


Patient Perceptions of the Impact of the COVID Pandemic on the Quality of Their Gastrointestinal Cancer Care

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Abstract

We surveyed patients who had received care for a gastrointestinal cancer between 03/2020 and 05/2021 to understand their perceptions of the impact of the Covid pandemic on cancer care delivery and quality of care. Three-hundred fifty-eight respondents provided evaluable responses (response rate: 17.3%). Approximately half of respondents (46.4%) perceived that they had experienced a pandemic-related cancer care modification; most changes were initiated by a clinician or the cancer center (44.6%). Relative to White patients those from Racialized Groups (OR: 1.91, 95% CI: 1.03-3.54) were more likely to report a cancer treatment change. Additionally, relative to patients in follow-up, those who were newly diagnosed (OR: 2.39; 95% CI: 1.21-4.71) were more likely to report a change. Compared to White patients, patients from Racialized Groups were approximately twice as likely to report perceiving that virtual visits during Covid negatively impacted the quality of their care (OR: 2.21; 95% CI: 0.96-5.08). These findings potentially reflect pre-existing systemic disparities in quality of and access to care, as well as differences in how care is experienced by patients from Racialized Groups.

Keywords

quality of care, coronavirus, pandemic, cancer care, patient-centeredness

Introduction

Beyond Covid-19 (Covid) infection itself, the pandemic has impacted how some cancer care is delivered.¹ Many articles at the outset of the pandemic indicated that delays and cancellations were often patient-initiated out of fear of contracting Covid,¹ though some changes were implemented by institutions to facilitate delivery of care to patients with Covid, such as reducing the number of scheduled surgical resections to decrease the need for intensive care unit capacity and ventilators,¹⁻³ while others were introduced to mitigate transmission, such as reducing the number of in-person visits by prioritizing of curative intent treatments, restricting the numbers and/or types of essential care partners attending visits, and using oral rather than intravenous therapies.⁴⁻⁷ The extent to which cancer care was modified in response to the pandemic and its relationship to clinical outcomes is not yet well understood; however, changes to care delivery have been linked to substantial delays in some jurisdictions,

particularly for patients who were newly diagnosed,⁸ were frail or had incurable disease.⁹

The pandemic may also have exacerbated pre-existing disparities in care by disproportionately impacting

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sociodemographic subgroups who experience delayed access to screening or diagnostic services, and have higher stage at presentation under non-pandemic conditions. A recent survey of adult patients in the United States treated during the pandemic found that relative to White respondents, Black respondents (OR: 6.13; 95% CI: 3.50-10.74) and Hispanic or Latinx respondents (OR: 2.77; 95% CI: 1.49-5.14) were significantly more likely to experience involuntary treatment delays, and that Black respondents were 3 times as likely to experience a delay greater than 4 weeks (OR: 3.13; 95% CI: 1.11-8.81).¹⁰ While virtual visits were widely adopted at the beginning of the pandemic in an effort to maintain levels of care and reduce the number of in-person visits, this may have also had implications for care quality, as lower engagement with, and negative perceptions of virtual care have been reported for older adults¹¹ and patients in Racialized Groups.^{12,13}

Some practice changes brought about during the pandemic, such as the implementation of virtual care and reduction of use of some laboratory tests and imaging,^{14,15} are likely to be sustained beyond the pandemic. As such, there is a need to examine the impact of the pandemic on quality of oncologic care. Herein, we undertook a cross-sectional survey of patients who received care for a gastrointestinal cancer during Covid at the largest comprehensive cancer center in Ontario, Canada to evaluate patients' perceptions of the pandemic's impact on cancer care delivery and quality of care. Prior to the pandemic, approximately 0.8% of daily visits at our center were conducted virtually (either by video or telephone) which rose rapidly to 68.4% during the early stages of the pandemic, and still represents approximately 1 in 4 visits at our cancer center.¹⁶ As such, we included questions specifically probing patient perceptions around the impact of virtual visits on quality of care, and the patient-centeredness quality domain. In addition, we undertook regression analyses to evaluate potential associations with disease characteristics and social determinants of health to examine patient-level differences in experiences with Covid-related modifications to cancer care and negative perceptions of quality of care.

Methods

Setting and Ethics

This work was undertaken at Princess Margaret Cancer Centre (PM), a large, urban comprehensive cancer center in Toronto, Canada where health services are provided through a single-payer, universal health care system; the gastrointestinal cancer clinic sees approximately 2900 patients annually. The study was approved by the University Health Network (#21-5276), and the University of Toronto (#41345) Research Ethics Boards.

Survey Content

As an existing validated measure could not be identified to appropriately capture modifications to cancer care, a survey

measure was constructed which captured patient perceptions of the impact of the pandemic on treatment decision making and the underlying reasons for those decisions, informed by a scoping literature review (Supplemental File 1).¹ We quantified patients' perception of the quality of care that they received based on the National Academy of Medicine's definition of patient-centered quality,^{17,18} and the Picker Institute's 8 principles of patient-centered care (respect for patients' preferences, coordination and integration of care, information and education, physical comfort, emotional support, involvement of family and friends, continuity and transition, and access to care) on a 5-point Likert scale from 1-never to 5-always.¹⁹ Taking into account previous studies suggesting that patient overall quality ratings and willingness to recommend care are most strongly tied to technical performance on established quality metrics,²⁰ we adapted the wording from the provincially-mandated Cancer Care Ontario/Ontario Health Ambulatory Patient Experience Survey²¹ to query patients on their overall impressions of their care. Categorical sociodemographic and clinical characteristics collected from respondents were selected based on previous reports evaluating the impact of patient-level characteristics on patient experience,²² and on the PROGRESS (Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socioeconomic status and Social capital) equity framework.²³ For respondents ≥ 65 years of age, frailty was captured using the validated Vulnerable Elders Survey-13,²⁴ and dichotomize to not frail (0-2) or frail (3+).

Survey Dissemination and Data Collection

All patients ≥ 18 years of age who had a visit in the gastrointestinal clinic at PM between March 1, 2020 and May 31, 2021, and had a valid email address on file (approximately 60%-70% across PM) were invited to participate in the survey. Patients who required help from a caregiver to complete the survey were included. An introductory email was sent to eligible participants with a link to the consent and survey; by accepting the terms of the consent information form, participants provided consent to participate in the survey. As responses were anonymous, a reminder email was sent to all potential participants approximately 2 weeks later to maximize response rates for analysis.²⁵ Survey responses were collected using the secure, SSL-enabled QuestionPro platform (QuestionPro; Dallas, USA).

Statistical Analysis

All analyses were undertaken using R (version 4.1.1, R Foundation for Statistical Computing; Vienna, Austria). Cronbach's alpha was calculated for questions in the panel pertaining to patient centeredness of care, which demonstrated moderately high covariance among items relative to the variance (Cronbach's alpha: 0.89). Descriptive statistics were utilized to summarize patient and disease

characteristics, and responses to individual survey questions. Patients were considered to be “in follow-up” if they indicated that they had completed treatment and were being followed for disease progression or recurrence. Patient status as existing or new patients at the start of the pandemic are relative to March 2020 as that is when the World Health Organization declared Covid to be a pandemic, and many of the pandemic-related changes to cancer care were enacted. Unadjusted and adjusted associations with patient-level demographic and clinical factors and reporting (1) a Covid-related modification to care, or (2) a negative perception of quality, were evaluated using separate univariate and multivariable binary logistic regression models. To build a parsimonious model, covariates for multivariable models were selected using forward stepwise selection by Akaike Information Criterion.²⁶ Results were reported as odds ratios with 95% confidence intervals; statistical significance was defined as $P < .05$. To examine potential impact of representativeness of the survey sample, iterative proportional weighting was used to generate weight estimates relative to the Toronto, Canada population parameters for ethnicity, language and education,²⁷ trimmed to 0.3-3.0.²⁸ As weighting did not change the direction or conclusions of the analyses, all analyses are reported based on the unweighted responses.

Results

Cohort Characteristics

The response rate was 17.3% (435/2515); 358 responses were evaluable (Supplemental Figure 1). The majority of respondents were patients themselves rather than a caregiver on behalf of the patient (89.7%, Table 1). The greatest proportion of respondents were ≥ 65 years of age (46.6%), self-reported to be White (63.4%), spoke English as their first language (67.3%), were referred to PM prior to the start of the Covid pandemic (56.4%), and were in long-term follow-up for their cancer (42.2%; 151/358).

Covid-related Modifications to Care

Approximately half of the respondents (46.4%) indicated that they felt the Covid pandemic had resulted in some change to their cancer care. The most frequently reported modifications to care were change, delay or deferral of in-person appointments with their oncologists (68.7%), advanced imaging scans (28.9%), and surgical procedures (24.1%; Table 2). Most modifications to care were reportedly initiated by a clinician or the cancer center (44.6%), while few patients reported that they had requested a change (5.4%). Of those patients who did request a change in their care ($n = 9$), they most frequently did so due to fear of being infected with Covid during their appointment, or due to issues with traveling to the cancer center (data not shown). Relative to White respondents, patients from Racialized Groups were almost twice as likely to report having experienced a Covid related

Table 1. Self-reported Demographic and Clinical Characteristics of Respondents ($n = 358$).

Variables	N (%)	
Respondent type	Patient	321 (89.7)
	Caregiver on behalf of patient	36 (10.0)
	Missing	1 (0.3)
Age	20-34	6 (1.7)
	35-44	13 (3.6)
	45-54	38 (10.6)
	55-64	75 (20.9)
	65-74	111 (31.0)
	75-84	47 (13.1)
	>85	9 (2.5)
Gender	Missing	59 (16.5)
	Female	127 (35.5)
	Male	174 (48.6)
	Other	2 (0.6)
Race ^a	Missing	55 (15.4)
	White	227 (63.4)
	Racialized Groups	76 (21.2)
Language	Missing	55 (15.4)
	English	241 (67.3)
	Other	61 (17.0)
Education	Missing	56 (15.6)
	Grade school	9 (2.5)
	Some high school	6 (1.7)
	High school	27 (7.5)
	Some college/ university	61 (17.0)
	University	125 (34.9)
	Graduate school	70 (19.6)
	Prefer not to answer	3 (0.8)
	Missing	57 (15.9)
Income	<\$50 000	61 (17.0)
	\$50 000-\$75 000	48 (13.4)
	\$75 000-\$100 000	37 (10.3)
	>\$100 000	96 (26.8)
	Prefer not to answer	59 (16.5)
	Missing	57 (15.9)
Marital status	Single	25 (7.0)
	Married/common-law	216 (60.3)
	Divorced/ widowed	52 (14.5)
	Prefer not to answer	9 (2.5)
	Missing	56 (15.6)
Frailty score ^b	0-2	105 (62.9)
	3+	62 (37.1)
Phase of cancer trajectory	Newly diagnosed	71 (19.8)
	Recurrent disease	102 (28.5)
	In follow-up ^c	151 (42.2)
	Missing	34 (9.5)
Referral to cancer center	Prior to the start of Covid ^d	202 (56.4)
	During Covid	150 (41.9)
	Missing	6 (1.7)

^aPatients who self-reported belonging to a race other than White.

^bRestricted to patients ≥ 65 years of age.

^cPatients who indicated that they had completed treatment and were still being followed for disease progression/ recurrence.

^dCovid start was considered March 2020.

change to their imaging scans, genetic testing or receipt of cancer treatment (OR: 1.91, 95% CI: 1.03-3.54; Table 3).

Table 2. Summary of Responses of Patients who Reported Having Experienced a Modification to Care During Covid (46.4%; 166/358).

Modification to care	N (%)	
Experienced a change, delay or deferral of cancer care ^a	In-person appointments with oncologist	114 (68.7)
	Imaging services (MRI, CT scan, PET)	48 (28.9)
	Genetic testing	6 (3.6)
	Supportive services (physical therapy, psychosocial)	16 (9.6)
	Surgical procedures	40 (24.1)
	Radiotherapy	11 (6.6)
	Systemic therapy	19 (11.4)
Impact to treatment initiation	Delayed by less than 2 weeks	8 (4.8)
	Delayed by more than 2 weeks, but less than 3 months	20 (12.0)
	Delayed by more than 3 months	4 (2.4)
	Delayed by more than 3 months, but less than 6 months	4 (2.4)
	Delayed by more than 6 months	3 (1.8)
	Delayed, not yet rescheduled	3 (1.8)
	No change, appointments carried out as planned	104 (62.7)
Impact to cancer treatment delivery ^a	Missing	20 (12.0)
	Change of treatment modality (ie, surgery vs concurrent systemic therapy—radiotherapy)	5 (3.0)
	Change of treatment administration (ie, oral vs intravenous systemic therapy)	4 (2.4)
	No change	111 (66.9)
Impact to visits with oncologist	I am unsure	31 (18.7)
	Some visits by telephone	71 (42.8)
	More than half visits telephone	18 (10.8)
	All visits by telephone	24 (14.5)
	Some visits by video	12 (7.2)
	More than half visits by video	3 (1.8)
	All visits by video	3 (1.8)
	No change, all visits in person	16 (9.6)
Reason for change, delay or deferral of cancer care	Missing	19 (11.4)
	Patient requested	9 (5.4)
	Awaiting Covid test results	4 (2.4)
	Provider/institution initiated	74 (44.6)
	Other	6 (3.6)
	Missing	73 (44.0)

^aRespondents could select more than one.

Relative to patients in follow-up care, patients who were newly diagnosed were more than twice as likely to report having experienced a Covid-related change to their care (OR: 2.39; 95% CI: 1.21-4.71). Frailty was not found to be associated with experiencing a Covid-related change in care ($P = .63$).

Patient Perceptions of Cancer Care Quality

Perceptions were positive on most domains of patient-centeredness (Supplemental Figure 2), particularly with respect to being provided information on tests (always: 83.6%) and treatments (always: 83.8%), and being adequately involved in decisions about their care (always: 71.6%). However, of the patients requiring interpretation services ($n = 44$), only 36.4% reported the services being routinely offered. Approximately one-third of respondents reported receiving inadequate emotional supports, with 36.0% and 31.8% of respondents reporting receiving inadequate access to information on emotional supports available to them and receipt of appropriate resources,

respectively. Approximately one-fifth of respondents reported that they were not adequately informed of changes to their treatments or care (20.9%; 48/230). Similarly, 21.4% of respondents (51/238) felt that their friends and family had not been involved in decisions about their care as much as they preferred.

The majority of respondents rated the overall quality of their cancer care at PM as excellent or very good (89.2%), and indicated that they were very likely (93.1%) to recommend PM to family or friends (Figure 1). Relatively few respondents (14.9%; 44/298) reported that they perceived that the quality of their cancer care had been negatively impacted by the Covid pandemic. Relative to respondents who were patients of PM prior to the pandemic, those referred during the pandemic were more likely to report a negative perception (OR: 1.99; 95% CI: 0.90-3.91), although this association was not statistically significant ($P = .08$; Supplemental Table 1). Similarly, relatively few respondents reported that they felt that having virtual visits had a negative impact on the quality of their cancer care (13.5%). Relative to White respondents, patients in Racialized Groups were

Table 3. Unadjusted and Adjusted Associations Between Patient-level Demographic and Clinical Factors and Reporting a Covid-related Modification to Receipt of Imaging Tests, Genetic Testing, or Cancer Treatment Based on Univariate and Multivariable Logistic Regression.

Variables		Univariate			Multivariable		
		Odds ratio	95% CI	P-value	Odds ratio	95% CI	P-value
Respondent type	Patient	Ref	–	.75			
	Caregiver	1.13	0.52-2.46				
Age	20-34	3.44	0.65-18.11	.74			
	35-44	2.15	0.65-7.16				
	45-54	1.07	0.45-2.55				
	55-64	1.11	0.55-2.21				
	65-74	Ref	–				
	75-84	1.18	0.53-2.61				
	>85	<0.01	9.30e-25-4.38e17				
Gender	Male	Ref	–	.70			
	Female	1.06	0.62-1.81				
	Other	3.24	0.20-53.02				
Race	White	Ref	–	.01	Ref	–	.04
	Racialized groups	2.16	1.22-3.82		1.91	1.03-3.54	
Language	English	Ref	–	.16			
	Other	1.56	0.84-2.90				
Income	<\$50 000	1.95	0.94-4.06	.44			
	\$50 000-\$75 000	1.05	0.45-2.49				
	\$75 000-\$100 000	1.48	0.61-3.58				
	>\$100 000	Ref	–				
Education	Prefer not to answer	1.24	0.57-2.72				
	Grade school	2.08	0.49-8.93	.33			
	Some High School	2.08	0.36-12.05				
	High school	1.46	0.55-3.84				
	Some college	1.74	0.86-3.54				
	University	Ref	–				
	Graduate school	1.44	0.72-2.90				
Marital status	Prefer not to answer	2.08	0.18-23.94				
	Single	1.25	0.49-3.16	.88			
	Married/common-law	Ref	–				
	Divorced/widowed	0.97	0.47-1.98				
	Prefer not to answer	1.61	0.39-6.66				
Frailty score	0-2	Ref	–	.63			
	3+	1.20	0.56-2.53				
Phase of cancer trajectory	Newly diagnosed	2.48	1.33-4.62	.02	2.39	1.21-4.71	.04
	Recurrent disease	1.65	0.92-2.97		1.17	0.59-2.33	
	In follow-up	Ref	–		Ref	–	
Referral to cancer center	Prior to the start of Covid	Ref	–	.05			
	During Covid	1.61	1.00-2.59				

approximately twice as likely to report a negative perception of the impact of virtual visits on the quality of their care (OR: 2.21; 95% CI: 0.96-5.08), although this association was not statistically significant ($P = .06$; Supplemental Table 2). Age was not found to be associated with having a negative perception of virtual care ($P = .48$).

Discussion

Covid impacted how some cancer care was delivered which has raised concerns regarding potential impact on quality of care. Some practice changes brought about during the pandemic, such as the implementation of virtual care and reduction of use of some laboratory tests and imaging,^{14,15} are

likely to persist; however, there has been a paucity of literature published to date examining the impacts of the pandemic with a quality lens. Reassuringly, we found that patients rated the quality of the cancer care that they received during Covid as high, and reported mostly positive perceptions of the patient-centeredness of their care. However, the greatest proportion of patients reported negative perceptions of receipt of interpretation services, being informed of changes in care, receiving information about and provision of emotional support, and involvement of family and friends in care decision making. Limitations on in-person visits likely impacted patients' exposure to advertisements for support groups and psychosocial services available through the cancer center. Additionally, providers may be less perceptive about and

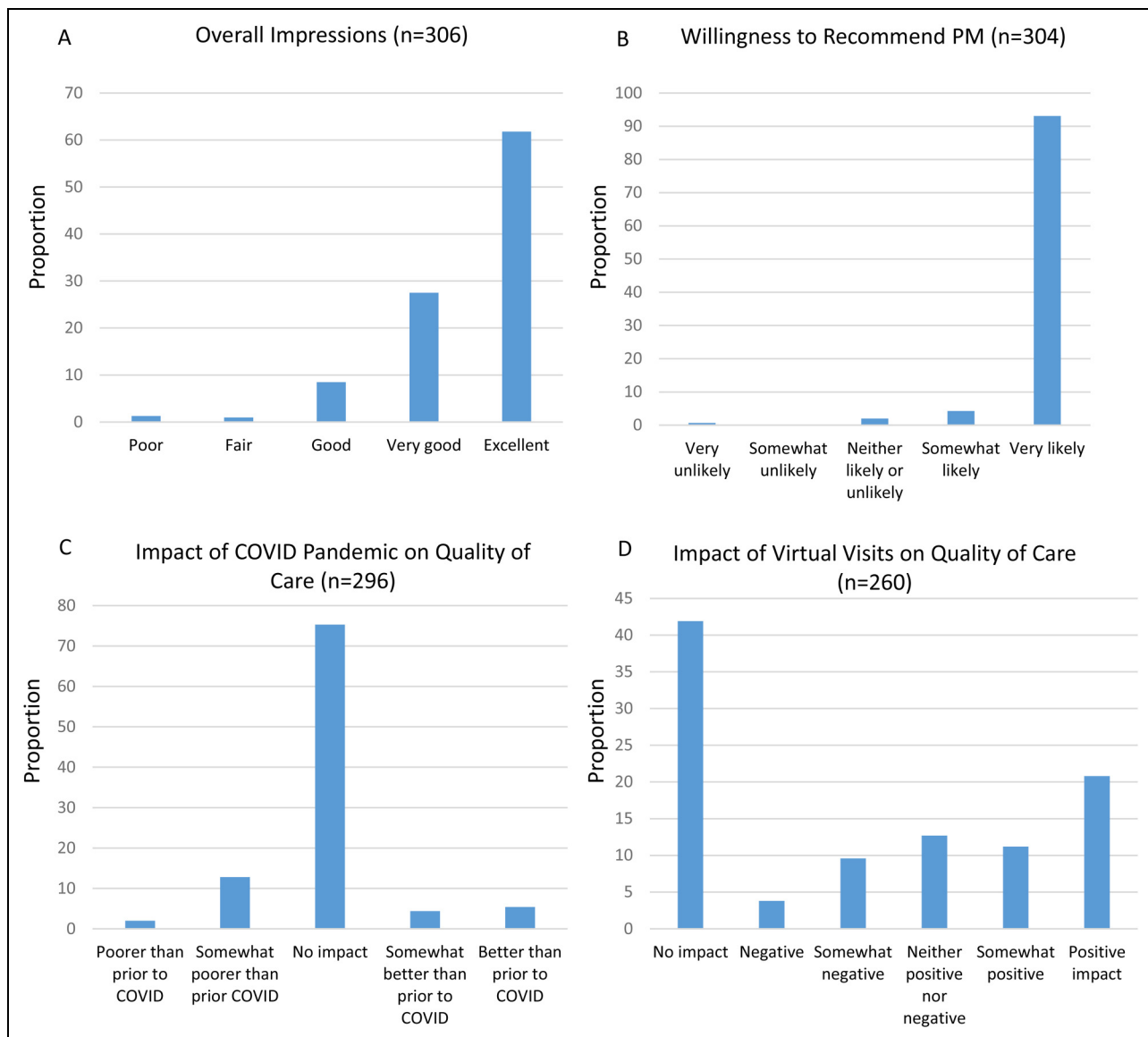


Figure 1. Summary of patient responses regarding overall impressions of care.

responsive to emotional needs when interacting with patients virtually than in-person, or patients may be less likely to interact with other members of the care team, such as nursing or allied health,²⁹ who may be more likely to focus on their psychosocial needs. Restrictions on essential care partners' attendance at in-person visits likely limited family and friend involvement in treatment decision making despite the potential benefits of virtual visits for family and caregiver involvement in care.³⁰ To our knowledge, our study is the first to comprehensively evaluate patient-centeredness of cancer care delivered during the pandemic and the impact of virtual visits on patient perceptions regarding the quality of their care.

Similar to previous work from Rodriguez et al,³¹ approximately half of the respondents (46.4%) felt that the Covid pandemic triggered some modification to their cancer care;

however, relatively few respondents (14.9%) reported that they perceived that the quality of their cancer care had been negatively impacted by it. Keeping with previous reports from our jurisdiction,³² as well as reports globally,¹ we found that beyond the shift to virtual visits, changes in the receipt of imaging (28.9%) and surgical procedures (24.1%) were the most commonly reported modifications to care, and that relative to those patients in follow-up care, patients who were newly diagnosed were more than twice as likely to report having experienced a Covid-related change to their treatment (OR: 2.39; 95% CI: 1.21-4.71). In our jurisdiction, those patients already on treatment were prioritized over new starts,³³ and patients had more difficulty with getting diagnosed through primary care³⁴ which may have contributed to the greater likelihood of reporting a Covid-related change for newly diagnosed patients.

In contrast to previous reports,^{9,10,35} we did not find any unadjusted associations between patient frailty, gender or age, and reporting a Covid-related change in care ($P = .63-.75$). This likely reflects that the incidence of Covid serious infection in our jurisdiction was comparatively low and maintenance of cancer care was prioritized,³⁶ so there may have been less need to triage care delivery than in other jurisdictions. Additionally, patient-initiated delays and cancellations were cited as an early driver of Covid-related modifications to care based on findings from clinician surveys.¹ While our findings agree with prior reports that the most common reason for patient-initiated care modifications was fear of being infected with Covid during an appointment,¹ of the patients in our study who reported having experienced a modification to their care, only 5.4% had initiated the change.

Consistent with previous reports in breast³⁷ and prostate cancer,³⁸ we found that relative to White respondents, patients from Racialized Groups were almost twice as likely to report having experienced a Covid related change to their imaging scans, genetic testing or cancer treatment (OR: 1.91, 95% CI: 1.03-3.54). Additionally, while overall few respondents felt that receipt of virtual visits had a negative impact on the quality of their cancer care (13.5%), relative to White respondents, patients in Racialized Groups were approximately twice as likely to report a negative perception towards virtual visits with regards to the quality of their care (OR: 2.21; 95% CI: 0.96-5.08). These findings are consistent with a previous study which reported that patients from Racialized Groups perceived communication with providers to be poorer in telehealth sessions.³⁹ Overall, these findings likely reflect pre-existing systemic disparities in access to care, as well as the higher burden of Covid in racialized communities within our jurisdiction. Institutions could take steps to addressing perceived racial biases in virtual care by documenting patient preferences for modality of care in their chart, and updating current diversity and health equity training offerings for staff to specifically address care delivered virtually. Additionally, institutions should partner with patients and caregivers with lived experience to understand how to best address issues of health inequities and bias, when developing virtual care policy and adopting technologies moving forward.

Limitations

The study was undertaken in patients being treated for a gastrointestinal cancer at a single cancer center in Toronto, Canada which may impact the generalizability of the findings to other disease sites or jurisdictions. For questions related to switching oncologist visits to virtual or reporting on reasons for a delay or deferral in care, respondents could only select one response, which may have impacted the findings. For virtual visits we did not delineate between telephone and video as >90% of virtual visits were conducted via telephone at our center at the time of the survey. As virtual visits were primarily completed by telephone at our center, this may

impact generalizability as findings for other modes of virtual care delivery may be different. The response rate was relatively low (17%), likely due to respondent fatigue from the number of competing surveys being sent out within the organization and with Covid in general, as well as restrictions on approaching potential participants in-person at the cancer center. As such, the findings are likely influenced by self-selection bias and response bias; and representativeness of the resultant sample may have been impacted. Participation in the survey was restricted to only those patients with a valid email on file which represented 60% to 70% of the gastrointestinal cancer patient population at our center which may have also introduced sampling bias. There was 15.4% to 16.5% missingness across demographic variables in the data set whereby the same set of patients have missing demographics across all of the variables. This was likely due to respondent fatigue as demographic questions were at the end of the survey measure. There were relatively few respondents at either of the extremes of age, and fewer female respondents than males; however, age and gender distributions of respondents were similar to the broader population of patients with a gastrointestinal clinic visit at our center during the same period. Additionally, to examine potential impact of representativeness of the survey sample, iterative proportional weighting was used to generate weight estimates relative to population parameters for ethnicity, language, and education which did not change the direction of associations or the conclusions.

Conclusions

Overall, patients reported relatively high perceived quality of care with the cancer care that they received during Covid. However, greater proportions of patients reported negative perceptions surrounding receipt of interpretation services, emotional support and involvement of family and friends in care decisions making which likely reflects limitations on in-person visits, restrictions on essential care partners' attendance at the cancer center, and implementation of virtual visits. Patients from Racialized Groups were more likely to report a Covid-related change in their treatment; planning for cancer care delivery beyond the pandemic should consider the impacts of racial biases, particularly in developing policies and procedures around virtual care delivery.

Authors' Note

This work was presented as a poster at the 2022 American Society of Clinical Oncology (ASCO) Quality Care Symposium in Chicago, IL.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


Ethical Approval

The study was approved by the University Health Network (#21-5276), and the University of Toronto (#41345) Research Ethics Boards.

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Statement of Human Rights

The study was conducted in accordance with relevant human rights legislation in Canada.

Statement of Informed Consent

Patients were presented with a consent information sheet prior to launching the electronic survey measure. Consent was implied if the respondent accepted the terms of the consent information form to advance to complete the survey.

Supplemental Material

Supplemental material for this article is available online.

References

1. Powis M, Hack S, Milley-Daigle C, et al. Impact of the early phase of the COVID pandemic on cancer treatment delivery and the quality of cancer care: a scoping review and conceptual model. *Int J Healthcare Quality*. 2021;33(2):mzab088. doi: 10.1093/intqhc/mzab088.
2. Jazieh AR, Akbulut H, Curigliano G, et al. Impact of the COVID-19 pandemic on cancer care: a global collaborative study. *JCO Glob Oncol*. 2020;6:1428-38. doi: 10.1200/GO.20.00351.
3. Walker MJ, Wang J, Mazuryk J, et al. Cancer care Ontario COVID-19 impact working group. Delivery of cancer care in Ontario, Canada, during the first year of the COVID-19 pandemic. *JAMA Netw Open*. 2022;5(4):e228855. doi: 10.1001/jamanetworkopen.2022.8855.
4. Tartarone A, Lerosé R. COVID-19 and cancer care: what do international guidelines say? *Med Oncol*. 2020;37(9):80. doi: 10.1007/s12032-020-01406-5.
5. Ueda M, Martins R, Hendrie PC, et al. Managing cancer care during the COVID-19 pandemic: agility and collaboration toward a common goal. *J Natl Compr Canc Netw*. 2020;1-4. doi: 10.6004/jncn.2020.7560.
6. Curigliano G. The Treatment of Patients With Cancer and Containment of COVID-19: Experiences From Italy. ASCO Daily News. Accessed July 14, 2023. <https://dailynews.ascpubs.org/doi/10.1200/ADN.20.200068/full/>.
7. You B, Ravnaud A, Canivet A, et al. The official French guidelines to protect patients with cancer against SARS-CoV-2 infection. *Lancet*. 2020;21(5):619-21. doi: 10.1016/S1470-2045(20)30204-7.
8. Frey MK, Ellis AE, Zeligs K, et al. Impact of the coronavirus disease 2019 pandemic on the quality of life for women with ovarian cancer. *Am J Obstet Gynecol*. 2020;223(5):725.e1-e9. doi: 10.1016/j.ajog.2020.06.049.
9. de Joode K, Dumoulin DW, Engelen V, et al. Impact of the coronavirus disease 2019 pandemic on cancer treatment: the patients' perspective. *Eur J Cancer*. 2020;136:132-9. doi: 10.1016/j.ejca.2020.06.019.
10. Patel MI, Ferguson JM, Castro E, et al. Racial and ethnic disparities in cancer care during the COVID-19 pandemic. *JAMA Netw Open*. 2022;5(7):e2222009. doi: 10.1001/jamanetworkopen.2022.22009.
11. Ladin K, Porteny T, Perugini JM, et al. Perceptions of telehealth vs in-person visits among older adults with advanced kidney disease, care partners, and clinicians. *JAMA Netw Open*. 2021;4(12):e2137193. doi: 10.1001/jamanetworkopen.2021.37193.
12. Govier DJ, Cohen-Cline H, Marsi K, Roth SE. Differences in access to virtual and in-person primary care by race/ethnicity and community social vulnerability among adults diagnosed with COVID-19 in a large, multi-state health system. *BMC Health Serv Res*. 2022;22(1):511. doi: 10.1186/s12913-022-07858-x.
13. Barwise A, Huschka T, Woo C, et al. Perceptions and use of telehealth among diverse communities: multisite community-engaged mixed methods study. *J Med Internet Res*. 2023;25:e44242. doi: 10.2196/44242.
14. Broom A, Kenny K, Page A, et al. The paradoxical effects of COVID-19 on cancer care: current context and potential lasting impacts. *Clin Cancer Res*. 2020;26(22):5809-13. doi: 10.1158/1078-0432.CCR-20-2989.
15. Levinson W. Will Reducing Low-Value Care be a Pandemic Silver Lining? Accessed July 14, 2023. <https://choosingwiselycanada.org/perspective/will-reducing-low-value-care-be-a-pandemic-silver-lining/>.
16. Berlin A, Lovas M, Truong T, et al. Implementation and outcomes of virtual care across a tertiary cancer center during COVID-19. *JAMA Oncol*. 2021;7(4):597-602. doi: 10.1001/jamaoncol.2020.6982.
17. National Academy of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academy Press; 2001.
18. National Academy of Medicine. *Performance Measurement: Accelerating Improvement*. National Academy Press; 2005.
19. Picker Institute. Principles of person-centred care. Accessed July 14, 2023. <https://picker.org/who-we-are/the-picker-principles-of-person-centred-care/>.
20. Isaac T, Zaslavsky AM, Cleary PD, Landon BE. The relationship between patients' perception of care and measures of hospital quality and safety. *Health Serv Res*. 2010;45(4):1024-40. doi: 10.1111/j.1475-6773.2010.01122.x.
21. Ontario Health. Ambulatory Oncology Patient Experience Survey. Accessed July 14, 2023. <https://data.ontario.ca/en/dataset/ambulatory-oncology-patient-satisfaction-survey-aopss>.

22. Bridge E, Singh S, Murdoch A, et al. Examining patient and visit characteristics associated with the cancer patient experience. *J Clin Oncol*. 2019;37(27_suppl):204-204. DOI:10.1200/JCO.2019.37.27_suppl.204.
23. National Collaborating Centre for Methods and Tools. PROGRESS framework: Applying an equity lens to interventions. Accessed July 14, 2023. <http://www.nccmt.ca/resources/search/234>.
24. Saliba D, Elliott M, Rubenstein LZ, et al. The vulnerable elders survey: a tool for identifying vulnerable older people in the community. *J Am Geriatr Soc*. 2001;49(12):1691-9. doi: 10.1046/j.1532-5415.2001.49281.x.
25. Thorpe C, Ryan B, McLean SL, et al. How to obtain excellent response rates when surveying physicians. *Fam Pract*. 2009;26(1):65-8. doi: 10.1093/fampra/cmn097.
26. Zhang Z. Variable selection with stepwise and best subset approaches. *Ann Transl Med*. 2016;4(7):136. doi: 10.21037/atm.2016.03.35.
27. Statistics Canada. Census Profile: 2016. Accessed March 23, 2023. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CMACA&Code1=535&Geo2=PR&Code2=35&Data=Count&SearchText=Caledon%20East&SearchType=Begins&SearchPR=01&B1=All>.
28. RStudio. Survey Weights in R. Accessed March 23, 2023. https://rstudio-pubs-static.s3.amazonaws.com/268281_cc370bbb_bbf437b8650b22d208734d1.html
29. Abdelmutti N, Berlin A, Macedo A, et al. Virtual care beyond COVID-19: patient and physician perspectives. *J Clin Oncol*. 2022;40(28_suppl):389-389. doi:10.1200/JCO.2022.40.28_suppl.389.
30. Treiman K, Kranzler EC, Moultrie R, et al. Patients' experiences with cancer care: impact of the COVID-19 pandemic. *J Patient Exp*. 2022;9:23743735221092567. doi: 10.1177/23743735221092567.
31. Rodriguez GM, Ferguson JM, Kurian A, et al. The impact of COVID-19 on patients with cancer: a national study of patient experiences. *Am J Clin Oncol*. 2021;44(11):580-7. doi: 10.1097/COC.0000000000000865.
32. Walker MJ, Wang J, Mazuryk J, et al. Delivery of cancer care in Ontario, Canada, during the first year of the COVID-19 pandemic. *JAMA Netw Open*. 2022;5(4):e228855. doi: 10.1001/jamanetworkopen.2022.8855.
33. Cancer Care Ontario. (2020) COVID-19 and Cancer – Resources and Information for Healthcare Providers. Accessed: March 23, 2023. <https://www.cancercareontario.ca/en/guidelines-advice/covid19-resources>.
34. Glazier RH, Green ME, Wu FC, et al. Shifts in office and virtual primary care during the early COVID-19 pandemic in Ontario, Canada. *CMAJ*. 2021;193(6):E200-10.
35. Lang JJ, Narendrula A, Iyer S, et al. Patient-reported disruptions to cancer care during the COVID-19 pandemic: a national cross-sectional study. *Cancer Med*. 2023;12(4):4773-85. doi: 10.1002/cam4.5270.
36. Fu R, Sutradhar R, Li Q, et al. Timeliness and modality of treatment for new cancer diagnoses during the COVID-19 pandemic in Canada. *JAMA Netw Open*. 2023;6(1):e2250394. doi: 10.1001/jamanetworkopen.2022.50394.
37. Satish T, Raghunathan R, Prigoff JG, et al. Care delivery impact of the COVID-19 pandemic on breast cancer care. *JCO Oncol Pract*. 2021;17(8):e1215-24. doi: 10.1200/OP.20.01062.
38. Bernstein AN, Talwar R, Handorf E, et al. Assessment of prostate cancer treatment among black and white patients during the COVID-19 pandemic. *JAMA Oncol*. 2021;7(10):1467-73. doi: 10.1001/jamaoncol.2021.2755.
39. Street RL Jr, Treiman K, Kranzler EC, et al. Oncology patients' communication experiences during COVID-19: comparing telehealth consultations to in-person visits. *Support Care Cancer*. 2022;30(6):4769-80. doi: 10.1007/s00520-022-06897-8.