

aviation seems to be a key player in the human-made global climate change. The exact number of European — mostly German — doctors shuttling by air to do OOH service in the UK is still uncounted to date. However, based on the data from several British PCTs, we estimated the number of German GPs working as locums in the UK during 1 month. We figured out that a total number of about 400 Germans who need to shuttle monthly, results in more than 3500 tons of additional effective carbon dioxide emissions by aviation during 1 year. This emission is equal to the amount which is emitted by a mid-range car driving round the equator 526 times.

As increasing greenhouse gas emission is a major cause of worldwide climate change, it should be offset by paying money to fund projects that provide renewable energy or reduce carbon dioxide emissions. A number of non-profitable carbon dioxide offset companies exist and the service is easily available via the internet. Until today only single doctors have been willing to offset the implications of their profitable sideline voluntarily. However, this should become standard either for the European doctors who work as locums or for the PCTs and agencies that employ them.

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## **Vitamin D deficiency**

I read the report on Vitamin D deficiency<sup>1</sup> with interest. In my practice in Hounslow we have a list size of 3700 with a large Somali population. We have been testing for Vitamin D deficiency for 2 years in any patient in an at-risk group who presents with bone or joint pain or non-specific malaise. We started to do this because we picked up several cases of young Somali women presenting with symptoms who

were discovered to have frank osteomalacia and two children with rickets.

In the 2-year period we have identified 138 cases of low Vitamin D (70% frank deficiency; serum level <25 nmol/l) and 30% insufficient (serum levels 25–50 nmol/l). Of the individuals found to have low Vitamin D, 93% are non-white patients, and the majority come from the Somali, African, Asian, and Afghan communities.

We have been treating these people with oral vitamin D according to our locally developed protocol, but often find that levels do not respond. Although it has not always been possible to ascertain whether this is due to compliance issues or absorption, we have adopted a pragmatic approach and started to give IM treatment if re-testing shows little or no improvement at 6 months. There are several pregnant women, and although we have not been formally testing their babies' levels, we have started to advise supplementation from birth with appropriate vitamin drops.

We are offering blood testing to screen asymptomatic family members of affected individuals, but this does have resource implications for smaller practices such as ours. To date, of the blood tests carried out 88% have been abnormal, so we are confident that we are reaching some of the vulnerable population.

We have also identified some Read Coding issues, and hope that addressing these will assist in the process of auditing and recall of patients.

I agree with the authors that vitamin D deficiency is a significant and sizeable public health issue in primary care.

There are likely to be a high proportion of cases that are unrecognised and untreated. The current lack of coherent guidelines about screening and treatment is a major problem.

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#### **REFERENCE**

1. Mytton J, Frater AP, Oakley G, *et al.* Vitamin D deficiency in multicultural primary care: a case series of 299 patients. *Br J Gen Pract* 2007; 57(540): 577–579.

## **Author's response**

The experience of Dr Lambert in her Hounslow practice is not surprising, and adds weight to the argument for clarity on the identification and management of such patients. Personal communications with primary care and public health colleagues in East London, Cardiff, Birmingham, Liverpool, Stoke, and Bradford have all yielded similar stories of population groups with unmet needs. No doubt there are many more.

The treatment of identified deficiency and the prevention of recurrence is complicated by the range of preparations currently available on prescription. Our local policy for the treatment of adults (300 000 IU repeated at 1 month assuming no evidence of hypercalcaemia) is frequently offered as an intramuscular injection, and appears to be very acceptable. Oral calciferol tablets (either 10 000 IU or 50 000 IU) can be taken as a short course to achieve an equivalent dose, but have been more difficult for local pharmacies to obtain, and delay in providing these tablets has led to reduced compliance with treatment.

Any patient with ongoing risk factors for deficiency should commence daily supplements after completion of treatment. Prescribable oral preparations of vitamin D that are suitable for adult supplementation (that is, containing 400 IU) are only available combined with calcium. Like Dr Lambert, we have found that compliance with such preparations is very poor, and believe this is largely due to gastrointestinal side effects secondary to the calcium component. We also aim to assess other family members whenever a mother or child is found to be affected, as family history of vitamin D deficiency appears to be a very significant risk factor.

The recent position statement on vitamin D by the Scientific Advisory Committee on Nutrition<sup>1</sup> illustrates the extensive gaps in current knowledge on the epidemiology, diagnosis, and consequences of vitamin D deficiency. Their confirmation that all pregnant and breastfeeding women should be taking Healthy Start vitamins is welcomed, and it is hoped that their call for further research and guidance will be taken up urgently.