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Vitamin D retesting by general practitioners: a factor and cost analysis

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Vitamin D testing by Primary Care doctors is increasing as are the associated costs(1). This places an increased workload on laboratories and healthcare systems though there is little data on vitamin D testing patterns in Ireland. This study aims to investigate the factors associated with vitamin D testing by Irish General Practitioners (GPs) including age, gender and location and resulting costs.

This is a retrospective analysis over 5 years (2014–2018) of GP requested 25-hydroxyvitamin D (25(OH)D) results in 36,458 patients at a major city hospital in Dublin, Ireland. Those with one test were compared with individuals who had follow up testing (retested). Retest samples were categorised to determine changes in status with increasing number of tests.One in four patients (n = 8,305) were retested though all retests accounted for 27.2% of all vitamin D requests. When compared to those not retested, positive predictors of retesting were female gender ($p < 0.001$), age (60–69yrs, $p < 0.001$), location (Co. Kildare, $p < 0.001$) and initial deficiency (<30 nmol/L, $p < 0.001$) or insufficiency (30–49.9 nmol/L, $p < 0.001$). Vitamin D status improved on retesting, halving deficiency on first retest (9% vs. 18%, $p < 0.001$) and dropping to 6% on further retests. 12.2% of retests were done within 3 months, one third (29%) had >2 retests within 1 year and 57% were in those who were initially vitamin D replete (>50 nmol/L). One third (29%) had two or more retests within 1 year. The annual approximate cost of inappropriate testing was estimated at €61,976.

Vitamin D retesting accounted for more than a quarter all requests, varying by age, gender and patient location. One in ten retests were inappropriately early (<3months), a third were too frequent and over half were in replete individuals, incurring significant costs. Clear guidance for GP's on retesting and laboratory ordering systems limiting requests using pre-defined criteria are needed. Population based strategies to reduce deficiency may be more effective than widespread testing.

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Reference

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