Use of PRO-CTCAE in clinical trials has increased over time

Primary usage was in oncology randomized treatment trials, though PRO-CTCAE has also been used in other contexts

Patient-Reported Outcomes Version of the Common Terminology Criteria for Adverse Events (PRO-CTCAE) Use in Clinical Trials Based on Clinicaltrials.gov Data

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BACKGROUND

The PRO-CTCAE® item library enables patient self-reporting of symptoms in cancer clinical trials. It was released for public use as a companion to CTCAE v4.0, the gold standard for clinician-based assessment of adverse events. The aim of this analysis is to ***(1) understand how PRO-CTCAE has been used since its release*** and ***(2) explore how subsequent CTCAE updates could shape future changes***.

METHODS

- The searching feature of clinicaltrials.gov was used; “PRO-CTCAE” and “PRO CTCAE” were entered into the “outcome measures” and “other terms” fields to identify trials using PRO-CTCAE.
- Resulting trials were exported and manually reviewed by two independent reviewers. All available protocols and/or statistical analysis plans were also reviewed.
- Trial characteristics were descriptively analyzed with frequencies & relative frequencies.
- Number of trials by year posted on clinicaltrials.gov was tested for increasing trend using Poisson regression.
- CTCAE v5.0 changes were systematically reviewed & tabulated for impact to PRO-CTCAE.

RESULTS

- Initial search identified 353 potential trials of which 26 were excluded for having unknown or withdrawn study status. No other studies were excluded by manual review resulting in **327 trials** that included PRO-CTCAE as an outcome.
- 320 (98%) were in oncology, with 61 (19%), 54 (17%), and 39 (12%) enrolling patients with hematologic malignancies, breast cancers, and lung cancers, respectively.
- 18 (6%) trials enrolled patients under the age of 18. 268 (82%) trials were interventional, with most testing treatments (181 trials), and most using randomized designs (168 trials).

FIGURE 1

The number of trials using PRO-CTCAE significantly increased over time (p<0.001; Figure 1).

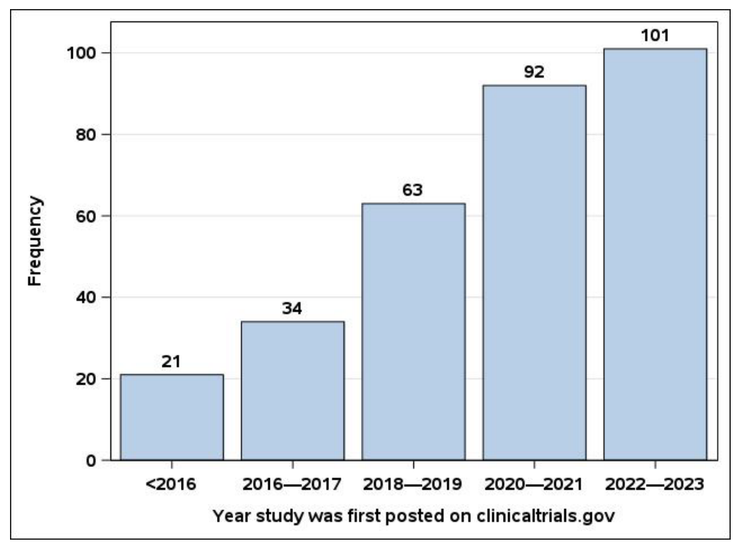
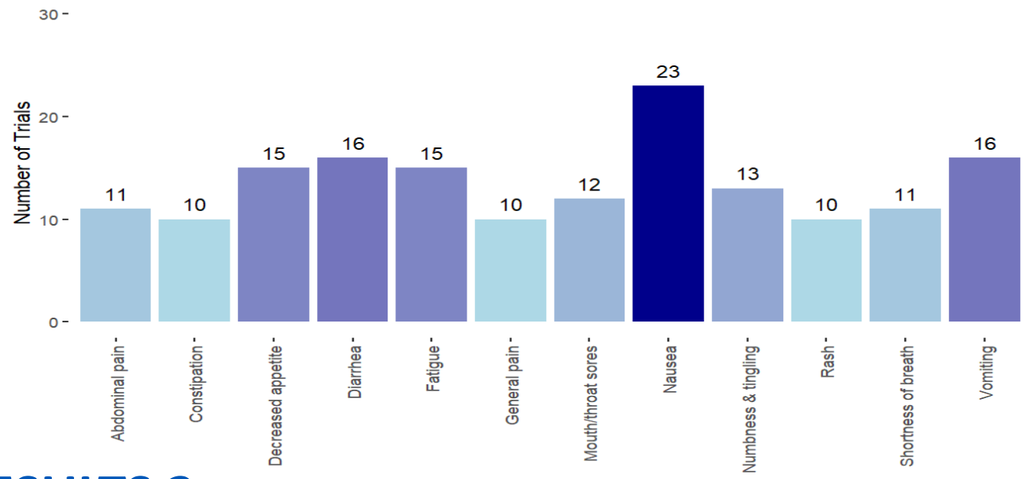


FIGURE 2

36 (11%) trials had protocols and/or statistical analysis plans available in clinicaltrials.gov, with most using randomized designs (28 trials). 5 (14%) trials reported using PRO-CTCAE items but did not specify which ones were included. The remaining 31 (86%) reported using an average of 11.4 PRO-CTCAE items. Most frequently used were nausea (23), diarrhea (16), and vomiting (16). An additional 9 items were used in at least 10 trials (figure below)



RESULTS 2

Compared to CTCAE v4.0, CTCAE v5.0 added 60 new adverse events, reviewers considered **13** to be potential candidates for patient self-reporting (e.g., generalized edema, eczema, and decreased vision). Additionally, 21 CTCAE v5.0 definition or grade clarifications should be reviewed for impact on existing PRO-CTCAE items.

CONCLUSION

PRO-CTCAE has had substantial and growing use in oncology trials since its release. Future explorations can include use in observational studies and/or cancer care and updating the item library to account for changes to CTCAE.

http://DueckLab.github.io