

## F

## Evidence Maps

As part of the committee's approach to the evaluation of data, evidence maps were developed to assist the committee in organizing its review of the available evidence for each indicator of interest. No effort was made to "fine tune" these maps, but rather they were an initial tool used by the committee to quickly summarize the nature of the available data. The evidence maps below show the evidence from mechanistic and animal data, observational studies, and randomized controlled trials (RCTs). In its evaluation of RCT evidence, the committee considered the study design and whether an indicator was pre-specified as a primary or secondary outcome. Overall, the committee evaluated individual studies and when needed, took methodological differences into account when categorizing a study for inclusion in the evidence maps. However the committee acknowledges the variability in the quality of studies within and across categories, and relied on its expert judgment and a detailed evaluation of each study when drawing conclusions about the relevance and application of an indicator to further consideration in the DRI process. Chapter 4 provides detailed text on each of the key studies that were considered by the committee for the selection of an indicator.

**TABLE F-1** Evidence Map for Cancer/Neoplasms

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
<b>Calcium</b>					
All cancers	✓	✓	✓	✓ <sup>b</sup>	✓ <sup>b</sup>
Breast cancer	—	—	✓	—	—
Colorectal cancer	✓	✓	✓	✓ <sup>b</sup>	✓ <sup>b</sup>
Colorectal adenoma	✓	✓	✓	✓	—
Prostate cancer	—	✓	✓	—	—
<b>Vitamin D</b>					
All cancers	✓	✓	✓	—	✓ <sup>b</sup>
Breast cancer	—	—	✓	—	✓ <sup>b</sup>
Colorectal cancer	✓	✓	✓	—	✓ <sup>b</sup>
Colorectal adenoma	✓	✓	✓	—	✓ <sup>b</sup>
Prostate cancer	—	—	✓	—	—

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

<sup>b</sup>Limited data.

**TABLE F-2** Evidence Map for Cardiovascular Diseases (CVD)/Hypertension

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcome <sup>a</sup>
Calcium	✓	✓	✓	—	✓ <sup>b</sup>
Vitamin D	✓	✓	✓	—	✓ <sup>b</sup>

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

<sup>b</sup>Limited data.

**TABLE F-3** Evidence Map for Diabetes (Type 2) and Metabolic Syndrome

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Vitamin D	✓	✓	✓	✓	✓

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

**TABLE F-4** Evidence Map for Falls and Physical Performance

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Calcium	✓	✓	✓	✓	✓
Vitamin D	✓	✓	✓	✓	✓

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

**TABLE F-5** Evidence Map for Immune Function

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Vitamin D					
Asthma	✓	✓	✓	—	—
Diabetes (Type 1)	✓	✓	✓	—	—
Irritable bowel and crohn's disease	✓	✓	✓	—	—
Multiple sclerosis	✓	✓	✓	—	—
Rheumatoid arthritis	✓	—	✓	—	—
Systemic lupus erythematosus	✓	✓	✓	—	—
Tuberculosis	✓	✓	✓	✓	✓
Influenza/ Upper respiratory infections	✓	✓	✓	✓	—

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

**TABLE F-6** Evidence Map for Neuropsychological Functioning

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Vitamin D					
Autism	✓	✓	✓	—	—
Cognitive Function	✓	✓	✓	—	—
Depression	✓	—	✓	✓	—

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not prespecified by the investigators.

**TABLE F-7** Evidence Map for Preeclampsia of Pregnancy

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Calcium	—	—	✓	✓	✓
Vitamin D	—	—	✓	—	—

NOTE: ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

**TABLE F-8** Evidence Map for Bone Health

Indicator	Mechanistic Data	Animal Data	Observational Studies	Randomized Trials	
				Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
Calcium absorption	✓	✓	✓	✓	✓
Calcium balance	✓	✓	✓	✓	✓
BMD/BMC	✓	✓	✓	✓	✓
Fracture risk	✓	✓	✓	✓	✓
Osteomalacia/ rickets	✓	✓	✓	✓	✓
				Randomized Trials	
Intermediate	Mechanistic Data	Animal Data	Observational Studies	Primary Outcome	Secondary or Non-Pre-specified Outcomes <sup>a</sup>
25OHD	✓	✓	✓	✓	✓
PTH	✓	✓	✓	✓	✓

NOTE: Data may reflect studies designed to study combined calcium and vitamin D administration, calcium alone, or vitamin D alone. ✓ = evidence is published; — = no available evidence.

<sup>a</sup>Secondary outcomes often were not pre-specified by the investigators.

