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## Are Primary Care Providers Prepared To Care For Breast Cancer Survivors In The Safety Net?

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### Abstract

**Introduction**—With the growing number of breast cancer survivors outpacing the capacity of oncology providers, there is pressure to transition patients back to primary care. Primary care providers (PCPs) working in safety-net settings may have less experience treating survivors, and little is known about their knowledge and views on survivorship care.

**Objective**—To determine the knowledge, attitudes, and confidence of PCPs in the safety net at delivering care to breast cancer survivors.

**Participants**—A modified version of the National Cancer Institute's Survey of Physician Attitudes Regarding Care of Cancer Survivors (SPARCCS) was given to providers at 2 county hospitals and 5 associated clinics (n=59). Focus groups were held to understand barriers to survivorship care.

**Results**—While most providers believed PCPs have the skills necessary to provide cancer-related follow-up, the vast majority were not comfortable providing these services themselves. Providers were adherent to American Society of Clinical Oncology recommendations for mammography (98%) and physical exam (87%); less than 1/3 were guideline-concordant for lab testing and only 6 providers (10%) met all recommendations. PCPs universally requested additional training on clinical guidelines and the provision of written survivorship care plans prior

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to transfer. Concerns voiced in qualitative sessions included unfamiliarity with the management of endocrine therapy and confusion regarding who would be responsible for certain aspects of care.

**Conclusion**—Safety-net providers currently lack knowledge and confidence at providing survivorship care to breast cancer patients. Opportunities exist for additional training in evidence-based guidelines and improved coordination of care between PCPs and oncology specialists.

### Keywords

breast cancer; survivorship; safety-net providers; primary care physicians

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## INTRODUCTION

Breast cancer is the second most common cancer in the United States and the most common among women. With improvements in treatment elevating five-year survival rates close to 90%, survivorship care continues to gain importance.<sup>1</sup> Currently, there are over 2.8 million breast cancer survivors in the U.S., with projections of a 30% increase within 10 years.<sup>2</sup> The oncology workforce, however, is limited, with shortages of 2,500 to 4,000 providers expected by 2020.<sup>3</sup> Given this disparity, more patients will need to transition survivorship care from specialty clinics to primary care.

While many primary care providers (PCPs) care for cancer survivors, their roles are typically limited to non-cancer-related conditions or to working in conjunction with oncologists.<sup>4</sup> Only a fraction of PCPs provide the multidimensional services laid out by the Institute of Medicine (IOM), including monitoring for recurrence, identifying late treatment effects,<sup>5</sup> and managing emotional health.<sup>2,6,7</sup> Previous work has focused on physicians in high-resource, academic settings.<sup>8</sup> Less is known about the preparedness of non-physician providers or those caring primarily for poor and uninsured populations—the so-called medical “safety net” of public hospitals, federally-qualified health centers, and County-operated clinics.<sup>9</sup> As transitions to primary care may disproportionately affect resource-limited settings, there is a need to understand their readiness and to identify potential barriers to delivering high-quality survivorship care.

Our study surveyed PCPs working in safety-net settings to assess their knowledge, attitudes, and confidence at providing survivorship care to breast cancer patients. We primarily sought to identify gaps in knowledge, characterize practice patterns, and place our results in the context of national data. We also used qualitative sessions to assess providers’ concerns and elucidate potential challenges to the transition of survivorship care.

## METHODS

We surveyed physician and non-physician providers from 2 primary care networks within a public safety-net system (Los Angeles County Department of Health Services [DHS]) regarding survivorship care, and conducted supplemental qualitative focus groups. This study was approved by institutional review boards at Olive View Medical Center, UCLA, Charles Drew University, and Jonsson Comprehensive Cancer Center.

## Sample and Recruitment

Physicians, nurse practitioners, and physician assistants working in internal medicine, family medicine, women's health, and obstetrics/gynecology were eligible to receive the survey. Recruitment occurred at health centers and clinics affiliated with two large, non-profit primary care networks providing low-income and indigent medical care: (1) DHS and (2) Valley Care Community Consortium, a health and mental health collaborative under contract with DHS to care for residents of LA's San Fernando and Santa Clarita Valleys.

Providers received a study information letter along with a request for participation. We used a variety of methods to distribute the survey including hard copy, mail, email, and online. Four attempts were made to contact non-responsive providers via email and telephone (Supporting Table 1). Providers were not compensated for their participation.

## Survey Overview

We used an abridged version of the National Cancer Institute's Survey of Physician Attitudes Regarding the Care of Cancer Survivors (SPARCCS). SPARCCS was designed to capture knowledge, attitudes, and practices of PCPs and oncologists regarding breast and colon cancer survivors.<sup>8</sup> For our study, questions not related to breast cancer or the role of PCPs were removed, and one question was added regarding level of training (physician vs. non-physician). An overview of survey domains is provided in Table 1 (see Supporting Methods for full survey instrument).

Provider demographics and practice setting were recorded: number of providers, practice type, patient load, insurance, capitated vs. fee-for-service, and time spent in clinical vs. administrative roles. Respondents were divided into sub-groups based on categories from a previously-published national survey: physician vs. non-physician, providers spending at least 90% effort on patient care vs. less, and providers treating at least 50% Medicaid/uninsured patients vs. less.<sup>8</sup>

Providers were asked about their confidence in providing survivorship care, including cancer surveillance, and addressing physical and psychosocial comorbidities. Providers were also given a list of treatments included in IOM guidelines on survivorship, and asked whether they ("PCP"), the oncologist ("Oncologist"), or both ("Shared") routinely provided that service.

Providers were then presented with a clinical scenario and asked to describe how often they order follow-up tests: "Routine" if they indicated a time interval (3–4 months, 6 months, or yearly) versus "Only if indicated" or "Never." Responses were compared to surveillance guidelines from the American Society of Clinical Oncology (ASCO): physical exam including breast exam—every 3–6 months for three years, 6–12 months for years 4–5, and annually thereafter—and annual mammography.<sup>10</sup> Non-routine use of recommended tests or routine ordering of other tests was considered inconsistent with guidelines.

Finally, providers were asked to choose between 5 models of survivorship: (1) PCPs have primary responsibility; (2) oncologists have primary responsibility; (3) shared responsibility

between PCPs and oncologists; and specialty clinics led by either (4) physicians or (5) midlevel providers.

### Qualitative Focus Groups

Upon returning surveys, all providers were invited to attend qualitative focus group sessions to expand upon their experiences and concerns regarding survivorship care. In total, 3 sessions were conducted at different clinical sites over a 4-month period. Discussions typically lasted 30 minutes and were moderated by a research team member. Both structured and open-ended questions were used to gain a more complete understanding of the issues facing safety-net providers. All provider comments were recorded and transcribed by the research team; particular attention was paid to concerns regarding the transition of survivorship care and factors PCPs felt were necessary to facilitate their involvement in cancer-related follow-up care. No financial incentives were provided for participation in qualitative sessions.

### Data Analysis

Responses were tabulated for survey questions, and percentages were calculated as a proportion of completed responses. Confidence intervals were generated for estimates where appropriate using the standard error of proportions. Missing responses varied from 0–1.6% for questions on confidence and testing to 16.1% for survivorship models. Sub-group comparisons were performed using chi-squared tests of independence. Analyses were performed using Stata/IC, version 13.0 (StataCorp, College Station, TX). Due to differences in sample size, population, and sampling strategy, we reported differences in trends between our sample and nationally representative data rather than using tests of statistical hypotheses. Qualitative focus group responses were categorized by theme and reported narratively.

## RESULTS

Of 11 clinics contacted, 7 (63%) allowed surveys to be distributed to providers. The major reason cited for refusal was lack of time due to high patient load and/or active transition to an electronic medical record system. In total, 115 providers were eligible and received surveys; 59 (51%) returned completed surveys. The majority of respondents were trained in internal (56%) or family medicine (36%; see Table 2). While most were physicians, 29% were non-physicians, including 13 nurse practitioners and 4 physician assistants. Our cohort included a large portion of providers spending less than 90% effort on patient care (61%), but was more evenly divided between providers serving and not serving predominantly indigent populations (56 and 44%, respectively). Despite the majority of providers having treated less than 5 survivors in the last 12 months, nearly all reported previous training in survivorship care.

Less information was available for non-responding providers. Three of the 4 non-participating sites serve as contractors rather than full-time employees of DHS. The one DHS facility that chose not to participate is located in a rural area of LA, and cited a higher-than-average patient load due to transitions within the system. Sites with high participation

completed surveys in person during outreach efforts, while those with lower rates relied on computerized surveys.

### **Knowledge & confidence**

Only 1/5 of providers reported feeling very confident about their ability to perform specific aspects of survivorship care (Table 3). Providers were least comfortable detecting physical adverse effects of treatment (14% reporting “very confident”) compared to performing surveillance for recurrence (21%) and managing psychosocial outcomes (24%). There were no differences in reported confidence levels between the physician and non-physician providers. No differences were observed by time spent providing patient care or level of indigent care provided (Supporting Table 2). Compared to a nationally representative sample of PCPs, respondents in our study were less confident at providing each aspect of survivorship care.

### **Current practices**

Fewer respondents reported participating in cancer-specific (managing long term effects of treatment, screening or evaluation for recurrence) than in non-cancer-specific health services (counseling on smoking cessation or diet, screening for new primary cancers; see Supporting Table 3). Providers also reported playing a larger role in psychosocial services than oncologists. Shared responsibility was the dominant strategy in 5 of 12 survivorship areas.

Nearly all respondents reported performing physical exams and ordering mammography at regular time intervals (92 and 98%, respectively). Almost 2/3 routinely order screening lab tests while slightly less than half routinely order tumor markers (Table 4). Radiologic studies were less commonly part of routine ordering (2–15%). Providers were most compliant with ASCO recommendations for mammography (98%) and physical exam (86%); less than 1/3 were concordant for lab testing and only 6 (10%) reported ordering practices that complied with all recommendations.

### **Preferred model**

While the majority of providers believed that PCPs in general have the skills to screen survivors for recurrence (63% “agree” or “strongly agree”), they were in less agreement over PCPs’ ability to provide appropriate follow-up care (39%; see Table 3). Fewer providers believed that PCPs should take primary responsibility for survivorship care (31%) or that PCPs were superior to oncologists in providing psychosocial support (29%). No differences were seen between physician and non-physician providers except for a larger portion of physicians believing PCPs have the skills to provide follow-up care (43 vs. 29%,  $p=0.02$ ; Table 3). Providers caring for predominantly indigent patients were more likely to agree that PCPs should take primary responsibility for survivors (42 vs. 15%,  $p=0.03$ ; Supporting Table 2). No other differences were observed between sub-groups. Similar to reported confidence at providing survivorship care, respondents in our study were less likely to support PCPs’ roles in survivorship care than providers from the national sample.

The Figure displays providers’ first- and second-choice model for survivorship care. Our providers preferred models maintaining a strong specialist presence (oncologist-led and

specialized clinic) to those managed by primary care or midlevel providers. The shared responsibility model received the second highest support in our sample, and was the most supported model in the national sample.<sup>8</sup>

### Qualitative sessions

Overall, 12–25 providers attended each qualitative session, and the majority of time was spent discussing concerns regarding the transition of survivorship care. Supporting Table 4 contains a summary of providers' responses during these sessions. While some providers disagreed with transitioning care entirely ("PCPs can't just take over cancer patients...It's unreasonable to expect that"), the vast majority supported some level of transition after appropriate referral pathways had been established. Particular concerns included the timing of transition (i.e. how long after active treatment), unfamiliarity with the management of endocrine therapy, and confusion over who is responsible for providing certain aspects of care, particularly emotional and psychological support. Strategies to improve the transition included additional training on current clinical guidelines for breast cancer survivorship care and the provision of survivorship care plans on transfer of care.

## DISCUSSION

Growth in breast cancer survivors outpaces predictions for the oncology workforce with significant shortages expected by 2020. In turn, a larger portion of patients will need to be transitioned to primary care. While previous work documents the knowledge and confidence regarding survivorship care among PCPs in general, no study has focused on safety-net settings nor has any sought to characterize the attitudes and experiences of midlevel providers.

We found that while most safety-net providers believed that PCPs have the skills necessary to provide survivorship care, the majority were not confident in their own abilities to deliver specific clinical services. Only 1/4 felt confident providing surveillance for recurrent disease or managing psychosocial effects, and less than 1/6 felt confident addressing late-term physical effects of treatment. Qualitative discussions with providers confirmed this sentiment with many feeling uncomfortable managing patients who had recently finished active therapy and nearly all requesting defined transition periods and written survivorship care plans prior to accepting responsibility for cancer-related follow-up care. Interestingly, confidence did not vary by level of training (physician vs. midlevel provider), suggesting that expansion through trained non-physician providers may be a viable solution to current workforce concerns.

Our providers reported less confidence in their own abilities and the readiness of PCPs in general compared to published results of a nationally representative sample. While the reason is unknown, this discrepancy between our sample and national data may reflect our providers' more limited experience caring for survivors or the challenges of coordinating care in resource-constrained settings. Over half of the PCPs described by Potosky and colleagues spent more than 90% of their time providing patient care and over 2/3 had seen at least 5 breast cancer patients in the last year compared to only a minority of respondents in our sample.<sup>8</sup> Moreover, there were differences in practice setting between the 2 samples

with the majority of PCPs in the national sample working in a private physician practice (66 vs. 2% in our sample), and few to none providing high levels of indigent care (5 vs. 56%). Although other differences exist between the samples, our findings suggest that safety-net providers may be less prepared to take on these responsibilities. This finding may be particularly problematic as larger shortages of oncologists in safety-net settings may force earlier transitions to primary care.

While survivors appear willing to transition follow-up to primary care,<sup>11</sup> most report uneasiness with regard to their PCP's level of oncologic expertise.<sup>12</sup> Any perceived lack of confidence among PCPs, therefore, may limit the readiness and satisfaction of survivors in transitioning care. On a positive note, providers in our sample and in similar studies universally desire additional training in cancer-specific care, especially in the long-term effects of chemo- and radiotherapy as well as genetic counseling for patients and their families.<sup>13,14</sup> Given the current level of knowledge and confidence among safety-net providers, however, training efforts may be needed before PCPs and survivors are ready to accept transitioning the majority of follow-up to primary care.

Coordinating survivorship care, which may involve multiple medical specialists, rehabilitation therapists, case managers, and mental health providers,<sup>5,6</sup> is often resource-intensive, and can be difficult in safety-net settings due to issues with insurance, specialist availability, and patient-specific factors. Rather than a preference for shared or coordinated management, however, PCPs in our sample overwhelmingly favored an oncologist- or specialty clinic-led model where only the least critical aspects of cancer-related follow-up were left to primary care. It is unclear whether this preference represents a desire not to participate or a belief that follow-up should be centralized to promote coordinated delivery. Results from our qualitative discussions suggest both processes may be at work: a small group of providers felt that caring for survivors was outside their scope while others were more willing as long as communication with oncologists was solidified.

Previous work has identified survivorship care plans and expedited routes for re-referral—both of which were requested by PCPs in our qualitative discussions—as potential mechanisms for improving communication between oncologists, PCPs, and patients.<sup>13,15</sup> Implementing these tactics, however, remains challenging: a recent study suggests that only 13.4% of PCPs receive survivorship care plans.<sup>16</sup> Beyond reducing duplicated services, collaboration between PCPs and oncologists appears essential to ensuring survivors receive both cancer- and non-cancer-related preventative care.<sup>17</sup> In our sample, PCPs reported shared responsibility for nearly half of the survivorship services recommended by the IOM, with several general health services (e.g. smoking cessation) already being performed almost entirely by primary care. Efforts to expand PCP involvement must, therefore, promote collaborative relationships with oncology providers to help transition responsibility for non-traditional, cancer-specific services, and to prevent creating more intensive but fragmented clinical care.

Finally, we found that many current survivorship care practices among our respondents did not meet national guidelines. Over 90% of our sample encouraged routine physical exams and mammography, which have been associated with reduced mortality among breast cancer



survivors.<sup>18–20</sup> Our providers were less consistent at limiting testing to targeted indications, although this was of more concern for laboratory tests than for imaging studies. Interestingly, rates of unnecessary testing were even higher in Potosky and colleagues' sample—85% reported blood test overuse and 50% reported imaging overuse—which may reflect the financial incentives of private practice.<sup>8</sup> No study has connected intensive follow-up care beyond guidelines to better health outcomes in breast cancer survivors,<sup>21,22</sup> and there is increasing belief that such practices may lead to more invasive procedures, unnecessary treatment, and avoidable side effects.<sup>23</sup> ASCO, for example, recently recommended against more aggressive surveillance in its Choosing Wisely Top Five List of evidence-based medicine practices.<sup>24,25</sup> While practices in safety-net settings often reflect too little as opposed to too much care, our results suggest that survivorship care may be improved by reducing unnecessary services and focusing limited resources on providing evidence-based, coordinated clinical care.

Our study has several important limitations. First, our sample is small and drawn from 2 primary care networks in the same geographic region. It, therefore, may not represent the knowledge, attitudes, and practices of safety-net providers generally. As one of the largest indigent care systems in the country, however, we expect our findings may mirror the sentiment of public providers nationally. Second, despite repeated follow-up efforts, we were unable to compare responders and non-responders, and our results may be subject to non-response bias. Third, as our survey only addressed specific areas of survivorship care, it may not represent overall attitudes or readiness. While our discussion sessions improved our understanding of issues facing providers, further qualitative work is needed. Finally, our results represent self-reported practices as opposed to actual practices. To the extent that providers describe their clinical practices differently from how they actually performed them, this was not captured in our analysis. Overall, we believe the uniqueness of our sample and the depth of questioning provide an important first look at PCPs working in low-resource settings.

## CONCLUSIONS

Given improvements in breast cancer screening and treatment, the number of survivors will continue to grow in the face of a limited oncology workforce. To accommodate this situation, many health systems are transitioning cancer-related follow-up to the primary care setting. Whether PCPs in these systems are adequately prepared to deliver survivorship care remains uncertain.

Our study found that while safety-net providers generally believe primary care should play a role in following cancer survivors, only a minority are confident in their own ability to provide the necessary services. Successful survivorship programs in the safety net, therefore, may require additional training programs for current providers in evidence-based practices, limiting unnecessary testing, and improving communication between the wide range of providers involved in cancer-related follow-up care.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

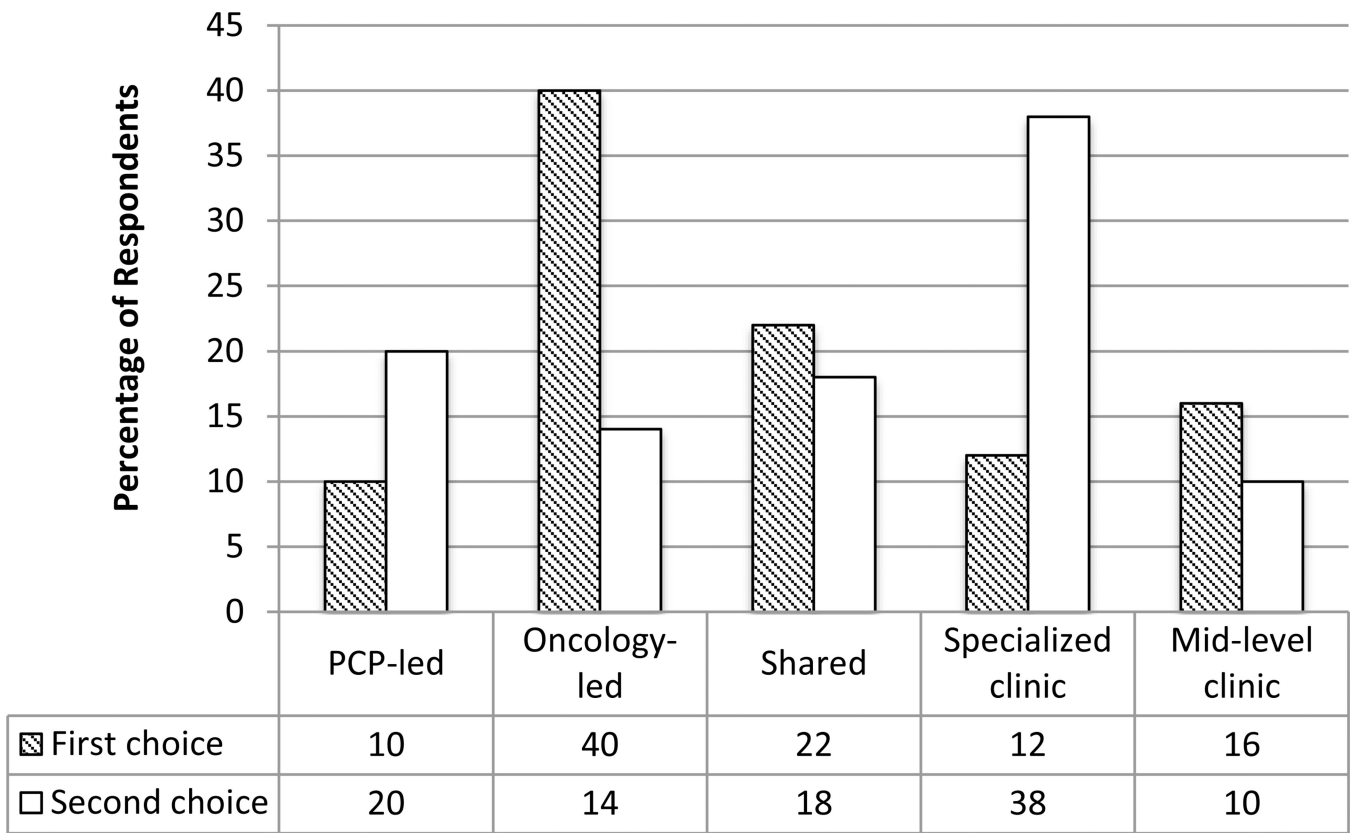
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**Figure.**  
Top-Ranked Care Delivery Models for Survivorship

**Table 1**

Overview of the SPARCCS Instrument

<b>Survey Domains</b>	<b>Question Elements</b>
<b>Demographics and practice setting</b>	Medical specialty; academic degree; site (clinic, hospital); number of breast cancer patients treated in the last year; previous training in survivorship
<b>Knowledge and confidence</b>	Self-reported confidence at delivering individual survivorship services; attitudes regarding PCPs' role in survivorship care in general
<b>Current clinical practices</b>	Ordering patterns for follow-up services (PCP, oncologist, shared); beliefs regarding the ideal frequency of surveillance testing
<b>Preferred model for survivorship care</b>	Choice between five structural models for delivering survivorship care to breast cancer patients

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**Table 2**

## Characteristics of Safety-Net Primary Care Providers

	n (%) <sup>†</sup>
Specialty	
Internal medicine	33 (56)
Family medicine	21 (36)
OB/GYN	5 (8)
Degree	
Physician	42 (71)
Non-physician	17 (29)
Site of practice	
Community health center	36 (61)
Hospital	12 (20)
Office	11 (19)
Type of practice	
Community hospital	21 (36)
Medical group	19 (33)
University hospital	16 (28)
Owner of a physician practice	1 (2)
Employee of a group or staff model HMO	1 (2)
Serves in teaching role	21 (36)
Time spent providing patient care	
Less than 90%	36 (61)
90% or greater	23 (39)
Percentage of practice made up by MCD or uninsured patients	
Less than 50%	26 (44)
50% or greater	33 (56)
Previous training in survivorship	44 (75)
Number of breast cancer survivors treated in last 12 months	
1–5	24 (56)
6–20	14 (33)
20+	5 (12)

<sup>†</sup>Percentage of responding providers. Numbers may not add to 100% due to rounding.

HMO, Health Maintenance Organization; MCD, Medicaid

**Table 3** Safety-Net Providers' Confidence Regarding Their Own Ability and the Ability of PCPs in General to Provide Breast Cancer Survivorship Care

	Safety Net Providers			National Sample of PCPs (%)
	Overall, n (%)	Physician, n (%)	Non-physician, n (%)	
Respondents who were "very confident" in their ability to...				
Provide appropriate surveillance to detect recurrence	13 (22)	9 (21)	4 (24)	40
Address late-term physical adverse effects of cancer and cancer treatment	8 (14)	6 (14)	2 (12)	23
Identify potential psychosocial adverse effects of cancer and cancer treatment	15 (25)	10 (24)	5 (29)	41
Respondents who "strongly" or "somewhat" agree that PCPs...				
Have the skills necessary to provide follow-up care related to cancer or cancer treatment	23 (39)	18 (43)	5 (29)*	59
Have the skills necessary to initiate diagnostic or screening work-up for recurrence	37 (63)	26 (62)	11 (65)	75
Should have the primary responsibility for cancer-related follow-up care	18 (31)	14 (33)	4 (24)	NR
Are better able than oncologists to provide psychosocial support	17 (29)	11 (26)	6 (38)	51

\* p<0.05.

† Results from Potosky et al. 2011.

NR, not reported; PCP, primary care physician

**Table 4**

## Safety-Net Providers' Self-Reported Clinical Practices

	<b>Routinely ordered or performed, % (95% CI)</b>	<b>Met compliance with ASCO recommendations, % (95% CI)</b>
PE	92 (84–99)	86 (77–95)
CBC	61 (48–74)	34 (21–46)
LFT	59 (46–72)	36 (23–48)
Tumor markers	41 (28–54)	34 (21–46)
Mammogram	98 (95–100)	98 (95–100)
MRI	12 (3–20)	63 (50–75)
CXR	15 (6–25)	68 (56–80)
Bone scan	10 (2–18)	71 (59–83)
CT scan	2 (0–5)	76 (65–87)
PET scan	3 (0–8)	71 (59–83)

ASCO, American Society of Clinical Oncology; CBC, Complete Blood Count; CT, Computed Tomography; CXR, Chest X-Ray; LFT, Liver Function Test (Hepatic Panel); MRI, Magnetic Resonance Imaging; PET, Positron Emission Tomography

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