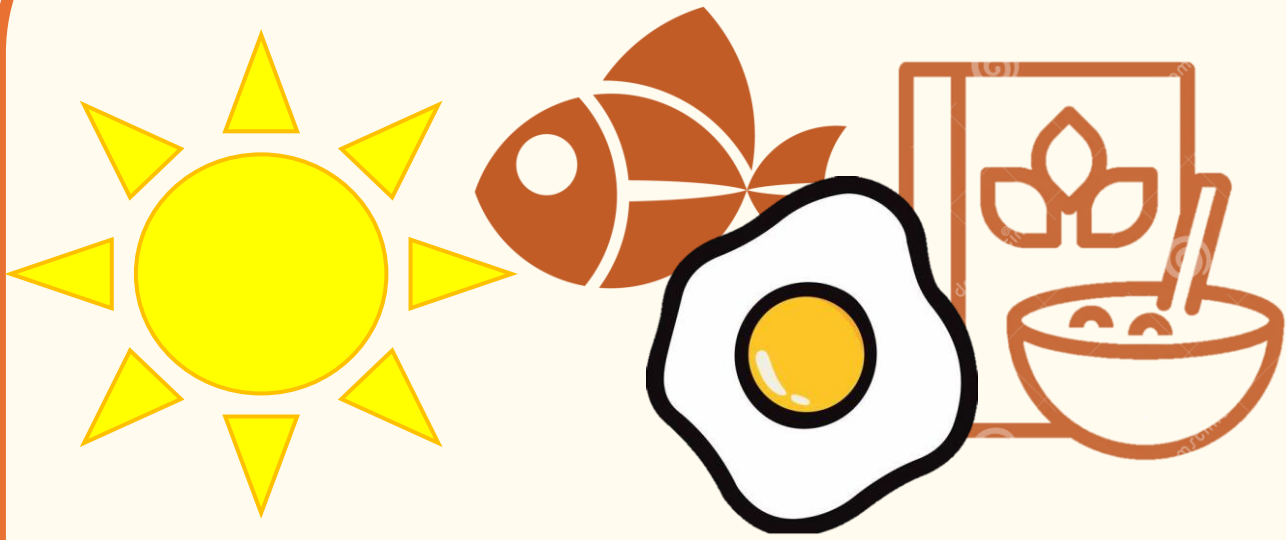


# The Sunshine Solution: Vitamin D's Impact on Asthma

Stephanie Watkins, Tanja Harrison & Sohail Mushtaq

## The problem

### Sources of vitamin D:



**BUT**  
~ 20% of the UK population are vitamin D deficient in the Winter months

Do we need supplements?

In the UK, 1 in 12 adults are receiving treatment for asthma = some of the highest rates in Europe

Shortness of breath, wheezing and a tight chest

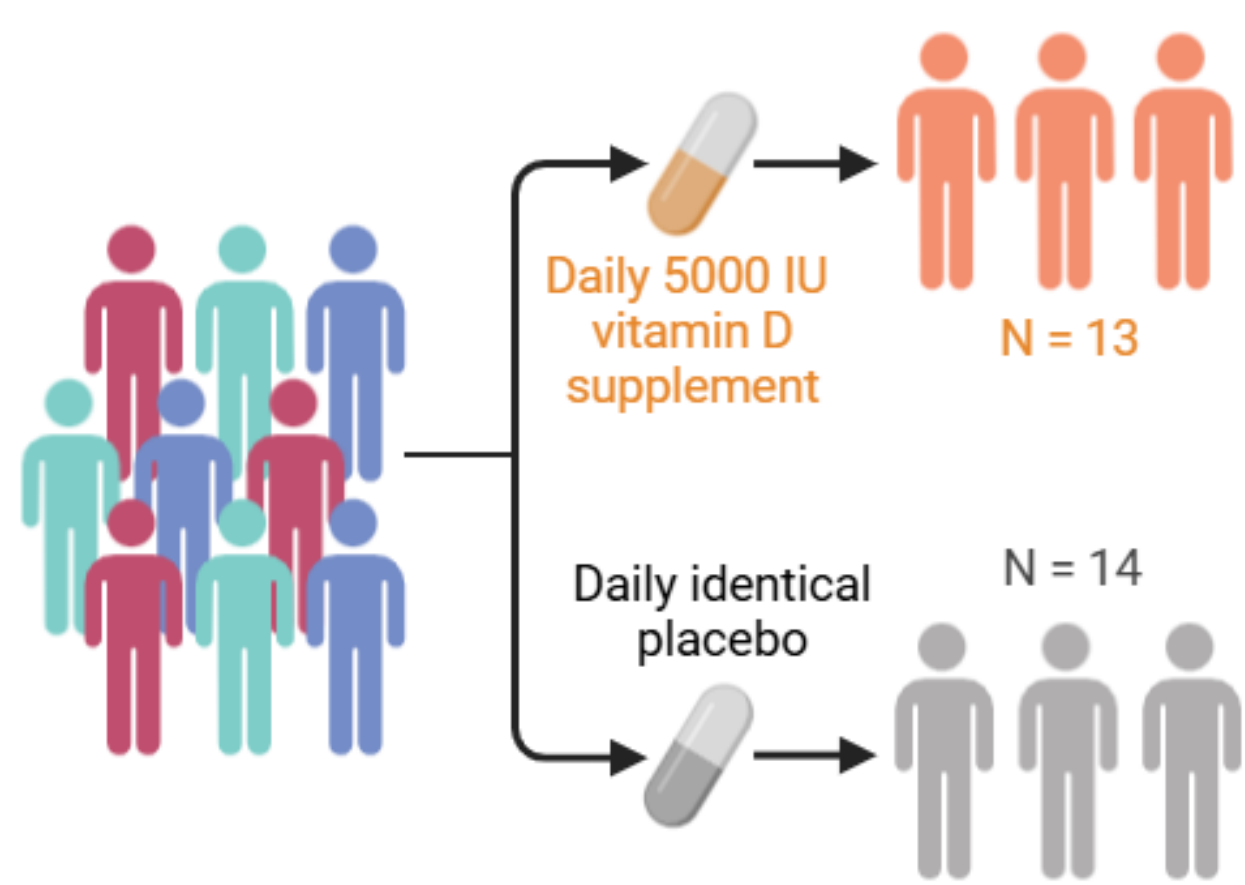


Chronic inflammation of the airways

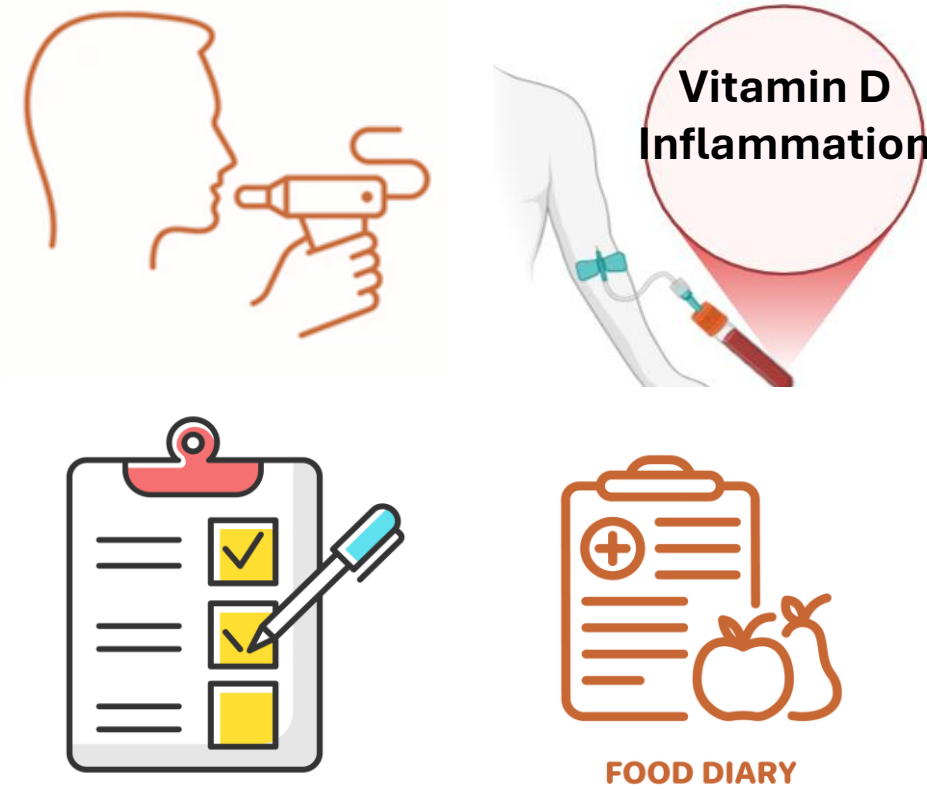
Lower vitamin D levels in asthmatics = Impaired lung function



## How we solve the problem



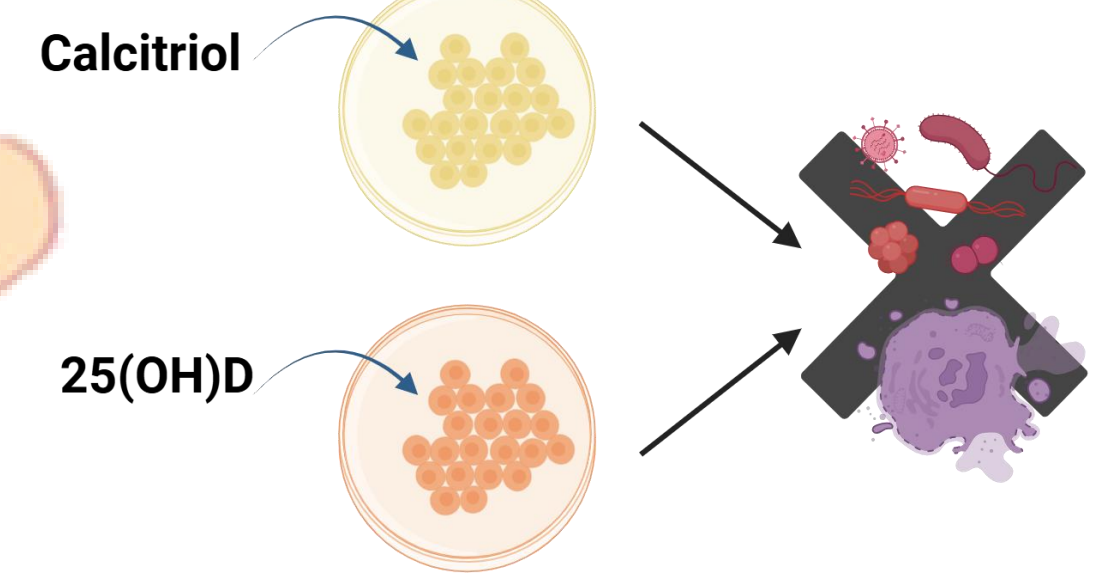
Week 1      Week 6      Week 12



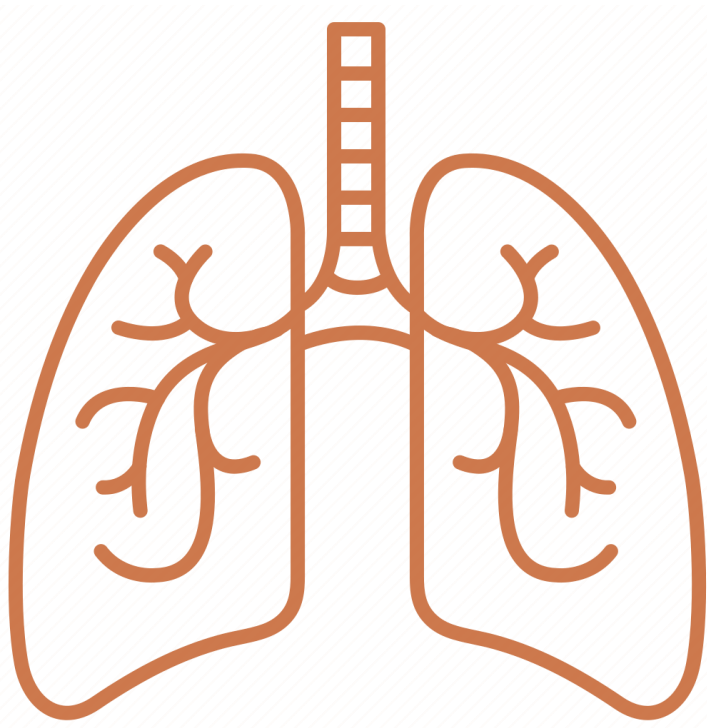
Can vitamin D increase secretion of antimicrobial products to decrease viral infections in asthmatics?

How?

Do different forms of vitamin D do the same thing?



## The sunshine solution



Vitamin D significantly improved lung function

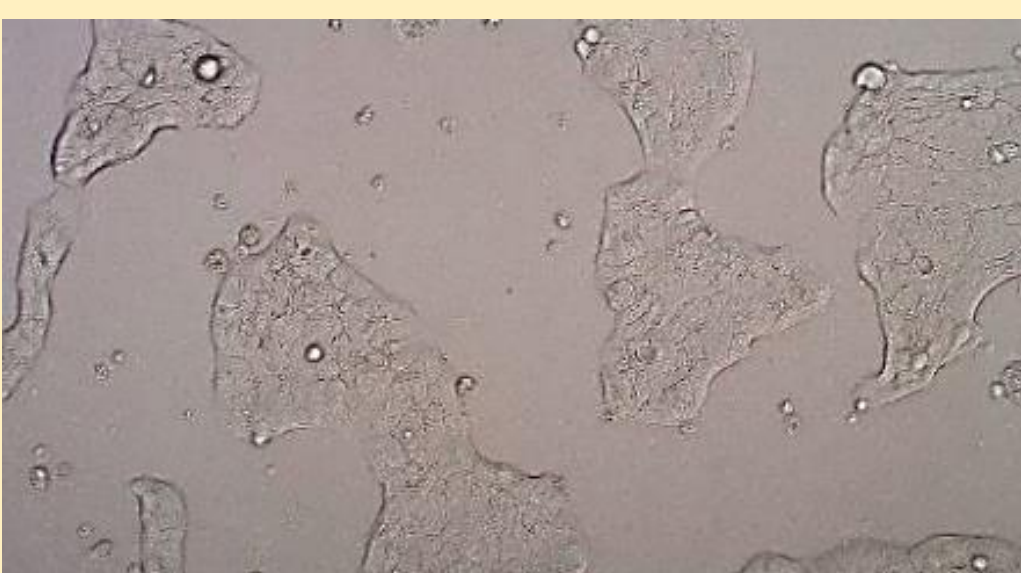


Vitamin D increased asthma control

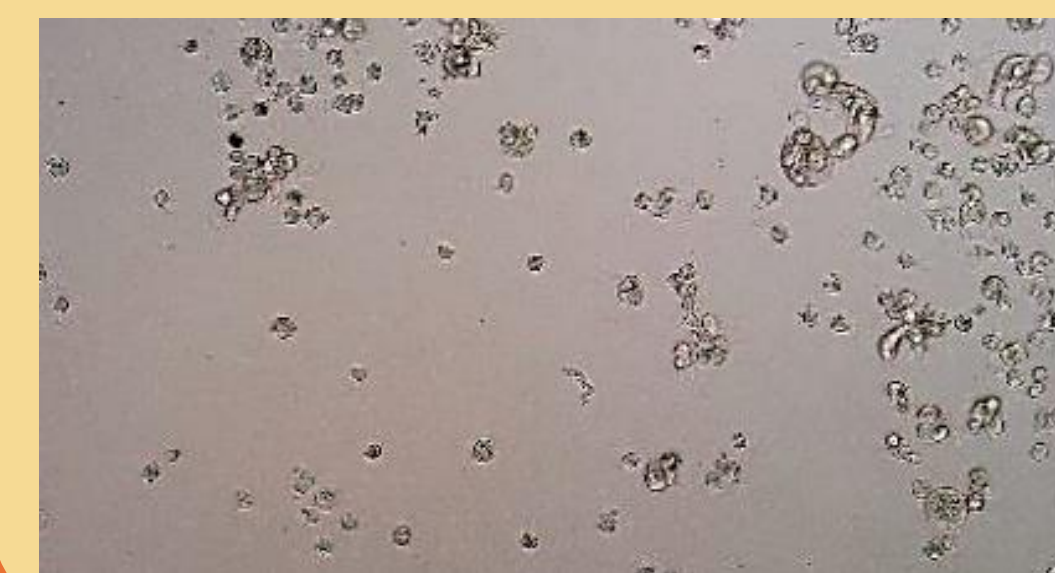


Highly variable response

Cells treated with calcitriol proliferated normally and formed usual cellular structures



Cells treated with 25(OH)D did not proliferate normally and formed unusual cellular structures



Focus traditionally on calcitriol as the most effective form  
Should this switch to 25(OH)D?

## What this means for patients

- Vitamin D significantly improved lung function
- Asthmatics are at risk of vitamin D deficiency
- To see improvements, asthmatics may require ten times more vitamin D than the current recommendation

## What next?



Revisit current guidelines on recommended vitamin D intake



Are we focused on the most effective form of vitamin D?

Not one size fits all  
Specific guidelines for:

- Patients with asthma
- Black and ethnic minorities

