications.

Professor Nicholas Harvey, Director of the University of Southampton's MRC Lifecourse Epidemiology Centre, UK, President of IOF and first author of the publication, stated, "This position paper, bringing together international experts from many different regions of the world, clarifies the approach to optimizing vitamin D status in populations. It was very evident that one size does not fit all, and that population- and context-specific variables, such as overall calcium intake, should also be considered.

"Approaches might include guidelines around diet, food fortification or supplementation, particularly for those at high risk of vitamin D deficiency and complications. Conversely, severe vitamin D deficiency associated with signs and symptoms of disease should be assessed and treated appropriately by a health care professional."

**More information:** N.C. Harvey et al, Optimisation of vitamin D status in global populations, *Osteoporosis International* (2024). [DOI: 10.1007/s00198-024-07127-z](https://doi.org/10.1007/s00198-024-07127-z)

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