



# GREEN HEALTHCARE TOOLKIT

## Good for the planet and good for our bodies: Does a planetary health diet improve patient health?

### CLINICAL QUESTION

How effective and safe is encouraging a plant-rich, reduced-meat diet for patients, and how does it impact the earth?

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### BOTTOM LINE

Low-consumption of red and processed meat paired with increased vegetable and fruit intake is associated with a reduced risk of cardiovascular disease, diabetes, hypertension, colorectal cancer and all-cause mortality. This diet has a smaller environmental footprint resulting in less freshwater, land and energy use and decreased greenhouse gas emissions.

### EVIDENCE

#### PROCESSED MEAT CONSUMPTION

Observational data suggests that consumption of cured, salted, smoked, dried and canned meats are associated with an increased risk of colon cancer<sup>1,2</sup>, type 2 diabetes<sup>3</sup>, cardiovascular mortality and all-cause mortality.<sup>4,5</sup>

Meta-analysis of 13 cohort studies showed processed meat consumption was associated with an increased risk of all-cause mortality in both men (RR 1.22; 95% CI 1.13-1.31) and women (RR 1.23; 95 % CI 1.19-1.27). The RR for a 50 g/d increase in processed meat intake was 1.25 (95 % CI 1.07-1.45).<sup>4</sup>

#### RED MEAT SUBSTITUTIONS

Replacing red meat with chicken, fish, or plant protein is associated with a lower incidence of type 2 diabetes<sup>6</sup>, coronary heart disease<sup>7</sup>, dementia<sup>8</sup>, cardiovascular<sup>7,8</sup>, and all-cause mortality.<sup>7,8</sup>

A meta-analysis of 13 prospective cohort studies showed that those in the highest category of plant protein intake had a lower risk of all-cause mortality (pooled effect size 0.92, 95% CI 0.87-0.97) than those in the lowest intake category. A 3% increase in plant protein for energy per day resulted in a 5% drop in mortality.<sup>7</sup>

#### PLANT-RICH DIETS

Observational data has demonstrated that diets rich in fruits, vegetables, nuts and legumes decrease the incidence of hypertension<sup>9</sup>, type 2 diabetes<sup>9,13</sup>, coronary heart disease<sup>10</sup>, cataracts<sup>11</sup> and all-cause mortality<sup>12,13</sup>.

A systematic review and meta-analysis of 12 prospective cohort studies with 508,861 participants demonstrated improved hazard ratios for the highest adherence to plant-based diets (PBDs) as compared to the lowest level

of adherence - 0.90 (95% CI: 0.82-0.99) for all-cause mortality and 0.77 (95% CI: 0.70-0.86) for coronary heart disease (CHD) mortality.<sup>13</sup>

## ENVIRONMENTAL IMPLICATIONS

Plant-rich diets are more sustainable with lower greenhouse gas emissions<sup>14,15,17</sup>, and lower rates of land<sup>14,15</sup>, water<sup>14,15,16</sup> and energy use<sup>15</sup>.

## LIMITATIONS

The majority of evidence supporting dietary interventions relies on observational data, which may be subject to multiple confounders.

## CONTEXT

The EAT-Lancet Commission aims to develop global targets based on best evidence for healthy diets and sustainable food production. The suggested planetary diet is not only rich in vegetables, fruits, nuts, whole grains and legumes with minimal or no consumption of processed and red meat, it also promotes unsaturated oil use and limited intake of added sugar and refined carbohydrates.<sup>18</sup>

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