Study characteristics

First author, publication year	Objective	Study Design	Sample	Comparator groups/conditions	Year(s) of data collection	PRO Instruments
Abernethy, 2009 (55)	To determine whether academic oncology patients find e/Tablets logistically acceptable and a satisfactory means of communicating symptoms to providers during repeated clinic visits.	Single arm pilot study, one institution	n=66 patients with metastatic breast cancer, between the ages of 31 and 84 (mean 54 years)	Not Applicable – all participants were in one group	March – October 2006	FACT-G FACT-B, MDASI FACIT-Fatigue FACIT-Self Efficacy Patient Care Monitor
Andikyan, 2012 (56)	To evaluate the feasibility of capturing patient-reported outcomes electronically and to identify the most common distressing symptoms in women recovering from major gynecologic cancer surgery	Single arm pilot study, one institution	n=49 patients recovering from major gynecologic cancer surgery, 78% between the ages of 31 and 64 (median age 56)	Not Applicable – all participants were in one group	July 2009 – June 2011	Patient-language adaptation of NCI's CTCAE 3.0 (developed for prior STAR studies) EORTC QLQ-C30
Basch, 2005 (57)	To evaluate the feasibility of patient symptom self-reporting, and the usefulness of the Internet for PRO collection via a newly developed Web-based system that allows patients to enter and track their own symptoms	Single arm feasibility study, one institution	n=80 patients with gynecologic malignancies, between the ages of 40 and 69 (median age 57)	Not Applicable – all participants were in one group	April – September 2004	Patient-language adaptation of NCI's CTCAE 3.0 items Adapted ECOG Performance status
Basch, 2007 (60)	To explore the use of a computer interface for eliciting cancer patients' symptoms	Single arm feasibility study, one institution	n=107 patients with lung cancer, with most between the ages of 50 to 69 years (median age 62)	Not Applicable – all participants were in one group	June 2005 – March 2006	Patient-language adaptation of NCI's CTCAE 3.0 items EuroQoL EQ-5D Index Karnofsky Performance Status
Basch, 2016 (38)	To test whether systematic web-based collection of patient-reported symptoms during chemotherapy treatment, with automated alerts to clinicians for severe or worsening symptoms, improves health-related quality of life, survival, emergency room use, and hospitalization	Randomized controlled trial, two arms, one institution	n=766 patients with breast, lung, genitourinary, or gynecologic cancer; between the ages of 26 to 92 years (median age of 61 for intervention group and median age of 62 for usual care group)	Intervention group self-reported symptoms via STAR system (n=441) Usual care group used standard clinic procedure for documenting symptoms (n=325) Groups stratified as computer experienced and inexperienced	September 14, 2007 – January 6, 2011	Patient-language adaptation of NCI's CTCAE 3.0 items EuroQol 5Q-5D Index
Basch, 2017A (61)	To assess the feasibility of measuring symptomatic adverse events in a multicenter randomized cancer clinical trial using the NCI's PRO-CTCAE	Single arm feasibility study, multisite (59 institutions across the United States)	n=152 patients with lung cancer undergoing radiation therapy, age range of 37 to 85 years (median age 66)	Not Applicable – all participants self- reported symptomatic adverse events in the same way	February 2012 –October 2013	NCI's PRO-CTCAE item library
Basch, 2017B (58)	To assess the feasibility of asking patients to report their symptomatic adverse events using plain language items based on CTCAE version 3.0 via a web-based platform during participation in any one of nine multicenter cancer clinical trials	Single arm feasibility study, multisite (37 institutions across the United States)	n=285 patients with breast, colorectal, lung, and prostate cancer, age range of 24 to 88 years (median age 57)	Not Applicable – all participants were in one group	March 15, 2007 –August 11, 2011	NCI's PRO-CTCAE item library
Basch, 2018 (59)	To examine the feasibility, acceptability, and resource requirements of weekly remote self-reporting using PRO-CTCAE by patients enrolled in a multicenter randomized cancer clinical trial	Single arm feasibility study, multisite (435 institutions across Canada and the United States)	n=500 patients with locally advanced rectal cancer, age range of 19 to 84 years (median age 56)	Not Applicable – all participants self- reported symptomatic adverse events in the same way	August 2012 – May 2016	30 of the NCI's PRO-CTCAE items representing 15 discrete symptomatic adverse events
Berry, 2014 (50)	To evaluate the effect of a Web-based, self-report assessment and educational intervention on symptom distress during cancer therapy	Randomized controlled trial, two arms, two institutions across the United States	n=752 patients with a variety of cancer diagnoses, age range of 19 to 88 years (median age 59 for control group and 56 for treatment)	Intervention group: Screening, targeted education, communication coaching, and the opportunity to track/graph symptom and QOL over time (n=374) Control group: symptom and QOL screening at four time points (n=378)	April 2009 – June 2011	ESRA-C questionnaires SDS-15: Original 13-item Symptom Distress Scale plus two items - impact on sexual activity/ interest and fever/chills
Bryant, 2020 (51)	To test whether daily use of electronic symptom reporting results automatically fed back to nurses in an inpatient bone marrow transplant clinic reduced peak symptom burden and improved individual symptoms more than usual care at post-transplant days +7, +10, and +14	Pilot randomized controlled trial, two-arms, single-institution	n=76 patients with a hematological malignancy admitted for preparative chemotherapy for hematopoietic stem cell transplantation, age range of 19 to 75 years (mean age 51.2)	Intervention group: Patients completed the PRO-CTCAE items daily, and the results were shared with the nurse caring for that patient (n=38) Attention Control group: Patients completed the PRO-CTCAE items at four time points, and results were not shared (n=38)	May 2015 – June 2017	NCI's PRO-CTCAE item library HCT-CI
Cowan, 2016 (62)	To update the experience of patients who used a Web-based system to capture PROs in the postoperative period and assess patient and provider satisfaction and feedback regarding the system	Single arm feasibility study, one institution	n=120 patients recovering from major gynecologic cancer surgery, age range of 18 to 74 years (median age 55.5)	Not Applicable – all participants were in one group	July 2009 – January 2015	Patient-language adaptation of NCI's CTCAE 3.0 (developed for prior STAR studies) EORTC QLQ-C30
Fromme, 2016 (53)	To investigate the utility of computer-based patient-report-ed symptom surveys and summaries in the clinical setting	Pilot randomized controlled trial, two arms, one institution	n=112 patients with a variety of cancer diagnoses and treatment regimens longer than four weeks, mean age 59.8 years (intervention) and 61.6 years (control)	All patients completed a computerized symptom assessment Intervention group: Patient and Oncologist received a printed symptom summary before weekly appointments (n=58) Control group: Did not receive the printed summary (n=54)	Not Provided	MSAS Global Distress Index MSAS Short Form EORTC QLQ-C30 Karnofsky Performance Status Investigator-developed items
Graetz, 2018 (54)	To evaluate the feasibility and short-term effect of use of a web-based communication app designed for breast cancer patients to report adverse symptoms and aromatase inhibitor adherence outside of clinic visits, with built-in alerts sent to patients' care teams	Randomized controlled feasibility trial, two arms, one institution	n=44 patients with early-stage hormone receptor positive breast cancer, age range of 34 to 77 years (mean age 59.9)	App+ group: Receive weekly reminders to use the web-based study app to report symptoms and aromatase inhibitor adherence (n=23) App group: Provided access to the app but weren't given reminders to use it (n=25)	December 2015 – June 2016	FACT-Endocrine Symptoms Morisky Medication Adherence Scale Medication Adherence Reasons Scale
Lucas, 2017 (63)	To report on the establishment of a unified, electronic PRO infrastructure and pilot results from the first five practices enrolled in the web-based collection system	Single arm pilot study, multisite (5 sites across Michigan, United States)	n=688 patients with prostate cancer, no age data provided	Not Applicable – all participants were in one group	April 21, 2014 –June 25, 2015	Investigator-developed, validated 21-item questionnaire PROMIS Sexual Function and Satisfaction Questions
McCleary, 2013 (64)	To test the feasibility and added clinical utility of a computer-based Cancer-Specific Geriatric Assessment in patients more than 70 years of age receiving treatment for gastrointestinal malignancies	Single arm feasibility study, one institution	n=37 patients with gastrointestinal cancer, age range of 70 to 89 years (mean age 77)	Not Applicable – all participants were in one group	December 2, 2009 – June 21, 2011	Cancer-Specific Geriatric Assessment
Snyder, 2013 (65)	To evaluate Patient Viewpoint's use, usefulness, and acceptability to patients and clinicians	Single arm feasibility study, one institution	n=52 patients with breast and prostate cancer, age range of 28 to 28 years (median age 58)	Not Applicable – all participants were in one group	July 2010 – January 2011	PROMIS EORTC QLQ-B23 Expanded Prostate Cancer Index Composite short form
Stukenborg, 2014 (66)	To assess the feasibility of collecting patient-reported outcomes data with wireless touch screen tablet computers in the adult oncology palliative care setting	Single arm mixed methods feasibility study, one institution	n=15 patients with stage IV solid tumors, no age data provided	Not Applicable – all participants were in one group	January – February 2013	PROMIS
Tran, 2020 (67)	To explore the feasibility and acceptability of collecting electronic PROs using validated health-related quality of life questionnaires for prostate cancer	Single arm mixed methods feasibility study, one institution	N=29 patients with prostate cancer, age range of 45 to 70 years (median age 55)	Not Applicable – all participants were in one group	August 1, 2016, to December 31, 2017	EPIC-26 EPIC-CP FAPSI-8
Wolfe, 2014 (52)	To determine whether feeding back PROs to providers and families of children with advanced cancer improves symptom distress and health-related quality of life	Parallel randomized controlled trial, two arms, three institutions across the United States Block randomization by site with patients as unit of randomization	n=104 children with a variety of advanced cancers, age range 2 to 7 years (n=32) or 8 years and up (n=72)	Intervention group: oncologists and families received printed PRO summary reports and alerts when predetermined scores were exceeded (n=51) Control group: No reports or alerts were provided (n=53)	December 2004 –December 2009	PediQUEST MSAS PedsQL Generic Core Scales 4.0 Investigator-developed overall sickness question
Wright, 2018 (68)	To assess the feasibility, acceptability, and perceived effectiveness of a mobile health intervention that was designed to collect PROs and activity data as a measure of health status	Single arm pilot study, one institution	n=10 patients with gynecologic cancers who received palliative chemotherapy, mean age of 60	Not Applicable – all participants were in one group	April 12 – June 23, 2017	PROMIS PRO-CTCAE

CTCAE, Common Terminology Criteria for Adverse Events; ECOG, Eastern Cooperative Oncology Group; EORTC QLQ, European Organization for Research and Treatment of Cancer Quality of Life Questionnaire; EPIC, Expanded Prostate Cancer Index Composite; ESAS-r, Revised Edmonton Symptom Assessment System; ESRA-C, Electronic Self-Report Assessment-Cancer; FACIT, Functional Assessment of Chronic Illness Therapy; FACT-B, Functional Assessment of Cancer Therapy-Breast version; FACT-G, Functional Assessment of Cancer Therapy-General version; FAPSI, Functional Assessment of Cancer Therapy Advanced Prostate Symptom Index; HCT-CI, Hematopoietic Cell Transplantation-Comorbidity Index; LASA, Linear Analog Self-Assessment; MDASI, M.D. Anderson Symptom Inventory; MSAS, Memorial Symptom Assessment Scale; NCI, National Cancer Institute; PedsQL, Pediatric Quality of Life Inventory; PHQ, Patient Health Questionnaire; PRO, Patient-Reported Outcome; PRO-CTCAE, Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events; PROMIS, Patient Reported Outcome Measurement Information System; SDS, Symptom Distress Scale; STAR, Symptom Tracking and Reporting for Patients.