

Cluster 1 - Males, animals, cellular mechanisms		Cluster 2 - Humans, lifestyle, risk		Cluster 3 – Female, age groups	
Keyword	Occurrences	Keyword	Occurrences	Keyword	Occurrences
male	43990	humans	70556	female	43596
animals	32668	diet	19063	middle aged	26705
mice	11506	neoplasms	14054	aged	21477
rats	11445	risk factors	13982	adult	20199
liver	5485	prospective studies	6688	aged, 80 and over	5964
obesity	4782	breast neoplasms	6566	adolescent	4831
carcinogens	4494	case-control studies	5311	nutritional status	4774
colonic neoplasms	4427	colorectal neoplasms	4713	retrospective studies	4433
prostatic neoplasms	4293	surveys and questionnaires	4542	treatment outcome	4114
body weight	4247	cohort studies	3956	follow-up studies	3742
dietary supplements	4213	incidence	3791	stomach neoplasms	3681
dietary fats	4121	feeding behavior	3442	prognosis	3665
antioxidants	4016	united states	3393	child	3336
time factors	3997	body mass index	3326	young adult	3217
liver neoplasms	3831	smoking	3292		
disease models, animal	3525	life style	3066		
mice, inbred c57bl	3499	energy intake	2992		
inflammation	3442				
adenocarcinoma	3240				

Figure S1. MeSH generated key words.

Cluster 1 – Inflammation, obesity, metabolic conditions		Cluster 2 - Nutrition status, treatment, treatment outcomes		Cluster 3 - General lifestyle and study design terms		Cluster 4 – General field terms	
Keyword	Occurrences	Keyword	Occurrences	Keyword	Occurrences	Keyword	Occurrences
inflammation	1887	nutrition	1460	diet	1655	cancer	2662
obesity	1639	gastric cancer	659	breast cancer	1327	neoplasms	292
colorectal cancer	1335	malnutrition	642	mortality	643	health	230
oxidative stress	812	quality of life	506	prostate cancer	587	biology	226
apoptosis	709	prognosis	504	epidemiology	570	diseases	222
hepatocellular carcinoma	499	chemotherapy	459	physical activity	488	physiology	209
diabetes	442	head and neck cancer	397	meta-analysis	456		
insulin resistance	424	survival	380	exercise	375		
gut microbiota	420	sarcopenia	374	risk factors	367		
colon cancer	397	nutritional status	357	cardiovascular disease	356		
chemoprevention	363	pancreatic cancer	345	prevention	293		
metabolism	328	cachexia	286	lifestyle	286		
high-fat diet	327	weight loss	260	mediterranean diet	286		
metabolic syndrome	321	radiotherapy	243				
aging	258	body mass index	211				
epigenetics	241						

Figure S2. Author-generated keywords.

Supplemental Table S1. Search terms within the main query used to identify specific cancer types			
Cancer Type	Term(s) Queried in MeSH Field	Terms Queried in Abstracts (" " means "OR"; "." means any character; " * " means includes letters after stem word)	# of Records Returned
Bladder	Urinary Bladder Neoplasms	bladder cancer. cancer of the bladder bladder tumor bladder tumour	1451
Brain / Glioblastoma	Glioblastoma Brain Neoplasms Central Nervous System Neoplasms	glioblastoma. brain cancer. brain tumor. brain tumour. brain neoplasm. meningioma glioma astrocytic tumor* astrocytoma ependymoma meningeal tumor* oligodendroglioma	879
Breast	Breast Neoplasms Mammary Neoplasms, Animal	breast cancer. breast tumor. breast tumour. breast neoplas. mammary cancer. mammary tumor. mammary tumour mammary neoplas. ductal carcinoma lobular carcinoma DCIS	10373
Cervical	Uterine Cervical Neoplasms Cervical Intraepithelial Neoplasia	cervical cancer. cancer of the cervix cervical neoplas* cervical intraepithelial neoplas* cervix dysplasia	1333
Colorectal	Colorectal Neoplasms Intestinal Polyps	colorectal cancer. colorectal tumor. colorectal tumour. colon cancer. rectal cancer.	11942
Endometrial	Endometrial Neoplasms	endometrial cancer. endometrial tumor. endometrial tumour. endometrial carcinoma	1609
Esophageal cancer	Esophageal Neoplasms	esophageal cancer. esophageal tumor. tumor of the esophagus esophag. cancer	2881
Gallbladder	Gallbladder Neoplasms Biliary Tract Neoplasms	Gallbladder cancer. cancer of the gallbladder gallbladder neoplasm gallbladder carcinoma gallbladder tumor*	387
Kidney	Kidney Neoplasms Urethral Neoplasms	kidney cancer. renal cancer. kidney tumor* renal tumor* Wilms tumor* grawitz tumor* hypernephroma renal cell carcinoma transitional cell carcinoma urothelial cancer. urothelial carcinoma	1097
Liver	Liver Neoplasms Liver Neoplasms, Experimental	liver cancer. hepatic cancer. liver tumor* hepatic tumor* hepatocarcinoma hepatocellular carcinoma hepatoma cholangiocarcinoma	7178
Lung	Lung Neoplasms	lung cancer. lung tumor* pulmonary tumor pulmonary tumour small cell carcinoma of the lung	4014
Leukemia	Leukemia	leukemia.	1872
Mouth, Nasopharynx, & Larynx	Head and Neck Neoplasms Laryngeal Neoplasms Pharyngeal Neoplasms Mouth Neoplasms Tongue Neoplasms Oropharyngeal Neoplasms Hypopharyngeal Neoplasms Oral Leukoplakia	mouth cancer. oral cancer. oral tumor* nasopharyngeal cancer. nasopharyngeal tumor* pharyn. tumor* larynx tumor*	3282
Ovarian	Ovarian Neoplasms	ovarian cancer. ovarian tumor* tumor of the ovar. tumour of the ovar. Endometrioid carcinoma cystoadenoma. cystadenocarcinoma. Androblastoma. arrhenoblastoma* sertoli.leydig Brenner granulosa cell tumor* luteoma* luteinoma*	1242
Pancreatic	Pancreatic Neoplasms	pancreatic neoplas* pancreas neoplas* pancreatic cancer* pancreas cancer* pancreatic carcin* pancreas carcin* pancreatic tumor* pancreas tumor* pancreatic metasta* pancreas metasta* pancreatic malign* pancreas malign* pancreatic adenocarcinoma* pancreas adenocarcinoma*	2412
Prostate	Prostatic Neoplasms	prostate cancer. prostate tumor* prostatic tumor* prostatic adenocarcinoma prostatic carcinoma prostatic cancer. prostate neoplasm* prostatic neoplasm*	5321
Skin	Skin Neoplasms	skin cancer. skin tumor* melanoma. basal.cell.carcinoma. merkel.cell.carcinoma cutaneous.T.cell.lymphoma.	1751
Stomach	Stomach Neoplasms	stomach cancer. stomach tumor. stomach tumour. gastric cancer. gastric carcinoma. gastrointestinal stromal tumor*	4765

Supplemental Table S2. Search terms within the main query used to identify dietary energy modulation or pattern		
Diet MeSH term	Terms Queried in Abstracts (" " means "OR"; "." means any character; " * " means includes letters after stem word)	# of Records Returned
Dietary energy modulation		
Caloric Restriction	caloric.restriction energy.restrict. calorically.restricted energy.restricted low.calorie low.caloric low.energy.diet hypocaloric	965
Ketogenic or low-carbohydrate	ketogenic keto diet ketosis low.carb* carbohydrate.restricted reduced.carbohydrate high.protein.diet diet high in protein Atkins diet	1312
High Fat	high.fat diet. high.in.fat HF.diet HFD	4936
Low Fat	low fat diet. low in fat LF.diet LFD	355
Diet pattern		
DASH Diet	dash diet dietary approaches to stop hypertension	137
Gluten Free	gluten.free gluten-free gluten.restrict*	307
Healthy Diet Patterns	healty.eating.index healthy.diet healthy.lifestyle.index prudent.diet. diet.quality diet.score	1460
Mediterranean Diet	mediterranean.diet mediterranean eating mediterranean.style.diet meddiet	1045
Paleolithic	paleo.diet. paleolithic.diet*	17
Plant Based	vegetarian* vegan macrobiotic plant.based	919
Time Restricted	alternate.day.fasting time.restricted fasting.mimicking intermittent.energy.restriction intermittent.calorie.restriction intermittent.caloric.restriction intermittent.feeding	95
Western Diet	western.diet. western.style.diet. western.pattern.diet. american.diet cafeteria.diet CAF.diet obesogenic diet	975

Supplemental Table S3. Search terms within the main query used to identify dietary components		
Diet Term	Search Term (" " means "OR"; "." means any character; " * " means includes letters after stem word)	# of Records Returned
Alcohol	alcohol wine liquor beer	7243
Carbohydrates	dietary carbohydrate. carbohydrate bread pasta	2965
Chocolate	chocolate cocoa	154
Coffee/Tea	coffee.tea	2885
Dairy	dairy products milk cheese cultured milk product. yogurt yoghurt	2224
Dietary Fat/Oil	dietary fat butter ghee cholesterol oil margarine	4978
Dietary Fiber	fibre fiber wheat bran. roughage. resistant starch	3773
Fish/Seafood	fish seafood shellfish	3453
Fried Food	fried.food.	114
Fruit	fruit berry berries citrus melon. pome.	8203
Genetically Modified	genetically.modified food genetically.modified organism GMF GMO	376
Honey	honey	114
Nuts	nuts seeds	946
Organic Food	organic	870
Plant Protein	plant.protein plant.derived.protein plant.based.protein pea.protein vegetable.protein	150
Poultry	poultry chicken turkey duck goose	847
Processed Food	processed.food fast food convenience.food. ready.to.eat ready.prepared.food.	301
Red Meat	red.meat beef lamb goat veal	1531
Refined Grain	refined.grain white.flour refined.carbohydrate	256
Saturated Fat	saturated.fat saturated.dietary.fat	1318
Soy	soy natto tempeh tofu bean.curd miso	1162
Spices	spice. seasoning	467
Sugar	dietary sugar dietary sucrose table sugar white sugar added sugar. corn syrup sugar.sweetened.beverage. soda cola	333
Unsaturated Fat	unsaturated.dietary.fat. dietary.oil. oil oils dietary.omega.3 omega.3.fatty.acid. MUFA PUFA	3940
Vegetables	vegetable.	6714
Whole Grain	whole.grain wholegrain whole.wheat whole.meal unrefined grain. coarse.grain unprocessed.grain	731

Supplemental Table S4. Search terms within the main query used to identify diet nutrients, supplements, and vitamins		
Diet Term	Search Term (" " means "OR"; "." means any character; " * " means includes letters after stem word)	# of Records Returned
Dietary Supplements	dietary.supplement* food.supplement* nutraceutical. neutraceutical. herbal.supplement.	3104
Micronutrients	micronutrient.	1222
Minerals	mineral.	1445
Phytochemicals	dietary.phytochemical. plant.bioactive.compound. plant.biologically.active.compound. plant.derived.chemical. plant.derived.chemicals plant.bioactive.coumpound. phytochemical. phytonutrient. plant.derived.compound. flavanol. flavonoid. polyphenol. carotenoid alkaloid amines cyanogenic.glycosides diterpenes glucosinolate. monoterpenes non-protein amino acids phenylpropanes polyacetylenes polyketides sesquiterpenes tetraterpenes triterpenes saponins plant steroids	7801
Prebiotics	prebiotic.	378
Probiotics	probiotic.	751
Synbiotics	synbiotic.	109
Vitamins	vitamin.	7240

Supplemental Table S5. Summary of the relevant gaps in the diet and cancer literature

Cancer Type	Diet Type											Diet Component																			Micronutrients								
	Paleolithic	Time Restructed	DASH	Gluten Free	Low Fat	Western-Style	Calorie Restriction	Plant Based	Healthy Eating	Mediterranean Diet	Ketogenic Diet	Honey	Chocolate	GMO	Plant Protein	Processed	Refined Grain	Sugar	Fried Food	Spices	Whole Grain	Organic	Saturated Fat	Soy	Nuts	Poultry	Red Meat	Dairy	Coffee	Fish	Unsaturated Fat	Synbiotics	Prebiotics	Probiotics	Minerals	Micronutrients	Phytochemicals	Supplements	Vitamins
Bladder	X	X	X	X	X	X	X					X	X	X	X	X	X	X	X	X	X		X		X	X						X	X	X					
Brain	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X			
Breast	X			X								X		X																		X							
Cervical	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X				
Colorectal	X											X			X																		X		X				
Endometrial	X	X	X	X	X							X	X	X	X	X	X	X	X	X		X					X						X	X	X				
Esophageal	X	X	X		X	X	X					X	X	X	X	X	X	X		X	X	X	X	X									X	X	X				
Gallbladder	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X	
Kidney	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							X	X	X				
Leukemia	X	X	X		X	X		X				X	X	X	X	X	X	X	X		X	X	X	X	X								X	X	X				
Liver	X	X	X	X								X	X	X	X	X	X	X	X		X												X	X	X				
Lung	X	X		X								X	X	X	X	X	X	X			X												X	X	X				
Mouth/Nasopharynx	X	X	X	X	X	X	X					X	X	X	X	X	X	X			X	X	X	X	X								X	X	X				
Ovarian	X	X	X	X								X	X		X	X	X	X	X	X		X			X								X	X	X	X			
Pancreatic	X	X	X									X	X	X	X	X	X	X	X	X	X												X	X	X				
Prostate	X	X	X	X								X	X	X		X			X	X													X	X	X				
Skin	X	X	X	X								X	X	X	X	X	X	X	X	X	X		X	X		X	X						X	X	X				
Stomach	X	X	X		X							X	X	X	X	X	X	X	X														X	X					

X indicates a low number or no papers identified in our analysis for this combination of cancer and diet term