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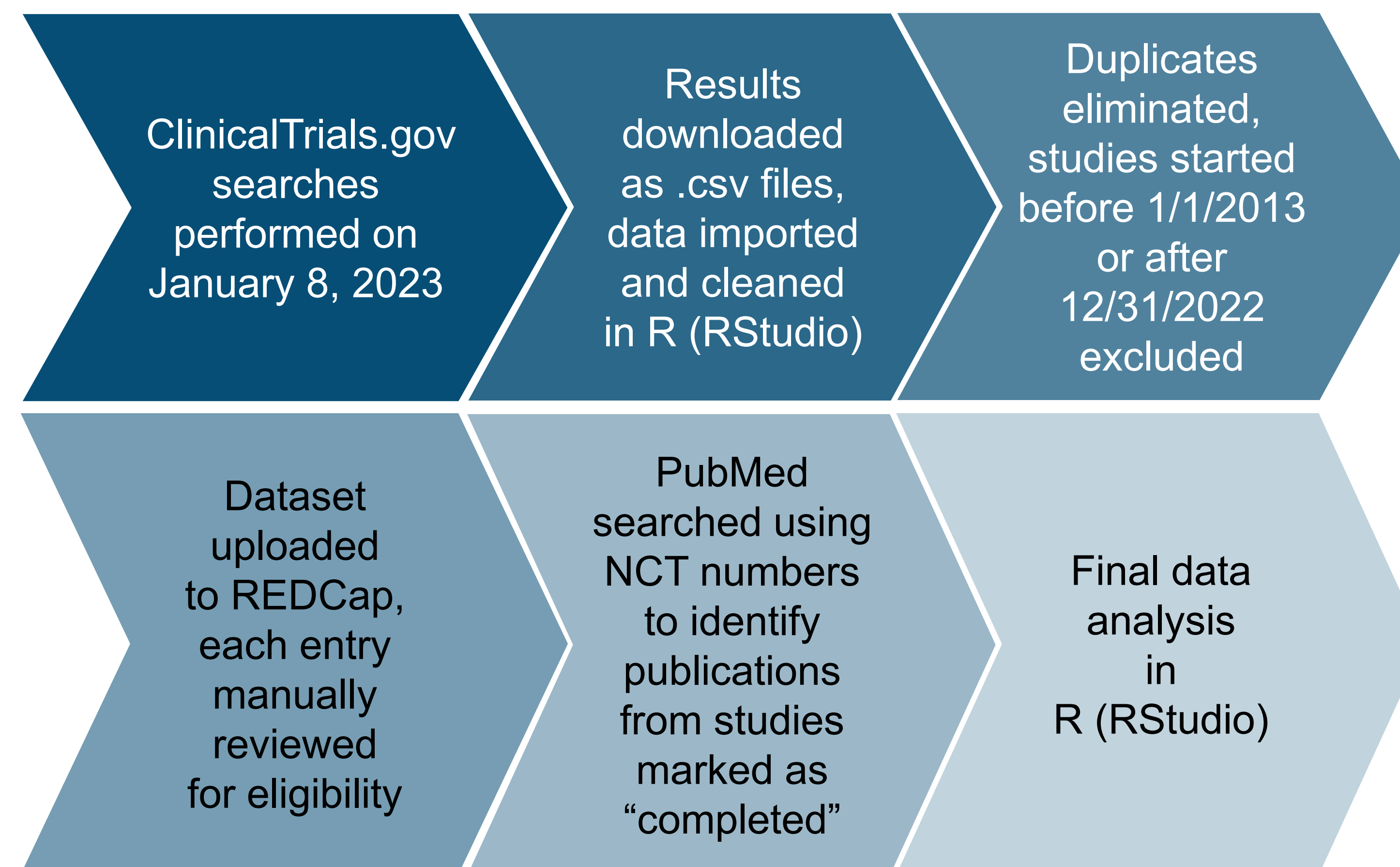
## Background

Numerous organizations, including the World Cancer Research Fund/American Institute for Cancer Research<sup>1</sup> and the American Cancer Society<sup>2</sup>, have found that the scientific evidence to support development of clinical oncology nutrition practice guidelines is limited. Similarly, a recent systematic evidence review by the Agency for Healthcare Research and Quality (AHRQ) found that methodological limitations of nutrition intervention studies surrounding cancer treatment impair translation of findings into clinical practice or guidelines<sup>3</sup>.

**The goal of this scoping review project was to describe the types of nutrition-related studies that are in progress or have been recently completed among cancer patients, and evaluate factors related to completion and publication of these studies.**

## Methods

Project protocol is publicly available via Open Science Framework (<https://osf.io/mvwxp>).



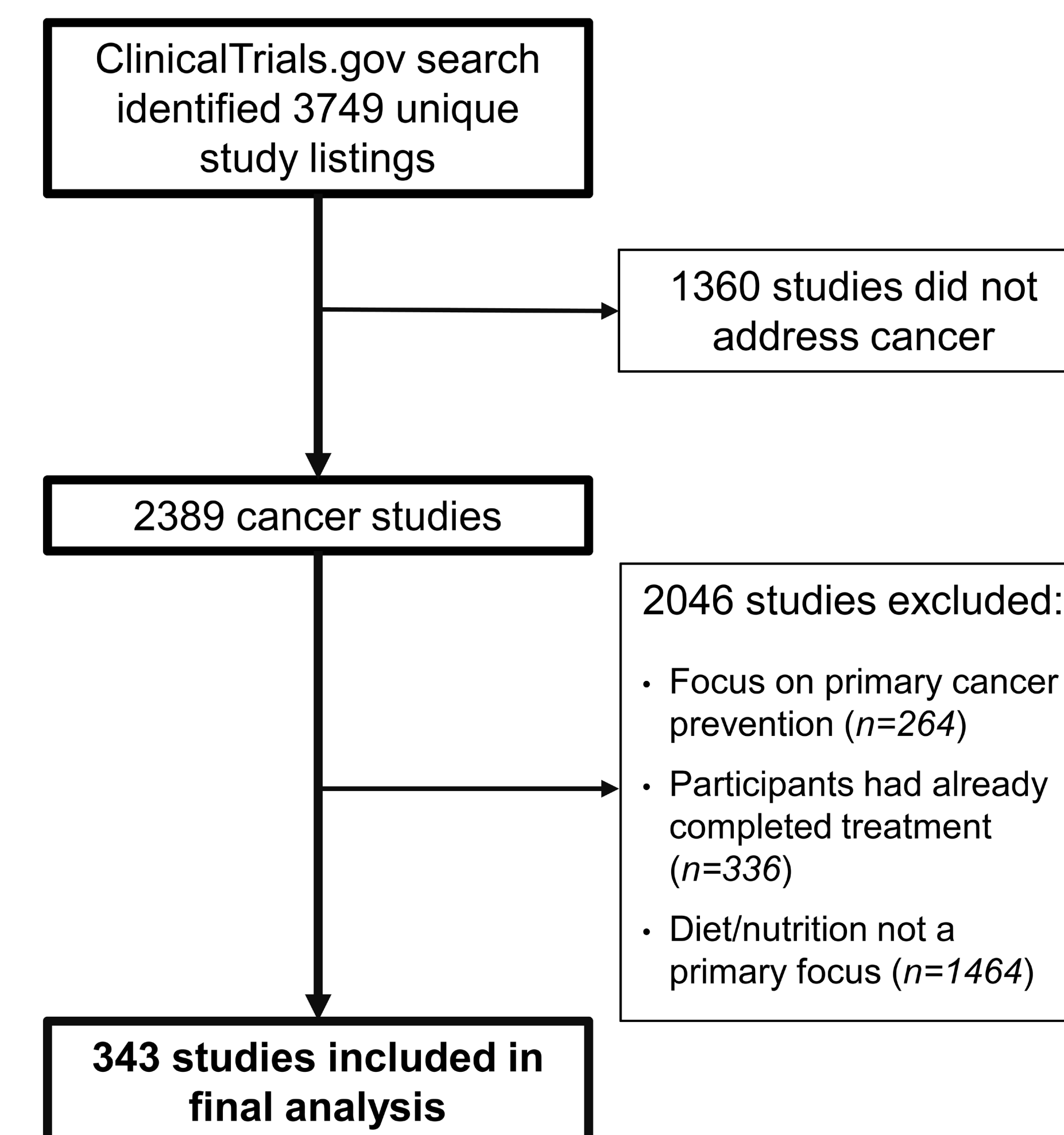
**Included:** studies of patients actively receiving cancer treatment.

**Excluded:** primary prevention studies, participants who had completed active treatment.

## References

- Clinton SK, et al. *J Nutr* 2020;150(4):663-671. PMID: 31758189
- Rock CL, et al. *CA Cancer J Clin* 2022;72(3): 230-262. PMID: 35294043
- Parsons HM, et al. *JNCI Cancer Spectr* 2023;7(3):pkad035. PMID: 37212631

## Figure. Identification of eligible studies



Search terms:  
“cancer AND nutrition”,  
“cancer nutrition”,  
“oncology AND nutrition”,  
“diet AND cancer”,  
“cancer, oncology, neoplasms, nutrition, diet”

## Results

**Table 1. Characteristics of the included studies**

Characteristic	Intervention studies n=273 n (%)	Observational studies n=70 n (%)
<b>Study status (as of January 2023)</b>		
Not yet recruiting	38 (13.9)	7 (10.0)
Recruiting	69 (25.3)	16 (22.9)
Completed	94 (34.4)	25 (35.7)
Suspended, terminated or withdrawn	24 (8.8)	5 (7.1)
Unknown status	46 (16.8)	17 (24.3)
<b>Intervention/exposure</b>		
Dietary supplements	107 (39.2)	9 (12.9)
Diet in conjunction with a drug trial	46 (16.8)	3 (4.3)
Behavioral interventions	39 (14.3)	5 (7.1)
Fasting-mimicking, time-restricted feeding	11 (4.0)	1 (1.4)
Ketogenic diet	13 (4.8)	0
Food security status	1 (0.4)	1 (1.4)
<b>Outcome measures</b>		
Feasibility	21 (7.7)	3 (4.3)
Adherence	20 (7.3)	2 (2.9)
Adverse Events	70 (25.5)	16 (22.9)
Quality of life	103 (37.7)	14 (20.0)
Fatigue	13 (4.8)	1 (1.4)
Weight/body composition change, sarcopenia	125 (45.8)	19 (27.1)
Microbiome alteration	18 (6.6)	4 (5.7)
Recurrence	3 (1.1)	0
Survival	50 (18.2)	13 (18.6)
Cost	10 (3.6)	2 (2.9)
<b>Study location</b>		
US	66 (24.2)	9 (12.9)
Non-US	207 (75.8)	61 (87.1)
<b>Study funding (not mutually exclusive)</b>		
Industry	26 (9.5)	4 (5.7)
NIH	20 (7.3)	1 (1.4)
Other	265 (97.1)	68 (97.1)

**Table 2. Characteristics of completed studies by publication status (as of December 2023)**

Characteristic	Published n=35 n (%)	Not published n=84 n (%)
<b>Study design</b>		
Intervention study	31 (88.6)	63 (75.0)
Observational study	4 (11.4)	21 (25.0)
<b>Cancer site</b>		
Breast	2 (5.7)	10 (11.9)
Colorectal	6 (17.1)	8 (9.5)
Esophageal	2 (5.7)	8 (9.5)
Head and neck	4 (11.4)	5 (6.0)
Prostate	1 (2.9)	7 (8.3)
Lung	1 (2.9)	7 (8.3)
Gastric	2 (5.7)	2 (2.4)
Ovarian	1 (2.9)	2 (2.4)
Neuroendocrine	0	3 (3.6)
Lymphoma	0	3 (3.6)
Leukemia	0	2 (2.4)
Brain	2 (5.7)	0
Bladder	0	2 (2.4)
Myeloma	0	1 (1.2)
<b>Intervention/exposure</b>		
Dietary supplements	10 (28.6)	35 (41.7)
Fasting-mimicking diet, time-restricted feeding	3 (8.6)	2 (2.4)
Ketogenic diet	1 (2.9)	1 (1.2)
<b>Study location</b>		
US	3 (8.6)	20 (23.8)
Non-US	32 (91.4)	64 (76.2)
<b>Study funding</b>		
Industry	5 (14.3)	10 (11.9)
NIH	2 (5.7)	5 (6.0)
Other	34 (97.1)	82 (97.6)

## Summary of the findings

- Similar to the AHRQ review<sup>3</sup>, this project found that more oncology nutrition research is being conducted outside of the US than within the US.
- Most common outcomes: changes in body weight/composition (n=144), quality of life (n=117), adverse events (n=86), and survival (n=63).
- Only 21 (6.1%) studies reported receiving funding from the US National Institutes of Health (NIH).
- Of the 119 studies marked as completed, only 35 (29.4%) had at least one article (mean:1.3, range:1-3) listed in PubMed as of December 2023.

## Conclusions

**More research is needed to support development of evidence-based oncology nutrition clinical practice guidelines. US federal funding agencies should prioritize rigorous oncology nutrition research with outcomes applicable to clinical practice. Additionally, efforts should be made to support researchers in completing studies and disseminating research findings, including studies with “null” results.**

## Limitations

- Data in ClinicalTrials.gov is largely entered by study investigators, often as open text without standardization.
- ClinicalTrials.gov listings may not be complete, accurate or current.
- Investigators do not always include NCT numbers in research publications, thus we may not have identified all associated publications
- Unable to evaluate quality/rigor of the individual studies.