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Patient Experience Performance at a Primary Cancer Center Versus Affiliated Community Facilities

Daniel C. Ma, MD,[a,1] Abhiram Singh,[a,b,1] Beatrice Bloom, MD,[a] Nilda Adair, RTT,[a] William Chen, MD,[a] Husneara Rahman, PhD,[c] Louis Potters, MD,[a] and Bhupesh Parashar, MD, DrPH[a,*]

[a]*Department of Radiation Medicine, Zucker School of Medicine, Northwell Health, Lake Success, New York;* [b]*Worcester Academy, Worcester, Massachusetts; and* [c]*Department of Biostatistics, Northwell Health, New York, New York*

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Purpose: Patient experience tools are used throughout health care to evaluate physician and departmental performance. In radiation medicine, these tools are important in evaluating patient-specific metrics throughout their care journey. This study compared patient experience outcomes from a central tertiary cancer program with network clinics in a health care network.

Methods and Materials: Radiation medicine patient experience surveys (Press Ganey, LLC) were collected from a central facility and 5 network locations from January 2017 through June 2021. Surveys were distributed to patients after treatment completion. The study cohort was divided into the central facility and satellites. Questions were converted to a 0 to 100 scale from the Likert scale (1-5). To compare scores between site types, 2-way analysis of variance tests for the significance of sites adjusted for years of operations and adjustments for multiple comparisons (Dunnett's test) were completed on each question.

Results: The number of consecutively returned surveys analyzed was 3777; a response rate of 33.3% was observed. The central site conducted 117,583 linear accelerator, 1425 Gamma Knife, 273 stereotactic radiosurgery, and 830 stereotactic body radiation therapy procedures. All satellites combined conducted 76,788 linear accelerator, 131 Gamma Knife, 95 stereotactic radiosurgery, and 355 stereotactic body radiation therapy procedures. The central facility fared better than the satellites on "Convenience of parking" (95.9 vs 87.9; $P = .0001$) but worse in other domains of care.

Conclusions: All sites yielded exemplary patient experience rates. Community clinics scored higher than the main campus. The higher scores at the network sites require a deeper analysis of factors influencing the central facility, as the survey did not account for varying patient volumes and disparities in care complexity across sites. Attributes to satellites include lower patient volumes and easily navigable layouts. These results counter the impression that increased resources at the main campus create a better patient experience relative to network clinics and suggest that high-volume tertiary facilities will require unique initiatives to improve the patient experience.

Introduction

Patient experience is an important aspect of patient-centered care and a measure of health care quality. Health care systems rely on direct patient feedback to help measure the performance of care providers within the

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[1] D.C.M. and A.S. contributed equally to this work.

*Corresponding author: Bhupesh Parashar, MD, DrPH; E-mail: bparashar@northwell.edu

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department.[1-3] The data can also be used to help identify gaps in the care delivery process to improve operational safety, efficiency, and patient satisfaction. Press Ganey surveys (Press Ganey, LLC) are the most commonly used patient experience metrics in the United States. They are approved by the National Quality Forum, making them an acceptable metric by which patient satisfaction data can be collected and analyzed.[4]

In oncology clinics, Press Ganey surveys have been used as an objective measurement for a wide variety of quality and operational improvement studies. In a 2021 study, Press Ganey surveys helped determine whether wait times for patients decreased after implementing "Plan-Do-Study-Act cycles" in a comprehensive cancer center.[5] Further, Press Ganey has been used to evaluate patient satisfaction after new clinics were acquired and integrated into a larger medical network.[6] Finally, Press Ganey surveys have been used to evaluate patient satisfaction in the implementation of multidisciplinary clinics.[7] Throughout these studies, Press Ganey data were integral to understanding sources of patient satisfaction and dissatisfaction.

The hub-and-spoke model[8] of care delivery is especially well suited for oncology patients. Although a health care network may establish a central oncology clinic equipped with cutting edge technology to perform the most advanced procedures and research, investing in additional network clinics has been shown to improve access for patients seeking cancer treatment.[9] However, little research has been done in radiation oncology to assess whether any differences exist between the patient experience in the main hub and in community clinics. Based on its increased clinical resources, advanced technology, and greater funding for research, the central clinic could appear to provide a more enhanced patient experience relative to the network clinics. As such, the aim of this study is to compare Press Ganey treatment survey results between site types in an urban, academic health care network. To our knowledge, this is the first radiation oncology network comparing the patient experience at community clinics to the affiliated main cancer center through Press Ganey surveys.

Methods and Materials

This was an institutional review board−exempt study performed within the largest health care network, Northwell Health, in New York City, beginning in January 2017 and culminating at the end of June 2021. Press Ganey surveys were used to collect patient experience data during the study period. The surveys were sent to all patients after their radiation treatment had been completed. The surveys were then collected from the central campus along with 5 community clinics distributed throughout New York City at the end of each month. In addition to patient scores, data on the number and variety of procedures at each site were recorded, such as linear accelerator (LINAC), Gamma Knife, stereotactic radiosurgery (SRS), and stereotactic body radiation therapy (SBRT) procedures as a surrogate for the complexity of the operation and patient population.

The Press Ganey Radiation Oncology treatment survey was used, which consisted of 27 questions. Each question was scored on the Likert scale (1-5), with 1 indicating a "very poor" measure of patient satisfaction, 2 indicating a "poor" measure of satisfaction, 3 indicating a "fair" measure of satisfaction, 4 indicating a "good" measure of satisfaction, and 5 indicating a "very good" measure of satisfaction.[10] No questions were negatively worded, removing the need to reverse score any questions. Scores for all questions were stratified and averaged for each site across the study period. Then, the scores were converted from the Likert scale to a 0 to 100 scale by using the formula $(\text{mean} - 1) \times 25$.[11]

To compare the performance between the central site versus the community clinics, 2-way analysis of variance (ANOVA) tests were completed on each question, followed by an adjustment for multiple comparisons (using Dunnett's test). The ANOVA tests determined whether a statistically significant difference existed between the clinics when adjusted for the year of operation. If statistical significance was observed for the overall effect of sites, then Dunnett's test was used to adjust for multiple comparisons for the significance of each affiliated clinic with the central clinic. Dunnett's test included adjustments for the year of operation and provided adjusted P values for the multiple comparisons. The large number of observations warranted use of the ANOVA test, which was more appropriate and effective than a corresponding nonparametric test. Dunnett's test compared each comparison group with a reference group.

Results

The number of consecutively returned and analyzed surveys was 3777, with a total of 95,171 responses. During the study period, the high-volume central site conducted 117,583 LINAC, 1425 Gamma Knife, 273 SRS, and 830 SBRT treatments. The 5 affiliated community (AFL) clinics conducted a combined total of 76,788 LINAC, 131 Gamma Knife, 95 SRS, and 355 SBRT procedures. Operational details of the sites investigated are outlined in Table 1. Patient experience scores on all questions were compared between the central site and the network clinics. Overall, the central site had significantly lower scores ($P < .05$) than the satellite clinics, except for the ease of parking (Table 2).

Detailed results of 5 operationally important questions are selected for in-depth review and are listed in Table 3. The 5 questions are "Overall rating of care given at this

Table 1 Operational details of radiation clinics studied

Factor	Central site	AFL 1	AFL 2	AFL 3	AFL 4	AFL 5
Facility	Standalone	Hospital based	Hospital based	Hospital based	Hospital based	Standalone
Location	Urban/suburban	Urban	Suburban	Suburban	Urban/suburban	Suburban
Number of MDs	8	2	2	2	2	2
Equipment	3 TrueBeam Gamma Knife	TomoTherapy	TrueBeam Gamma Knife	Trilogy	TrueBeam	TrueBeam
Brachytherapy	Yes	Yes	Yes	Yes	Yes	Yes
SRS/SBRT	Yes	Yes	Yes	Yes	Yes	Yes
Supportive staff (dieticians, social worker, or navigator)	Dedicated	Shared with other departments	Shared with other departments	Shared with other departments	Shared with other departments	Shared with other departments

Abbreviations: AFL = affiliated communities; MD = faculty physicians; SBRT = stereotactic body radiation therapy; SRS = stereotactic radiosurgery.

facility," "Likelihood of your recommending our services to others," "How well your pain was controlled," "Waiting time in the radiation therapy area," and "Convenience of parking."

For "Overall rating of care given at this facility," AFL 1 and AFL 5 both scored higher than the central site ($P = .034$ and $P < .0001$, respectively). AFL 2, 3, and 4 scored higher but were not statistically significant. For "Likelihood of your recommending our services to others," we observed a similar trend in which AFL 5 scored higher than the central campus ($P = .0003$). Other community clinics also scored higher but were not statistically significant. For "How well your pain was controlled," we observed that AFL 2, 4, and 5 scored higher than the central clinic. AFL 1 and 3 scores were not statistically significant, but they had higher scores as well. For the question "Waiting time in the radiation therapy area," all community clinics scored higher than the central clinic with statistically significant results. The question where the central campus scored higher was on "Convenience of parking." Although AFL 5 scored higher than the central clinic (96.54 vs 95.89), this was not a statistically significant result.

Discussion

This patient experience study, using Press Ganey surveys, aimed to determine whether differences in patient satisfaction between a central radiation oncology clinic and several network clinics exist in an urban academic cancer network. Our study shows that patient satisfaction is greater at the network clinics in every category except for the convenience of parking. These results are counter to the commonly held impression that a central site's wider variety of patient resources (dieticians, patient navigators, full-time social workers, and psychiatrists, among others) would enhance the patient experience. One study suggested that patient services are among less-important factors affecting the patient experience; however, facility management and organization was an important factor.[12] Our study helps to shed light on the discrepancies in the patient experience which exist between central and community radiation facilities.

Patient wait times are an important factor that influence physician Press Ganey scores.[13] In our study, the central site fared slightly worse than the community clinics in both the scheduling process (90.30 vs 94.23; $P = .06$) and treatment area (89.65 vs 95.53; $P < .0001$) in terms of wait times. The results from our study could be explained by the high patient volume and complexity at the central site resulting in longer wait times. More personalized attention due to lower patient volume and more easily navigable settings could lead to shorter wait times and higher satisfaction at the network facility. This suggests that high-volume tertiary facilities will require unique initiatives to decrease wait times for patients both during the scheduling process and in the clinic itself. One potential remedy is electronic sign-in stations, which have been shown to decrease wait times and increase patient satisfaction.[14] Streamlining the scheduling process overall will also decrease wait times, improving the patient experience. One systematic review revealed that implementation of dedicated phone-call follow-ups and consultations via email helped to reduce patient waiting times.[15] In another study, a pediatric center was able to reduce waiting times by establishing a web-based scheduling platform.[16] Another study outlined the potential benefits of an automated text messaging system, which could enhance technologies such as Fast Pass, which have been shown to decrease waiting times.[17]

Sufficient pain control has been shown to be a major factor in patient satisfaction surveys like the Press Ganey survey[18] and correlates with patients' perception of their care provider and overall care.[19] Inadequate communication between patients and their caregivers concerning

Table 2 Press Ganey treatment survey questions

Question	Central site scored higher	Satellites scored higher	*P* value
Cleanliness of the facility	No	Yes	.0004
Comfort of the waiting area	No	Yes	<.0001
Convenience of parking	Yes	No	<.0001
Courtesy of staff	No	Yes	.0006
Degree to which staff addressed your emotional needs	No	Yes	.0011
Degree to which staff respected your family's cultural and spiritual needs	No	Yes	.0001
Degree to which your care was well coordinated among your doctors/ other caregivers	No	Yes	.0010
Ease of finding your way around the facility	No	Yes	<.0001
Ease of reaching the office staff on the telephone	No	Yes	.0161
Ease of the registration process	No	Yes	.1411*
Efforts to include you in decisions about your treatment	No	Yes	.0046
Explanation of how to manage side effects (of radiation therapy)	No	Yes	.0010
Explanation of what to expect during your radiation therapy	No	Yes	.0002
How well your pain was controlled	No	Yes	.0029
Instructions about how to care for yourself at home	No	Yes	.0007
Likelihood of your recommending our services to others	No	Yes	.0003
Overall rating of care given at this facility	No	Yes	<.0001
Privacy of changing rooms	No	Yes	<.0001
Skill and knowledge of the nurse	No	Yes	.0225
Staff concern for your comfort during your radiation therapy	No	Yes	.0004
Staff concern for your privacy	No	Yes	<.0001
Staff concern to keep your family informed about what to expect from your condition and treatment (if appropriate)	No	Yes	.0002
Staff courtesy during your radiation therapy	No	Yes	.0017
Staff sensitivity to the personal difficulties and inconvenience that your condition and treatment can cause	No	Yes	<.0001
Waiting time between calling and first scheduled appointment	No	Yes	.0001
Waiting time in the radiation therapy area	No	Yes	<.0001
Waiting time in the registration area	No	Yes	.0165

* Not statistically significant.

pain has also been shown to reduce patient experience scores.[20] In the current study, patients reported excellent pain control scores across all sites, with the network clinics yielding greater scores than the central site (90.85 vs 94.01; $P = .003$). Although adequate pain control is clearly important, caution must be exercised in relying solely on patient satisfaction scores to change prescribing patterns, especially for narcotics. Some studies have shown that there can be a poor correlation between patient satisfaction and pain intensity,[21] and patients can experience high levels of pain but still be satisfied with pain management. It is widely accepted that cancer pain is multifactorial and requires a holistic approach to management. In addition to standard analgesics, adjunctive methods such as acupuncture and acupressure to help alleviate pain should continue to be explored.[22] A possible reason for the improved pain control score at community sites may be due to the low overall patient volume. Care providers may have more time to focus on each patient more holistically and address stressors in patients' lives that may contribute to their perception of pain.

All sites studied reported excellent scores for broader, global questions. The central site yielded lower scores than the network clinics on "Likelihood of recommending

Table 3 Results of 5 operationally important questions

Question	Central site	AFL 1	AFL 2	AFL 3	AFL 4	AFL 5
Overall rating of care	95.83	97.49, $P = .034$	97.14, $P = .055$	96.64, $P = .942$	96.95, $P = .363$	98.07, $P < .0001$
Likelihood of recommending our services	96.17	97.38, $P = .244$	96.66, $P = .876$	96.41, $P = .999$	97.53, $P = .193$	98.27, $P = .0003$
How well your pain was controlled	90.85	92.31, $P = .564$	94.01, $P = .003$	91.67, $P = .993$	94.13, $P = .014$	93.3, $P = .02$
Waiting time in the radiation therapy area	89.65	95.23, $P < .0001$	93.04, $P < .0001$	94.47, $P = .006$	94.67, $P < .0001$	95.53, $P < .0001$
Convenience of parking	95.89	61.36, $P < .0001$	87.93, $P < .0001$	87.03, $P < .0001$	92.53, $P = .005$	96.54, $P = .924$

our services to others" (96.17 vs 98.27; $P = .0003$), a small but important difference given the significance of "recommending our services" to prospective patients. In addition, the network clinics scored higher than the central site on "Overall rating of care given at this facility" (95.83 vs 98.07; $P < .0001$). When considering their overall rating, patients likely factored in previously discussed components such as pain control and waiting times (among others), so this result is understandable given the slightly lower scores of the central site on other questions. Yet again these results were despite the main campus's increased resources for enhancing the patient experience, so higher-volume sites will have to implement initiatives based on these data to ensure their patients are getting the best care possible.

Out of all 27 questions, the only one in which the central site significantly outperformed all community clinics was "Convenience of parking," in which the community sites all yielded much lower scores than the central campus (95.89 vs 61.36; $P < .0001$). AFL 5 scored higher than the central site (96.54 vs 95.89); however, this result was not statistically significant. Both the main site and AFL 5 offer free access to parking and an expansive parking lot. The sites that scored lower were hospital-based practices, which helps to explain this result. With more space and resources for patient parking and valet services, the central site can provide more convenient parking for its patients. AFL 1 is located in a densely urban neighborhood, thus the lack of space for parking yields lower patient satisfaction scores. Investment in valet services or parking areas by the hospital administrator is strongly supported by these results.

There were limitations to this study. Although Press Ganey surveys are validated by the National Quality Forum,[4] Press Ganey scores are not risk adjusted and are subject to bias common to survey instruments. In a recent study, the survey was shown to be subject to physician race and specialty[23] and yielded higher scores for physicians who were of the same ethnicity/race as their patients.[24] In a recent study, emergency department physicians working at different sites had varying satisfaction scores depending on their location.[25] These studies suggest that despite its widespread use and ties to reimbursement and physician performance, Press Ganey survey data should be analyzed with caution due to factors beyond the control of a physician. Press Ganey surveys have also been subject to nonresponse and selection bias. In one study, for example, only 3.5% of patients responded to the survey, and therefore the population analyzed differed from the patient population which was treated overall.[26] However, if there is a high rate of response to the survey, the risk of bias is lowered.[27] In our study, 33.3% of patients responded to the survey, which is a relatively high response rate that strengthens the statistical analyses performed and lowers the chances of bias.

Not much research has been done to examine whether the patient experience differs between high-volume tertiary radiation facilities and associated satellite sites. A similar study was conducted at the same urban academic health care network between January 2017 and December 2019. Similar results were found, with the satellite sites outperforming the central site by a small margin.[28] In Japan, a similar study using the primary care assessment tool was conducted in which 19 primary care-based clinics were compared with 6 larger hospitals in the same primary care network; the smaller community clinics outperformed the larger hospitals.[29] In a similar study of a primary care network in China, patient satisfaction was lower both for inpatients and outpatients at the larger hospitals, whereas community health clinics fared better.[30]

Despite the limitations of Press Ganey surveys, understanding the sources of patient dissatisfaction serves as a launchpad for initiatives aimed at addressing these observed discrepancies. It complements quality-assurance initiatives well, such as reporting near misses to address patient safety incidents. Telehealth has also been shown to yield high patient satisfaction scores in radiation medicine by providing a comfortable and convenient platform for patient virtual visits.[31] Advances in technology allowed video teleconferences, which yields greater patient satisfaction compared with audio-only visits.[32,33] Availability of specialized pain teams, alternative modalities to address pain such as acupuncture, mindfulness, adequate staffing, and assistance in transportation may all enhance the patient experience.

Conclusion

Patient experience surveys are important tools for analyzing the drivers of patient dissatisfaction. The Press Ganey treatment survey revealed better patient experience at community radiation clinics relative to the associated tertiary, high-volume central campus in our cancer care network. Implementing unique program initiatives at radiation sites should be aimed to address these discrepancies. Additional research is required to affirm whether this trend is unique to this health care system or if it holds true for most networks.

Disclosures

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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