



Published in final edited form as:

*J Healthc Qual.* 2022 ; 44(5): 255–268. doi:10.1097/JHQ.0000000000000354.

## Team-based care for cancer survivors with comorbidities: a systematic review

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### Abstract

Coordination of quality care for the growing population of cancer survivors with comorbidities remains poorly understood, especially among health disparity populations who are more likely to have comorbidities at time of cancer diagnosis. This systematic review synthesized the literature from 2000 to 2022 on team-based care for cancer survivors with comorbidities and assessed team-based care conceptualization, teamwork processes, and outcomes. Six databases were searched for original articles on adults with cancer and comorbidity, that defined care team composition and comparison group, and assessed clinical or teamwork processes or outcomes. We identified 1,821 articles of which 13 met the inclusion criteria. Most studies occurred during active cancer treatment and nine focused on depression management. Four studies focused on Hispanic or Black cancer survivors and one recruited rural residents. The conceptualization of team-based care varied across articles. Teamwork processes were not explicitly measured, but teamwork concepts such as communication and mental models were mentioned. Despite team-based care being a cornerstone of quality cancer care, studies that simultaneously assessed care delivery and outcomes for cancer

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**ETHICS STATEMENT:** This article does not contain any studies involving human or animal participants.

**DISCLAIMER:** The article was prepared as part of some of the authors' (MD, JIS, MAM, VC, SJW) official duties as employees of the US Federal Government. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the National Institute on Minority Health and Health Disparities, National Cancer Institute, or other federal agencies.

**CONFLICT OF INTEREST:** The authors declare that they do not have a conflict of interest.

and comorbidities were largely absent. Improving care coordination will be key to addressing disparities and promoting health equity for cancer survivors with comorbidities.

### Keywords

cancer; comorbidity; health equity; patient care management; delivery of health care

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## INTRODUCTION

The prevalence of comorbidity, defined as the co-occurrence of two chronic diseases, is growing in the United States with 60% of cancer survivors having multiple chronic conditions.<sup>1-3</sup> Comorbidity is an important health equity issue given its unequal burden on health disparity populations and significant impact on mortality and quality of life.<sup>3-5</sup> Racial and ethnic minorities, socioeconomically disadvantaged, rural residents, and people who are under- and uninsured have higher comorbidity prevalence at cancer diagnosis.<sup>6-9</sup> The largest increases in cancer survivors having multiple chronic conditions occurred among Black and younger individuals (age 18-44) from 2002 to 2018.<sup>10</sup> Despite the increasing prevalence of comorbidities among cancer survivors, coordination and management of care remains a significant challenge for patients, caregivers, clinicians, healthcare teams, health systems, and payors.<sup>11</sup>

Care coordination is foundational to achieving a healthcare system that is high-quality, high-value, patient-centered, and equitable.<sup>4,12,13</sup> However, breakdowns in care coordination processes have led to avoidable medical errors, adverse clinical events, increased healthcare costs, preventable deaths, and the exacerbation of health disparities.<sup>14-16</sup> For cancer survivors with comorbidities, care coordination requires a diverse team of clinicians and allied health professionals simultaneously organizing and prioritizing multiple care activities across diverse healthcare settings.<sup>12,17</sup> Team-based care delivery models may be key to addressing care coordination challenges or breakdowns that contribute to health disparities. For example, team-based care models can support effective communication between the oncology care team, primary care, and other medical subspecialists by clarifying each provider's role and responsibilities and identifying interdependence in the planning and delivery of care as well as in monitoring patient's self-management activities, current health status, and outcomes. Yet, there is limited understanding of team-based care model characteristics and their impact on reducing disparities in health outcomes for cancer survivors with comorbidities.<sup>18</sup>

To address these gaps in the literature, the aims of this systematic review were to: 1) synthesize the literature from January 2000 through March 2022 on teams providing care for cancer survivors with comorbidities during active treatment through survivorship care, 2) understand how team-based care is defined and conceptualized, 3) assess which health disparity populations are included in studies, and 4) evaluate team processes and outcomes studied.

## METHODS

The full review protocol was registered in PROSPERO (CRD42020172848) and the Preferred Reporting Items for Systematic Reviews and Meta-Analysis – Equity focused (PRISMA-E) checklist informed our review.<sup>19</sup> We developed a comprehensive search strategy to identify original research articles published in English from January 2000 through March 2022 that examined team-based care among cancer survivors with a comorbidity at the time of cancer diagnosis and into survivorship (Appendix 1). Articles were included if the study: 1) focused on adults with a cancer diagnosis and current comorbidity, 2) identified a specific comorbidity, 3) defined care team composition and included at least two health professionals participating in care, 4) included a comparison group (i.e., historical or contemporaneous), and 5) assessed an outcome at the care team or patient level. Articles were excluded if the study only used a comorbidity index, score, or count or had no comparator group to allow for an evaluation of the effectiveness of these models.

Abstract databases were searched by a biomedical librarian: CINAHL Plus (Ebscohost), Embase (Elsevier), Scopus (Elsevier), Web of Science: Core Collection (Clarivate Analytics), PsycINFO (American Psychological Association), and PubMed (US National Library of Medicine). A combination of keywords and controlled vocabulary (e.g., CINAHL Subject Headings, Emtree, PsycINFO thesaurus, MeSH) were used to search (Appendix 2). Additional relevant records were identified via hand searches of references cited in prior reviews and articles meeting inclusion criteria. After removal of duplicates, unique records were then reviewed to exclude conference abstracts, proceedings, and reviews. Records assessment proceeded to title/abstract screening, full text screening, and then data abstraction. The screening method and data abstraction were pilot tested by two authors on a subset of 20 randomly selected records and then finalized. Then twenty percent of titles and abstracts were independently screened by two authors using Rayyan and any discrepancies were arbitrated by a third reviewer.<sup>20</sup> Interrater reliability was 77%. Next, full text articles were screened by two authors using the same eligibility criteria and any discrepancies were arbitrated by a third reviewer.

For data abstraction, a codebook and online abstraction form were developed by the authors based on *a priori* research questions and data elements collected in previous reviews of team-based care. Key data elements abstracted included: study design, aims, conceptual and operational definitions of team-based care, team composition and members' roles, characteristics of study populations and inclusion of health disparity populations, healthcare setting, teaming processes, and outcomes evaluated. We used Verhoeven's *Teaming in Cancer Care Delivery Framework*<sup>21</sup> to identify which, if any, core teamwork processes or concepts were discussed. We specifically focused on teamwork processes, defined as "the cognitive, behavioral, and affective mechanisms that encompass effective teaming across interdependent team members and teams."<sup>21</sup> One author abstracted the data and a second author reviewed the abstracted data. Finally, two authors used the National Heart Lung and Blood Institute (NHLBI) Study Quality Assessment Tool by study design to assess risk of bias and study quality.<sup>22</sup>

## RESULTS

### Study Selection

The searches identified 4,313 records and eight additional records via hand-searches (Figure 1). After de-duplication and removal of non-relevant records, 1,821 records remained and titles/abstracts were screened. Of these, 135 records were screened at the full text level. Most exclusions were due to irrelevant topic, no teaming component, not focusing on the population of interest, or non-empirical study design (e.g., descriptive, qualitative, and case studies). Thirty records met the final inclusion criteria, and only 13 contained specific comorbidity information and were included as the final analytic dataset (See Appendix 3). The other 17 articles were excluded because they only included a comorbidity index as a study covariate and did not provide specific comorbidity information (See Appendix 4).

### Characteristics of the Studies and Study Populations

Of the 13 studies, nine were randomized controlled trials (RCT) and four were observational studies (see Table 1). Eight studies were conducted in the U.S. and five studies were international: U.K. (n=3), Australia (n=1), and Japan (n=1). Depression (69%) was the most common comorbidity. Many studies also provided information on the proportion of patients with other comorbidities such as cardiovascular disease, pulmonary disease, diabetes, anxiety, and others. Breast cancer (85%) was the primary cancer type. Twelve studies (92%) occurred during active treatment and five studies (38%) during survivorship (post-treatment). All U.S. studies explicitly stated that racial/ethnic minorities were included,<sup>23-30</sup> ranging from 20% to 100% of the study population. Four studies focused on populations that experience health and health care disparities, specifically Hispanic and Black cancer survivors.<sup>24-27</sup> One study collected information on rural/urban residential status,<sup>31</sup> with 22% of the study population being rural residents. Using the NHLBI Quality Assessment Tool by study design, a total of six studies were rated good quality and seven were rated as fair.

### Definitions of Team-based Care

Table 2 lists the terms and definitions used in the studies to describe team-based care delivery models. The term “collaborative care” was used most often (n=8), followed by “shared care” (n=4) and “multidisciplinary care team” (n=1). Collaborative care definitions were centered on the integration of mental healthcare into primary care or cancer care, with some definitions using explicit language related to a general team-based approach that brings together health professionals from diverse specialties to deliver, manage, and integrate care workflows. Definitions of shared care focused on a formalized care delivery model involving primary care and cancer specialists across healthcare settings. The one study that used multidisciplinary care team used the term to describe a multidisciplinary conference (e.g., tumor board) where cancer cases are discussed.

### Team Composition and Roles/Responsibilities

Team composition and roles/responsibilities are described in Tables 3 and 4. Team members included clinical specialist/care manager (69%), psychiatrist (62%), primary care physician (62%), or cancer specialist (62%). Eleven studies operationalized all or some

team members' roles, including how each member's tasks related to one another (i.e., interdependence). Eight RCTs involved all or multiple team members in comorbidity management (e.g., delivery of therapy, medication management) in comparison to one RCT where a single team member was assigned to this role. One observational study examined specific comorbidity management role of each team member. Tools used to facilitate care coordination included in-person and telephonic consultations among team members, patient held records shared with team members, and a secured website to facilitate information exchange between study team members. The use of health information technology (IT) to identify patients and track clinical care was mentioned in three studies. Comparator groups were commonly defined as "usual care" provided by the patient's usual care team members without defined roles or team membership.

### Teamwork Concepts

None of the studies explicitly measured teamwork processes or used validated measures of teamwork. Beyond the description of team composition, nine of the 13 studies described some aspect of teamwork concepts. Five studies described boundary status, that is the proportion of teams working in the same or different healthcare practices or health systems.<sup>23,29,32-34</sup> These studies stated the proportion of patients who sought care with a clinician outside the study team. Geographic dispersion, the degree to which teams are co-located or dispersed across healthcare settings, was described in one study that examined care within/outside the same state.<sup>23</sup> Two studies highlighted dimensions of communication and information sharing between team members.<sup>25,31</sup> One study used a secured website to facilitate reporting and communication between clinical specialists and a psychiatrist, and another study evaluated patient satisfaction with communication between primary care physicians and cancer specialists. Three studies described efforts to develop shared understanding, or mental models, among care team members from different disciplines through defining roles in an orientation session.<sup>24,26,31</sup> Two studies described challenges to shared leadership with one study reporting that certain team members did not feel included in the shared management of the patient and another stated that few primary care physicians consulted with the study psychiatrist to share in depression management.<sup>31,34</sup>

### Study Outcomes

Study outcomes varied, with many studies (77%) focused on clinical outcomes of the comorbidity (e.g., PHQ-9) followed by cancer clinical outcomes (39%; e.g., FACT-G). Eight RCTs found statistically significant improvements in depression among the team-based intervention group.<sup>24-26,28,29,32-34</sup> The three studies focused on Hispanic cancer patients with depression found significant improvements in depression symptoms, quality of life, and treatment use 12- and 24-months post-intervention.<sup>24-27</sup> Three observational studies found no differences in outcomes (i.e., postoperative complication, pulmonary function, quality of cancer care),<sup>23,30,35</sup> while one study found better diabetes and hypertension management among Black women who received team-based care.<sup>27</sup>

## LIMITATIONS

Interpretation of our findings should consider several limitations. First, despite a systematic search strategy, relevant articles may not have been identified or missed. Our review was limited to peer-reviewed empirical articles published in English and does not include grey literature or qualitative studies. While patients are the central member of their healthcare team, this review did not explicitly focus on studies of patient or caregiver roles in the context of team-based care delivery models and this area warrants further investigation. Lastly, studies that described the types of clinicians seen by patients but not conceptualized as a team were also excluded.

## DISCUSSION

Our systematic review identified 13 studies over the past twenty years that examined team-based care for cancer survivors with comorbidities. Most studies focused on depression management, while other prevalent comorbidities were largely absent. The limited studies of team-based care suggest that this delivery model can improve patient's clinical outcomes, especially for depression. However, studies that simultaneously managed cancer and comorbidities or evaluated teamwork processes, such as coordination, communication, or shared mental models, and the analyses of their impact on outcomes, including health disparities, were critically missing from the published literature.

Only a subset of studies (n=4) focused specifically on assessing team-based care among populations that experience health or health care disparities. Overall, most studies recruited breast, gynecologic, or gastrointestinal cancer survivors during active treatment. However, cancer disparities affecting racial/ethnic minorities, socioeconomically disadvantaged, and rural residents are higher for other cancer types, including prostate, cervical, kidney, liver, and lung cancer.<sup>36-38</sup> For example, the prevalence of comorbidities is highest among lung cancer survivors, with chronic obstructive pulmonary disease being the most common condition, and lung cancer incidence and mortality are highest among Black individuals.<sup>2,8,36</sup> Given the continued and persistent health inequities experienced by minority and medically underserved cancer survivors with comorbidities, future research should focus on understanding, developing/adapting, and evaluating team-based care delivery models for these cancers in diverse populations. For example, future work could examine variation in when, how, and if responsibility for chronic disease management is addressed in cancer treatment planning and survivorship care planning. Additionally, future work could identify care team characteristics that facilitate or hinder access to other specialists (e.g., cardiology, endocrinology), develop individualized models of optimal multidisciplinary care team composition, and develop and test strategies to improve interprofessional teamwork that fosters trust among team members, including patients and caregivers, while addressing breakdowns in care coordination mechanisms. Importantly, future research in this area should be patient-centered and not place undue burden on patients already facing financial, linguistic, geographic, social, or other barriers to care.

The collaborative care model was used in most studies, yet this model along with the chronic care and shared care models do not incorporate measures of teamwork processes beyond

defining team members roles.<sup>39-41</sup> Future research on team-based care delivery models should consider drawing from other teaming frameworks in healthcare delivery to help identify modifiable aspects of team functioning that could improve clinical and non-clinical outcomes. For example, Verhoeven's conceptual model of teaming in cancer care identifies and defines team structure characteristics and teamwork processes that likely contribute to efficient care coordination, including team composition, boundary status, interdependence, and coordination mechanisms and modalities.<sup>21</sup> Additionally, while included studies clearly defined the team composition for their intervention group, similar information about the comparator group were lacking. For example, comparator groups were most often defined simply as "usual care" with the patient being encouraged to consult with their primary clinician. These findings highlight two issues. First, there is an opportunity to clearly define "usual care" comparison groups. Due to disparities in healthcare access and quality of care driven by structural racism, discrimination, and social determinants of health,<sup>42</sup> many underserved cancer survivors with comorbidities will not have equitable, high-quality "usual care." Second, it emphasizes the critical role patients play as both a team member and as a conduit for information sharing and coordination among their healthcare team members. Yet, patient and/or caregiver roles and responsibilities in teaming processes like care team communication and coordination were not assessed in any of these studies.

Our results align with prior reviews of team-based care which found no studies that meaningfully evaluated teamwork processes as part of the review.<sup>18,43-45</sup> Similar to results from Shaw and colleagues,<sup>44</sup> which highlighted the difficulty of establishing communication pathways to engage providers in shared decision-making, most studies in our review qualitatively discussed teamwork concepts or challenges. For example, teamwork concepts related to communication and mental models, which are also key competencies identified as necessary for effective cancer care teams,<sup>46</sup> were highlighted in these studies but not measured. Additionally, several studies mentioned that patients sought care outside the defined study team, yet none examined team processes used to coordinate care outside the core study team. For example, studies did not evaluate how the team member, whose role was to provide care coordination, created linkages and interactions with core team members and with providers outside the core team, defined as boundary spanning. Overall, no study explicitly measured teamwork processes or teamwork functioning. These findings highlight significant opportunities to use and adapt measures of team functioning to address care disparities related to care coordination for cancer survivors with comorbidities.<sup>47-50</sup>

Studies in this review provided limited detail regarding the healthcare organizational context in which care teams worked to coordinate and deliver care. For example, few studies described how organizational policies, resources, payment structures, or organizational governance and leadership influence the formation of the clinical teams studied, teamwork processes, and participation in team-based care delivery models. It may be important to consider the organizational structures and processes, both in the U.S. and internationally, that enable and facilitate teamwork across healthcare settings along the cancer care continuum.<sup>51,52</sup> For example, several studies described difficulties working across care settings and patient barriers in accessing care from providers who were part of the defined care team but located in a different clinic or hospital. This issue may be exacerbated among health disparity populations who already experience barriers in access to specialty care.

While only one study examined shared care during the survivorship care phase, future work should examine how the various models of survivorship care, such as nurse or primary care physician-led or risk-stratified survivorship care, incorporate aspects of team-based care.<sup>53,54</sup>

Finally, few studies described the coordination mechanisms and tools, such as health IT, used by team members to share information, coordinate care tasks, and create a shared understanding of a patient's case.<sup>55</sup> There is room for innovative solutions to enhance team members' communication, coordination, and collaboration across asynchronous patient encounters, such as synergizing the capabilities of health IT across diverse healthcare settings.<sup>56</sup> Health IT can support team-based care delivery models and promote health equity by creating electronic decision support tools and treatment algorithms for the clinical team, improve data collection, measurement, and analysis of care delivery and health outcomes at the population level, and engage patients in their care through patient education and self-management tools.<sup>57,58</sup>

## CONCLUSIONS

As we strive for a healthcare system that is high-quality, high-value, patient-centered, and equitable, we must understand and address the challenges and breakdowns in care coordination experienced by diverse cancer survivors with comorbidities. Our review found a paucity of published research using team-based care delivery models for cancer survivors with comorbidities, especially for populations that experience health and health care disparities. Studies to date recognize the importance of multidisciplinary care teams yet fail to address modifiable aspects of care team functioning to improve care quality and outcomes. Future transdisciplinary research grounded in healthcare team frameworks using a health equity lens should better understand and implement team-based care delivery models to address care coordination challenges or breakdowns that contribute to health disparities.

## IMPLICATIONS

The results from this systemic review may be useful to clinicians, health system administrators, and researchers who want to incorporate characteristics of team-based care delivery models. Findings for this review highlight opportunities for future research to promote health equity and point to variables important for future meta-analyses aiming to evaluate and understand the effects of team-based care delivery models.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## FUNDING:

The work was not supported by funding.



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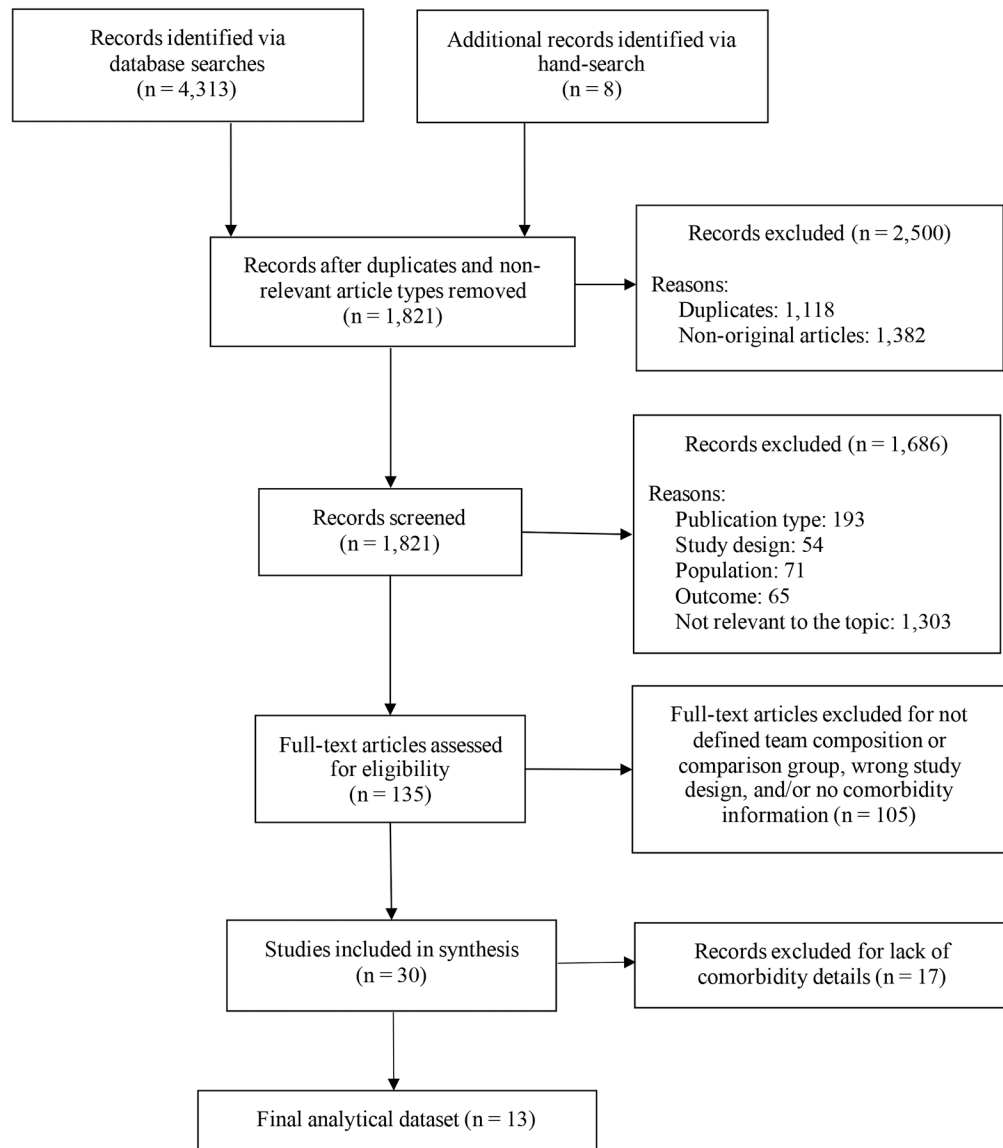
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**Figure 1.**  
PRISMA Flow Diagram of Included and Excluded Studies

**Table 1.**

Characteristics of included studies (n=13)

Characteristics	Total	
	n	%
<b>Study Design</b>		
Randomized controlled trial	9	69.2
Observational study	4	30.8
<b>Country</b>		
United States	8	61.5
United Kingdom	3	23.1
Australia	1	7.7
Japan	1	7.7
<b>Comorbidity Types <sup>a</sup></b>		
Depression	9	69.2
Cardiovascular disease	6	46.2
Pulmonary disease	4	30.8
Diabetes	5	38.5
Others	7	53.8
<b>Cancer Types <sup>a</sup></b>		
Breast	11	84.6
Gynecologic	7	53.8
Gastrointestinal	6	46.2
Lung	4	30.8
Others	5	38.5
<b>Cancer Care Continuum <sup>a</sup></b>		
Treatment	12	92.3
Survivorship	5	38.5

<sup>a</sup>Not mutually exclusive

**Table 2.**

Conceptual definition of team-based care (n=13)

First author, year	Term Used	Conceptual Definition
Dwight-Johnson, 2005	Collaborative care	Integrate mental health professionals into primary care.
Elli, 2008	Collaborative care	Management for major depression or dysthymia among cancer patients.
Strong, 2008	Collaborative care	A system of care that combines systematic screening with a complex intervention and integrates management of depression into patients' cancer care.
Fann, 2009	Collaborative care	Reorganizing the way medical and mental health professionals work together; include active care management, support of medication management prescribed by primary care providers, and mental health specialty consultation and back-up.
Kroenke, 2010	Collaborative care	Team-based approach in which a care manager supervised by a physician specialist work together with the principal clinician to optimize outcomes through educating patients, monitoring adherence and therapeutic response, and adjusting treatment.
Elli, 2011	Collaborative care	An approach that uses a care manager and structured algorithms to guide problem-solving therapy and to adjust antidepressant treatment, that monitors patient symptoms over time, and that provides patients with relapse prevention strategies and support.
Sharpe, 2014	Collaborative care	Psychiatrist and care manager collaborate with the patient's primary care physician to provide systematic, proactive treatment and follow-up.
Walker, 2014	Collaborative care	Model that integrates depression management into cancer care.
Johnson, 2015	Shared care	Organizational model involving both primary care physicians and specialists in a formal, explicit manner. Shared care models ensure that patients and caregivers have access to both hospital- and community-based supportive care throughout treatment and along the continuum to cure or palliation.
Doose, 2019	Shared care	A team of providers delivering medical care may include oncologists and non-oncology providers; model that integrates the delivery of medical services within and across health systems and enhances communication between providers.
Doose, 2020	Shared care	Two or more healthcare professionals jointly participating in patient's care.
Halpern, 2021	Shared care	Cancer survivors' medical care delivered by both oncologists and primary care providers.
Harada, 2013	Multidisciplinary team	An approach by discussing each patient's conditioning during periodical conferences attended by surgeons, physical therapists, dieticians, and nurses.



**Table 3.**

Team membership, comorbidity management, teamwork concepts, and outcomes (n=13)

	Total	
	n	%
<b>Team Membership <sup>a</sup></b>		
Clinical specialist/ care manager	9	69.2
Psychiatrist	8	61.5
Cancer specialist	8	61.5
Primary care practitioner	8	61.5
Other specialists	4	30.8
<b>Team member(s) assigned to manage comorbidity</b>		
Single team member	2	15.4
Multiple team members	3	23.1
Entire team	5	38.5
Not specified	3	23.1
<b>Teamwork Concepts Described <sup>a</sup></b>		
<i>Structure</i>		
Team composition	13	100.0
Boundary status	5	38.5
Geographic dispersion	1	7.7
<i>Processes</i>		
Communication	2	15.4
Mental models	3	23.1
Shared leadership	2	15.4
<b>Study Outcome Measured <sup>a</sup></b>		
Comorbidity outcomes		
Clinical outcomes (PHQ-9, survival)	10	76.9
Service utilization (use of mental health services)	1	7.7
Cancer outcomes		
Clinical outcomes (FACT-G, survival)	5	38.5
Service utilization (receipt or quality of care)	3	23.1

<sup>a</sup>Not mutually exclusive

PHQ-9 = Personal Health Questionnaire; FACT-G = Functional Assessment of Cancer Therapy–General

**Table 4.** Operational definitions of team-based care: team composition and team members' roles (n=13)

First author, year – study name	Team Composition	Team member role	Comparator Group
Dwight-Johnson, 2005 - Multifaceted Oncology Depression Program Intervention	Cancer/Depression Clinical Specialist	Master's-level social worker provides patients with manualized psychotherapy, support antidepressant medication adherence and link with cancer treatment adherence, and assist with systems navigation; Provides feedback on patients to oncologist and study psychiatrist	Usual care: Study recruiter suggests to patients that they talk with their doctor or clinic social worker; places note in patient's medical record indicating the presence of depressive symptoms
	Study psychiatrist	Provide same-day telephone consultation with oncologist or cancer/depression clinical specialist when needed; provide two 1-hour education sessions to oncologists	
	Oncologist	Initiate antidepressants and provide medication follow-up	
EIL, 2008 - Alleviating Depression Among Patients With Cancer (ADAPt-C) intervention	Cancer depression clinical specialist	Bilingual social worker with master's degree that provides psychotherapy, community services navigation	Enhanced usual care: patients received standard oncology care and treating oncologist informed of patient's depression status
	Psychiatrist	Supervises cancer depression clinical specialists and prescribes antidepressant medications	
	Clinical specialist	Bilingual graduate social worker that provides structured problem-solving therapy, help participants navigate healthcare and community services, or provide supervision to a navigator	
EIL, 2011 - Alleviating Depression Among Patients With Cancer (ADAPt-C) intervention	Psychiatrist	Supervise clinical specialists and prescribe antidepressant medications for participants; provides didactic session on depression treatment for treating oncologists	Enhanced usual care: patients receive standard oncology care from treating oncologists who is informed of patients' depression status
	Oncologist	Prescribe antidepressants or referred patients to mental healthcare	
Strong, 2008 - Depression care for people with cancer intervention (SMaRT Oncology 1)	Nurse	Charge nurse level of experience who delivers intervention consisting of up to 10 one-to-one sessions with patients	Usual care: patients' primary care physician and oncologist are informed about depression diagnosis and provided advice on choice of antidepressant drug if requested
	Psychiatrist	Reviews patients progress with the nurses every week	
	Primary care physician	Informed of depression diagnosis and prescribes antidepressant medication	
Sharpe, 2014 - Depression care for people with cancer intervention (SMaRT Oncology-2)	Cancer nurse	Establishes therapeutic relationship with patients, provides information about depression and its treatment, delivers psychological interventions, and monitors patients' progress	Usual care: patients' primary care physician and oncologist are informed about depression diagnosis and asked to treat their patients as they normally would; patients are encouraged to consult their primary care physician to obtain treatment
	Psychiatrist	Supervises treatment, advise primary care physicians about prescribing anti-depressants, and provides patient consultations	

First author, year – study name	Team Composition	Team member role	Comparator Group
Walker, 2014 - Depression care for people with cancer intervention (SMaRT Oncology-3)	Primary care physician  Cancer nurse  Psychiatrist	Informed of depression diagnosis and prescribes antidepressant medication  Establishes therapeutic relationship with patients, provides information about depression and its treatment, delivers psychological interventions, and monitors patients' progress  Supervises treatment, advises primary care physicians about prescribing anti-depressants, and provides patient consultations  Informed of depression diagnosis and prescribes antidepressant medication	Usual care: Patients' primary care physician and oncologist are informed of the depression diagnosis and are asked to treat them as they normally would; patient are encouraged to consult their primary care physician to obtain treatment
Fann, 2009 - Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) Intervention	Depression care manager  Psychiatrist  Expert primary care physician  Primary care physician	Nurse or clinical psychologist who works collaboratively with patient and primary care physician; conducts psychosocial history, provides education and behavioral activation, and helps patients identify treatment preferences  Supervises and monitors clinical progress and adjusts treatment plans with depression care manager and expert primary care physician  Monitors clinical progress and adjusts treatment plans with supervising psychiatrist and depression care manager  Patient's usual primary care physician	Usual care; patients and their usual primary care physician are told about the depression diagnosis and patients may receive routinely available depression treatment as deemed necessary by the attending physician or patient
Johnson, 2015 - Shared care model intervention	Project coordinator  Primary care physician  Cancer specialists	Experienced clinical trials nurse tasked with overall coordination and communication between primary care physicians, cancer specialists, nurses, and patients involved in the program to improve the quality and timeliness of information sharing between clinicians  Given information about the project and their role in it, including patient and chemo-specific management; encouraged to use the patient held record to document treatment changes  Encouraged to use the patient held record to document treatment changes; available to be contacted by primary care physician	Usual care; patients received usual care provided by cancer specialists and their primary care physician, who received a letter from the cancer specialist team after each visit, discharge summaries, and telephone communication, where appropriate
Kroenke, 2010 - Indiana Cancer Pain and Depression (INCPAD) intervention	Nurse care manager  Pain-psychiatrist specialist	Delivers telephonic care management, assesses symptom response and medication adherence, provides education, and adjusts treatment; coordinates pain-specific and mental health referrals  Reviews cases with nurse case manager and discusses management issues	Usual care; patients were informed of their depressive and pain symptoms, and their screening results were provided to their oncologist

First author, year – study name	Team Composition	Team member role	Comparator Group
	Oncologist	Responsible for prescribing all medications	
	Periodical conferences	Attended by surgeons, physical therapists, dieticians, and nurses	
Harada, 2013 - Comprehensive preoperative pulmonary rehabilitation approach	Registered physical therapist	Trains patients on breathing and coughing techniques, respiratory exercise, and peripheral muscle exercise training	Conventional preoperative pulmonary rehabilitation (CVPR): not using a multidisciplinary team approach consisting only of conventional physical training directed by physical therapists
	Registered dietician	Assesses daily diet and directs optimized diet therapy for patients at least twice preoperatively	
	Cancer specialist	Physician(s) involved during cancer care: medical, radiation, and/or surgical oncologist	
Doose, 2019 - Shared care	Primary care physician	Physician involved during cancer care: Internal medicine and family practice	Only cancer specialists
	Specialist	Physician involved during cancer care: OB/ GYN, urologist, gastroenterologist, cardiologist, and/or pulmonologist	
	Cancer specialist	Surgical, medical, and/or radiation oncologist involved in patient's care within the 12 months following breast cancer diagnosis	
Doose, 2020 - Shared care	Primary care physician	Primary care provider involved in care, including internal medicine or family medicine	Cancer specialist only: patient received care only from cancer specialist(s)
	Medical specialist	Physician involved in diabetes or hypertension management, including endocrinologist, cardiologist, or nephrologist	
	Shared care	At least 17% of encounters with oncologists and 33% with primary care physician over 12 months	
	Oncologist-led	At least 60% of physician encounters with oncologists over 12 months	
Halpern, 2021 - Shared care	Primary care physician-led	At least 60% of physician encounters with primary care physician over 12 months	Study compared the four different care team models
	Other	Pattern of care does not fall into any of these other groups	