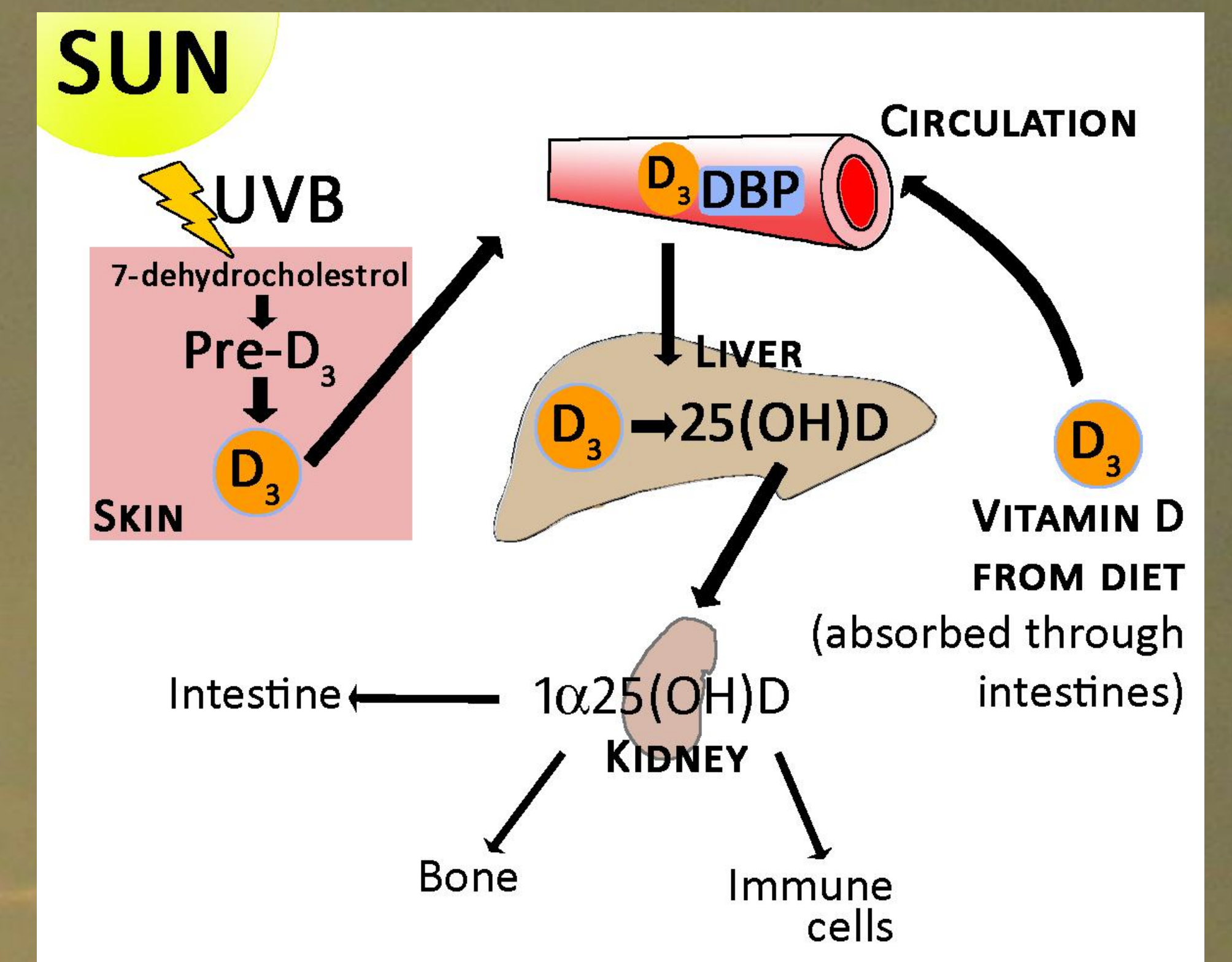


# WPI

# Vitamin D Deficiency in Massachusetts

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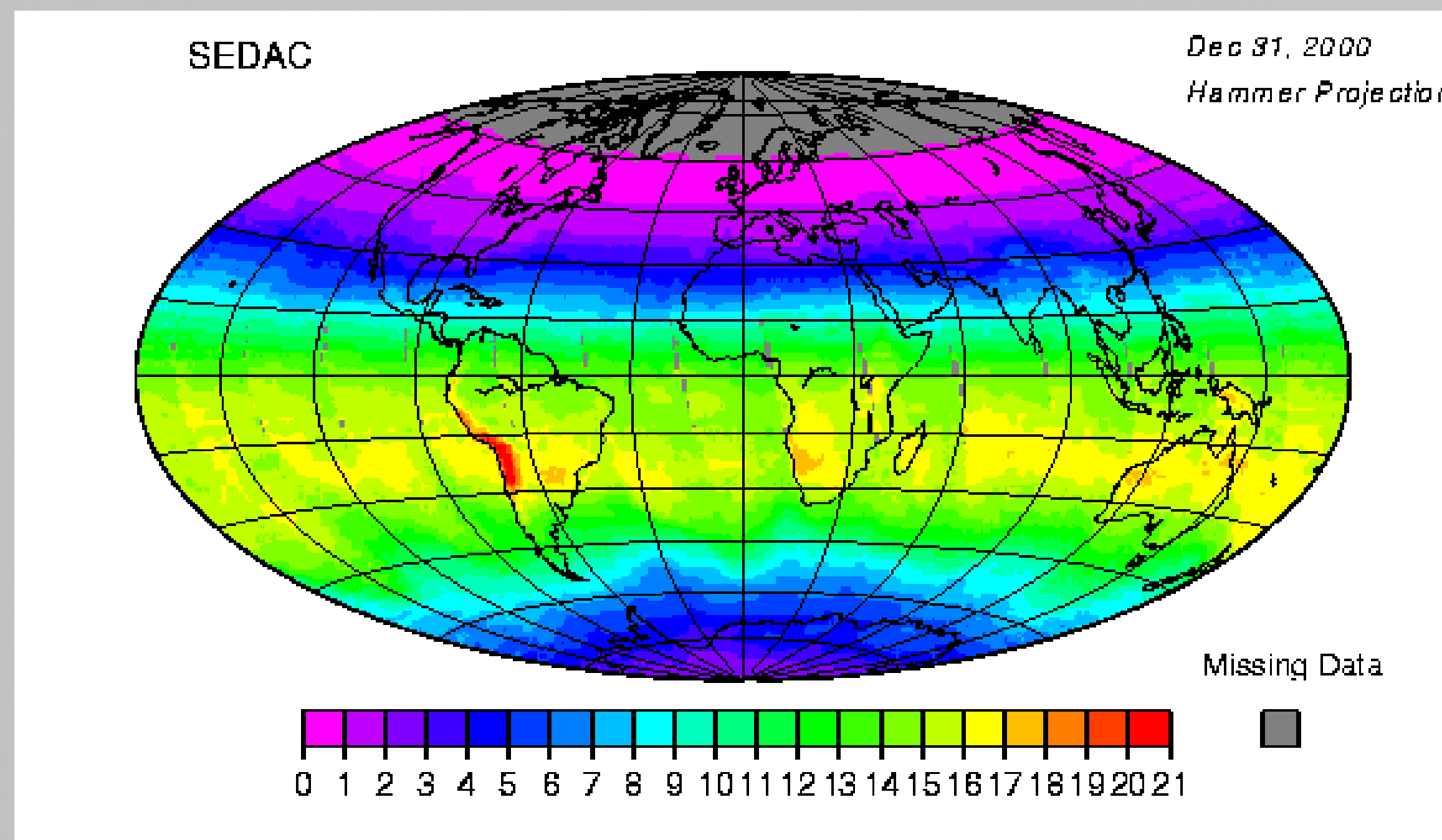


## Project Goals

Our project aims to decrease the prevalence of Vitamin D deficiency in Massachusetts and to educate residents about the dangers of deficiency and how they can prevent it.

## Background

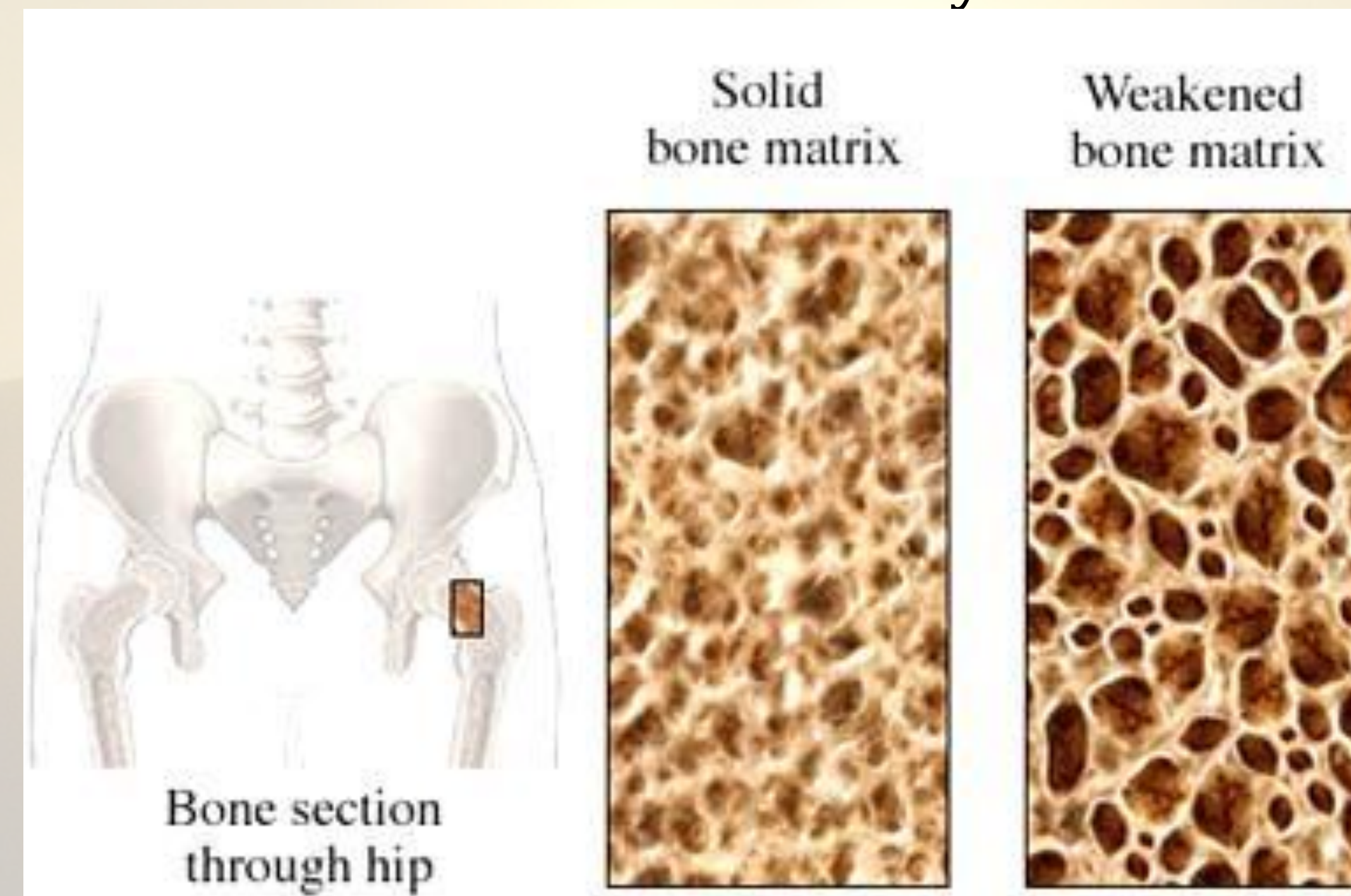
- The body's main source of Vitamin D is sunlight. Our bodies are capable of producing Vitamin D in our skin when it is exposed to UV radiation.
- Massachusetts is roughly located at the 42° latitude. At this latitude, the UV radiation is weak enough, especially during the winter, that our skin cannot synthesize Vitamin D.



- Foods that contain considerable amounts of Vitamin D are not very common, and thus it is difficult to get sufficient Vitamin D from food alone.

## Problem

- More than 45-75% of Massachusetts residents are Vitamin D deficient
- Health issues related to Vitamin D deficiency
  - Osteomalacia (Rickets)
  - High Blood Pressure
  - Cancer (Colon, Breast, Prostate)
  - Type I Diabetes
  - Weakened Immune System



## Solution

- Change current medical practices:
  - Patients will be administered a nutrition panel when they visit their doctor
  - This test will inform people about all their body's nutrient levels
- If a person is found to be deficient:
  - Dieticians can educate people about how they can increase Vitamin D naturally
  - People can also take vitamin supplements
- Non profit group that would educate people about the dangers of Vitamin D deficiency
  - Distributing pamphlets
  - Making commercials
  - Selling cookbooks which contain healthier, high Vitamin D recipes

## Assessment

- Database
  - Contains the results of every patients' nutrition panel
  - Gives an accurate and easy to understand picture of how people's Vitamin D levels change over time
- Keep track of sales figures of Vitamin D supplements
- Keep track of the dissemination of information, such as the distribution of pamphlets or the number of cookbooks sold.

## Cost/Benefit

- Cost**
- Nutrition Panel Expensive
    - Time
    - Personnel
- Benefits**
- Inexpensive Supplements
    - Insurance covers cost
    - Improved Health

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