After it was suggested to me, I started taking 5000 IU of Vitamin D3 every day and feel it has had a massive benefit to my health.

I have asthma and take a steroid inhaler with anti-histamine every day for my hay fever. Every May when the tree pollen comes out, I would end up with a three week course of Prednisolone and feel really unwell. I waited last May, anxiously, but I sailed through the month. I definitely feel the benefit of taking Vitamin D. It helped me through those difficult months.

I have told lots of family and friends about the benefits of Vitamin D3 and some of them started taking it at the beginning of the pandemic and say they feel the benefit from taking it.

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**A Vitamin D policy that strengthens Scotland’s COVID-19 Response**

**March 2021**

**Action Needed:** Update and better communicate a government policy recommending all Scottish adults to take a 4000 IU vitamin D supplement daily.

1. **Introduction:**

   Kaufman et al. 2020 (The Large-Scale American Study) published September 2020 shows that among a cohort of 191,779 individuals tested for COVID-19 there exists a clear correlation between the COVID-19 infection rate and vitamin D serum level. This conclusion is supported by a meta analysis of 39 studies and a large list of credible authorities.

   Scotland's widespread Vitamin D deficiency has been reported for decades. Research shows large sections of the population are deficient (54% in winter), however, deficiency is especially high among ethnic minorities and people living in socio-economic deprivation.

   We all need vitamin D for best functioning of our immune system, as well as for bones. All of us should aim for optimal blood levels especially during a pandemic. By remaining deficient, the Scottish population is being left more susceptible to the worst symptoms and infection rates of COVID-19.

2. **An updated Vitamin D policy and approach would strengthen our COVID-19 response in three ways:**

   - **By saving lives:** A systematic review (Kazemi at al. 2020) finds on the basis of 39 relevant and timely studies into COVID-19 infections and vitamin D "a significant relation between 25(OH)D [vitamin D] and SARS-CoV-2 infection, COVID-19 composite severity, and mortality".

   - **Safeguarding minorities:** Research (Sutherland et al. 2020) shows ethnic minorities across the UK have a significantly higher likelihood of being deficient alongside as Scottish data shows a higher risk of ICU admission or death due to COVID-19.

   - **Effective publicity:** Updating and promoting an adequate and effective supplement dose of vitamin D will help Scots fight COVID-19 infections. Research in January 2021 suggested “habitual use of vitamin D supplements is related to a lower risk of COVID-19 infection”.

3. **Background: Scotland's vitamin D deficiency**

   - **Scotland's deficiency is worse than the rest of the UK.** In November 2020, Sutherland et al. 2020 shows a northern prevalence of vitamin D deficiency. Among participants from Scotland (approx. 83,224), 24.95% had vitamin D deficiency in the lowest band (<25 nmol/L) in winter compared to 17% in South England.

   - **Our deficiency leaves us most vulnerable in winter.** Food Standards Scotland (2013) shows, around one third of the population was vitamin D deficient (<25nmol/L). A clear link exists between the season and Scots’ vitamin D status, during January to March 54% had a deficiency compared to 17% of individuals during summer.

   - **Scotland's deficiency is not only widespread it is significantly low.** Food Standards Scotland (2013) shows about 1 in 3 people have a deficiency far below the widely used standard accepted as suboptimum deficiency level (<25nmol/L = lowest band in most studies). About 11% of Scots have an extremely low vitamin D level of <15nmol/l, which rises to 19% of Scots in the most deprived areas.

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After it was suggested to me, I started taking 5000 IU of Vitamin D3 every day and feel it has had a massive benefit to my health.

**Pam (61), NHS worker for 36 years. Takes 5000 IU every day.**
EXPERT CONTRIBUTION: Honorary Prof, Barbara Boucher, the Blizard Institute at Queen Mary University of London and Retired Consultant Physician.

Vitamin D has beneficial health effects on non-skeletal tissues including increasing protection against bacterial/viral infections, reducing excessive inflammation and severe pneumonic lung damage, that are unappreciated by most healthcare professionals.

Higher pre-pandemic provision of vitamin D predicts reduced Covid-19 infection rates. The UK's continuing 40-60% deficiency rates, which are highest amongst BAME individuals, must increase the population's Covid-19 risks. Correcting deficiency could reduce UK Covid-19 illness rates by 30-50%; higher vitamin D supplement intakes could reduce this problem safely, and cheaply, so that an updated policy on recommended intake must be considered.

Vitamin D sufficiency maintains the defences above that help protect us against infections like Covid-19. Yet 40% of the UK are deficient all year round despite current UK Government and Scottish Government advice of 400 IU a day. Therefore, those policies are ineffective, and have been for years.

This is especially the case for minority groups who have had higher levels of vitamin D deficiency for decades, including BAME Britons because their skin pigment is an effective sunblock plus the covered-up clothing many women wear for cultural reasons. Other disproportionately affected groups include the socio-economically deprived, the house bound and indoor and shift workers. Recent research (Sutherland et al. 2020) confirms that the rates of vitamin D deficiency remain disproportionally high among BAME Britons. Therefore, it is inappropriate to argue in favour of the existing 400 IU recommendation on the basis that such evidence is ‘too old’.

These facts mean that we have a chance to help safeguard individuals against viruses such as Covid-19 by updating government guidance on vitamin D intakes, and provision, at levels greater than 400 IU/day.

Vitamin D is important in safeguarding ethnic minorities

“I think one of the main reasons why COVID didn’t hit [me and my husband] that badly was because we were already taking vitamins.”

“Looking at the impact of COVID on BAME groups – it has impacted a lot more BAME groups than almost any other population... I didn’t come across anybody who said the doctors recommended them that they should take supplements. No, I didn’t come across anybody”.

“I usually think about [vitamin D deficiency] as the major reason because I don’t think many [ethnic minorities] know they should be taking vitamin D supplements; I don’t think many people know.”

EXPERT CONTRIBUTION: Scots Need Vitamin D

Scots Need Vitamin D is a campaign founded in 2010 by Helga Rhein, former GP (retired in 2018 after 33 years) in Edinburgh. The campaign believes passionately in the positive health impact of good Vitamin D levels. It believes people in Scotland would see health improvements by taking a regular Vitamin D supplement.

By highlighting the current evidence on the impacts of reducing vitamin D deficiency, it hopes to encourage health care professionals, decision makers and individuals to act. Get in touch email at: info@scotsneedvitamind.com