Adult Experiences with Hospitalization in Alberta, Canada During the COVID-19 Pandemic: A Comparative Cross-Sectional Study

Kyle A Kemp, PhD1,2, Paul Fairie, PhD2,3, Brian J Steele, BA (Hons)2,3, and Maria J Santana, MPharm, PhD1,3

Abstract
Little is known about the experiences of those hospitalized during the COVID-19 pandemic in Canada. Our aims were to (a) report on the experiences, (b) compare with historical results, and (c) assess for potential monthly differences of patients hospitalized in the early months of the COVID-19 across Alberta. A random sample of adults was surveyed within 6 weeks of discharge from 93 hospitals, using a modified version of the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC). Discharges from April to September 2020 comprised the “during COVID-19 pandemic” cohort, while April to September 2019 formed the historical one. Results were reported as percent in “top box”, indicative of the most positive answer choice. Odds of reporting a “top box” response were calculated while controlling for demographic and clinical features. In total, 23,412 surveys (11,344 during COVID-19, 12,068 historical) were obtained. Those hospitalized during COVID-19 had higher odds of “top box” ratings on 17 of 39 questions examined, and lower odds on 2 questions (information about the admission process, inclusion of family/friends in care decisions). The remaining 20 questions showed no difference between the 2 cohorts. Our results indicate that respondents hospitalized during the early months of the pandemic had experiences that were largely better or comparable to pre-pandemic. This speaks to the dedication and resilience of staff who provided care during challenging circumstances. Our findings may assist in mitigating fears among those who are hesitant to seek medical care during future pandemics or public health emergencies, including subsequent waves of COVID-19.

Keywords
COVID-19, patient feedback, patient satisfaction, survey data, CPES-IC, hospitalization, Canada

Introduction
The 2019 global coronavirus disease (COVID-19) has been the most significant public health threat of the 21st century. Since the first Canadian case was detected in January 2020 (1), over 1.4 million Canadians have tested positive, and over 26,000 have died as a result of the virus (at the time of submission of this manuscript) (2). In addition to the mortality and morbidity, the pandemic has resulted in significant shifts in healthcare service delivery patterns. In the months which followed the onset of COVID-19, over half of all physician consultations were provided virtually, and approximately 25,000 fewer emergency department visits took place each day across Canada (3,4). In preparation for an influx of COVID-19 patients, many scheduled surgeries were postponed (5), leading to sharp decreases in hospital occupancy rates (3,4,6). Hospital admissions also saw large decreases (3,4,7). This raised concerns that many individuals who required care had not sought it for fear of contracting COVID-19 in hospital (8).
The Triple Aim framework is an approach to optimize health system performance. Its aims are to (a) improve the health of populations, (b) reduce per capita costs, and (c) improve the patient experience of care (9). By providing patients with opportunities to assess their experiences with healthcare services (e.g., surveys), they are able to report on what is working well, and what may be improved from their perspective—a necessary step in the provision of patient-centered care. Although the health system impacts of COVID-19 are well documented, reports on the experiences of those who required hospitalization during the pandemic remain limited. A recent single-hospital study from the United Kingdom showed that the experiences of patients hospitalized at the onset of the pandemic were largely positive (10). These results were obtained in the presence of potential communication challenges associated with the need for personal protective equipment (PPE) as well as visitation restrictions for family members, caregivers, and others. To date, no studies have explored the experiences of patients who were hospitalized during COVID-19 at a provincial level in Canada. Highlighting positive patient experiences during the pandemic may serve to mitigate fears among those who are hesitant to seek necessary care. As such, we sought to; (a) examine the comprehensive experiences of adults hospitalized during the first 6 months of COVID-19, (b) compare the results with a historical period (pre-COVID-19), and (c) examine monthly variations in results from hospitals across Alberta.

Methods

Study Design and Population

This study was a retrospective review of adult patient experience surveys over a 6-month period (April 1–September 30, 2020) at the outset of the COVID-19 pandemic. Patient experiences with their hospital care were captured using the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) instrument (11). The CPES-IC was developed by the Canadian Institute for Health Information (CIHI) in conjunction with healthcare stakeholders, including patients, and has been accepted as a valid tool to measure one’s hospital experiences (12,13). In Alberta, Alberta Health Services (AHS) has surveyed adult inpatients using a 56-question, modified version of the CPES-IC since April 2014. Eligible patients from 93 hospitals were randomly contacted by telephone within 6 weeks of their discharge from the hospital. All surveys were conducted by a team trained of interviewers. A quota-based sampling approach was used to obtain a minimum number of responses. Each quarter, 10% of eligible discharges were sampled from the larger hospitals across the province, while a minimum of 12 completed surveys were obtained from the smaller, rural hospitals. In a typical year, approximately 25,000 surveys are completed from 93 hospitals across the province.

The CPES-IC survey asked respondents about multiple aspects of their inpatient care. This included admission to the hospital, care in the emergency department (if applicable), care from nurses, care from doctors, the hospital environment, pain control and medications, other processes of care, hospital discharge, and concerns with care. Responses to questions were Likert-type scales (e.g., always, usually, sometimes, and never). Five questions on the survey asked respondents to provide a numerical rating ranging from 0 (worst possible) to 10 (best possible). In the final section of the CPES-IC, respondents were asked demographic questions about their age, level of educational attainment, and self-reported levels of physical and mental health. Each survey required about 12–18 min to complete. After completion, each survey was linked to the corresponding inpatient hospital record from the Discharge Abstract Database (DAD) (14).

Outcomes

The primary study outcomes were the percent of respondents reporting a “top box” response, and the adjusted odds of reporting a “top box” response for each survey question.

Analysis

We analyzed the results from 39 survey questions. The 17 items not analyzed as part of this study consisted of screener questions, questions not part of the standard CPES-IC survey, open-ended questions, and demographic questions which were used as predictor variables in the adjusted models. Results from each of the 39 survey questions were reported by time period (COVID-19 vs. historical). The COVID-19 period included discharges from April 1 to September 30, 2020, while the historical cohort included discharges from the same period during the previous year (April 1–September 30, 2019).

Demographic variables included sex, age group (18–35, 36–50, 51–65, over 65 years), education level (less than high school, high school or some college/university, undergraduate degree or higher), self-reported physical health, and self-reported mental/emotional health (both reported as excellent, very good, good, fair, or poor). Clinical variables included number of medical comorbidities, hospital type (large urban/regional, rural), admission type (urgent, elective), service line (medical, surgical, maternity), length of hospital stay (less than 3, 3–7, longer than 7 days), intensive care unit use (yes/no), and discharge disposition (discharged home, other). Comorbidities were determined using the Elixhauser Comorbidity Index (15,16). Descriptive statistics and chi-square tests were used to compare demographic and clinical characteristics between the two time periods.

Responses to each survey question were classified using “top box” methodology—an accepted method for reporting CPES-IC results, where the “top box” response corresponds to the most positive response choice for each question (17). For example, on the question pertaining to nurses treating patients with courtesy and respect, response options were
always, usually, sometimes, and never. The “top box” response for this item is “always”. On questions where respondents were asked to give an overall rating (i.e., from 0 to 10), the “top box” response was either 9 or 10. For analysis of the data, raw percentages of patients reporting “top box” responses were compared between the two time periods. Then, we used logistic regression models to calculate the adjusted odds and corresponding 95% confidence intervals for reporting a “top box” response among patients discharged during COVID-19. In these regression analyses, the historical period was the comparison group, while controlling for all demographic and clinical factors which were shown to be significantly different between the two groups. Lastly, to explore for potential temporal differences in responses among those hospitalized during COVID-19, monthly results were calculated for five rating scales and the question pertaining to one’s willingness to recommend the hospital to family members/friends. All analyses were performed using SAS 9.4 for Windows (Cary, NC). In all cases, a P-value of less than .05 was used to determine statistical significance.

**Ethics Approval and Patient Consent**

The study was approved by the Conjoint Health Research Ethics Board (CHREB) at the University of Calgary. Given the retrospective nature of the study, a waiver of patient consent was granted. All data were obtained from AHS according to a data-sharing agreement between the health authority and our research team.

**Results**

A total of 23,412 completed surveys (11,344 during COVID-19 pandemic, 12,068 historical) were obtained and linked with clinical data. Demographic and clinical characteristics are shown in Table 1, according to the time period. When compared with the historical group, respondents hospitalized during COVID-19 tended to be 18–35 years, or over 65 years of age (P<.01), had a lower overall level of educational attainment (P=.03), and had poorer self-reported ratings of physical (P<.01) and mental health (P<.01). Clinically, they had higher proportions of respondents who were treated in rural hospitals (P<.01), admitted on an urgent basis (P<.01), and who were part of the surgical or maternity service line (P<.01). They also had a higher proportion of those who required intensive care (P<.01), remained longer in hospital (P=.03), and were discharged home less frequently (P<.01).

Table 2 shows the raw percentages of “top box” responses, as well as adjusted odds of reporting a “top box” response to each question for those hospitalized during COVID-19. The “top box” response to each question is also provided for readers. Those hospitalized during the COVID-19 pandemic had higher odds of reporting a “top box” rating on 17 questions. These included the overall ratings pertaining to the hospital, experience, care from nurses, care from doctors, one’s willingness to recommend the hospital, and the degree to which patients felt they were helped by the hospital stay. Twenty questions showed no statistically significant differences between time periods. Respondents who were hospitalized during the COVID-19 pandemic had lower odds of reporting a “top box” response

| Table 1. Demographic and Clinical Characteristics (n (%).) |
| Variable | During COVID-19 | Historical | P |
|----------|-----------------|------------|---|
| Sex (n = 23,408) | | | |
| Male | 4,300 (37.9) | 4,634 (38.4) | .44 |
| Female | 7,042 (62.1) | 7,432 (61.6) | |
| Age group | | | |
| 18–35 years | 2,801 (24.7) | 2,833 (23.5) | .01 |
| 36–50 years | 1,806 (15.9) | 1,975 (16.4) | |
| 51–65 years | 2,669 (23.5) | 3,044 (25.2) | |
| Over 65 years | 4,068 (35.9) | 4,216 (34.9) | |
| Education level (n = 22,708) | | | |
| High school or less | 4,367 (39.5) | 4,755 (40.9) | .03 |
| College or undergraduate university | 5,255 (47.5) | 5,480 (47.1) | |
| Postgraduate/professional degree | 1,445 (13.1) | 1,406 (12.1) | |
| Number of medical comorbidites | | | |
| None | 7,058 (62.2) | 7,646 (63.4) | .18 |
| 1 | 2,601 (22.9) | 2,674 (22.2) | |
| 2 or more | 1,685 (14.9) | 1,744 (14.5) | |
| Hospital type | | | |
| Rural | 8,712 (76.8) | 9,696 (80.3) | <.01 |
| Urban/Regional | 2,632 (23.2) | 2,372 (19.7) | |
| Admission type | | | |
| Urgent | 6,621 (58.4) | 6,622 (54.9) | <.01 |
| Elective | 4,723 (41.6) | 5,446 (45.1) | |
| Service line | | | |
| Medical | 4,447 (39.4) | 5,329 (44.2) | <.01 |
| Surgical | 4,540 (40.0) | 4,436 (36.8) | |
| Maternity | 2,332 (20.6) | 2,304 (19.1) | |
| Length of hospital stay | | | |
| Less than 3 days | 5,200 (45.8) | 5,568 (46.1) | .03 |
| 3–7 days | 4,089 (36.1) | 4,470 (37.0) | |
| Longer than 7 days | 2,055 (18.1) | 2,030 (16.8) | |
| ICU use | | | |
| Yes | 356 (3.1) | 313 (2.6) | .01 |
| No | 10,988 (96.9) | 11,755 (97.4) | |
| Discharge disposition | | | |
| Home (with or without support) | 10,474 (92.3) | 11,245 (93.2) | .01 |
| Other | 870 (7.7) | 823 (6.8) | |
| Self-reported physical health (n = 23,216) | | | |
| Excellent | 1,646 (14.6) | 1,900 (15.9) | <.01 |
| Very good | 3,463 (30.8) | 3,843 (32.1) | |
| Good | 3,380 (30.1) | 3,531 (29.5) | |
| Fair | 1,894 (16.9) | 1,785 (14.9) | |
| Poor | 858 (7.6) | 926 (7.7) | |
| Self-reported mental health (n = 23,288) | | | |
| Excellent | 2,663 (23.6) | 3,080 (25.6) | <.01 |
| Very good | 3,962 (35.2) | 4,233 (35.2) | |
| Good | 3,141 (27.9) | 3,277 (27.3) | |
| Fair | 1,188 (10.5) | 1,114 (9.3) | |
| Poor | 316 (2.8) | 314 (2.6) | |
Table 2. Percent of Respondents in “top box” With Adjusted Odds of Reporting in “top box” During COVID-19.

| Item description                              | Top box response | During COVID-19 | Historical | aOR* (95% CI) |
|-----------------------------------------------|------------------|-----------------|------------|---------------|
| **Global ratings of care**                    |                  |                 |            |               |
| Overall hospital rating                       | 9 or 10          | 65.3            | 62.5       | 1.16 (1.10–1.23) |
| Recommendation of hospital                   | Definitely yes   | 74.4            | 71.8       | 1.17 (1.10–1.24) |
| Helped by hospital stay                      | 9 or 10          | 74.1            | 72.9       | 1.10 (1.04–1.17) |
| Overall hospital experience                  | 9 or 10          | 67.5            | 65.7       | 1.12 (1.05–1.18) |
| **Care from nurses**                          |                  |                 |            |               |
| Nurse courtesy and respect                   | Always           | 85.4            | 84.8       | 1.08 (1.00–1.16) |
| Nurse listening                              | Always           | 74.8            | 74.3       | 1.05 (0.99–1.12) |
| Nurse explanations                           | Always           | 75.4            | 76.1       | 0.98 (0.92–1.04) |
| Call button assistance                       | Always           | 59.9            | 60.3       | 1.02 (0.96–1.09) |
| Timely bathroom assistance                   | Always           | 67.1            | 67.1       | 1.05 (0.97–1.14) |
| Overall rating of nursing care               | 9 or 10          | 69.4            | 68.0       | 1.10 (1.03–1.16) |
| **Care from doctors**                         |                  |                 |            |               |
| Doctor courtesy and respect                  | Always           | 84.1            | 83.6       | 1.07 (1.00–1.15) |
| Doctor listening                             | Always           | 76.7            | 76.7       | 1.04 (0.97–1.11) |
| Doctor explanations                          | Always           | 74.5            | 75.4       | 0.99 (0.93–1.05) |
| Overall rating of doctor care                | 9 or 10          | 75.9            | 75.2       | 1.08 (1.01–1.15) |
| **Hospital environment**                     |                  |                 |            |               |
| Room cleanliness                             | Always           | 63.7            | 62.2       | 1.07 (1.01–1.13) |
| Room quietness                               | Always           | 50.7            | 48.3       | 1.11 (1.05–1.17) |
| **Pain control and medications**             |                  |                 |            |               |
| Pain well controlled                         | Always           | 61.7            | 61.2       | 1.07 (1.01–1.14) |
| Staff helped with pain                       | Always           | 76.8            | 76.8       | 1.05 (0.98–1.13) |
| Purpose of new medications                   | Always           | 76.8            | 76.3       | 1.04 (0.96–1.13) |
| Side effects of new medications              | Always           | 50.3            | 50.0       | 1.03 (0.95–1.10) |
| **Admission to hospital**                    |                  |                 |            |               |
| Information about admit process              | Completely       | 58.3            | 65.7       | 0.77 (0.70–0.83) |
| Admission was organized                      | Completely       | 76.8            | 79.1       | 0.92 (0.84–1.02) |
| **Care in emergency department**             |                  |                 |            |               |
| Information about condition                  | Completely       | 49.2            | 51.4       | 0.93 (0.86–1.00) |
| Information about admit process              | Completely       | 50.8            | 52.6       | 0.96 (0.89–1.03) |
| Wait for admission to hospital               | No               | 80.3            | 75.2       | 1.35 (1.23–1.48) |
| Transfer to bed was organized                | Completely       | 75.3            | 72.0       | 1.21 (1.11–1.31) |
| **Processes of care**                        |                  |                 |            |               |
| Communication between staff                  | Always           | 63.2            | 61.9       | 1.10 (1.04–1.17) |
| Staff informed/up to date                    | Always           | 60.6            | 59.6       | 1.08 (1.03–1.14) |
| Tests/procedures done on time                | Always           | 71.8            | 70.3       | 1.11 (1.04–1.19) |
| Info about condition/treatment               | Always           | 69.7            | 69.9       | 1.04 (0.98–1.10) |
| Support for anxieties/worries/fears          | Always           | 63.2            | 62.6       | 1.07 (1.00–1.15) |
| Patient involvement in care                  | Always           | 67.4            | 67.2       | 1.06 (1.00–1.12) |
| Family/friend involvement in care            | Always           | 60.0            | 73.7       | 0.54 (0.50–0.58) |
| **Discharge from hospital**                  |                  |                 |            |               |
| Help needed after discharge                  | Yes              | 83.8            | 84.4       | 0.98 (0.91–1.06) |
| Received written discharge info              | Yes              | 78.7            | 80.2       | 0.94 (0.88–1.01) |
| Understanding of medications                | Completely       | 77.5            | 77.9       | 1.01 (0.94–1.08) |
| Info about post-discharge worries            | Completely       | 70.1            | 71.5       | 0.98 (0.92–1.04) |
| Better understanding of condition            | Completely       | 64.1            | 65.0       | 1.00 (0.94–1.06) |
| **Patient concerns**                         |                  |                 |            |               |
| Had a concern about care                     | No               | 80.7            | 79.1       | 1.12 (1.05–1.19) |

*Adjusted odds and 95% confidence intervals calculated for the “during COVID-19” cohort was compared with historical, with adjustment for age group, education level, hospital type, admission type, service line, length of hospital stay, ICU use, discharge disposition, self-reported physical, and mental health. Statistically significant results are shown in **bold, italics.**

on two questions; family/friend involvement in care (60.0% vs. 73.7% responding “always”, aOR: 0.54, 95% CI: 0.50–0.58), and receiving information about the hospital admission process (58.3% vs. 65.7% responding “completely”, aOR: 0.77, 95%CI: 0.70–0.83).

Table 3 shows the raw percentages of “top box” responses from respondents hospitalized during the COVID-19 pandemic, according to the month of hospital discharge for the six global rating questions studied. Five of the six questions saw slight decreases in “top box” percentages over the
6-month period, while the overall rating of doctor care remained stable. Only the question pertaining to overall experience showed a significant difference ($P = .04$).

**Discussion**

In this paper, we examined the experiences of adults who were hospitalized across Alberta, Canada during the early months of the COVID-19 pandemic. Over the 6-month period, respondents highlighted many positive aspects about the care they received, while highlighting opportunities for improvements. When compared with historical results, those hospitalized during the COVID-19 pandemic had higher odds of reporting a “top box” score on 17 of the 39 questions which we studied. The most positive differences were observed for two aspects of care in the emergency department—the wait for transfer to an inpatient bed, and the degree to which the transfer to the inpatient unit was organized. Another notable finding was that all six global rating questions which we studied (hospital rating, recommendation of hospital, care experience, helped by hospital stay, rating of nurse care, rating of doctor care) showed a significant improvement when compared with historical results. Only two items (family/friend involvement in care decisions, receiving information about the hospital admission process) showed a decreased odds of reporting a “top box” response.

Although investigations of the experiences of those hospitalized during the COVID-19 pandemic are limited, preliminary results have been reported from those who received hospital-based care during this time. In a recent study in Quebec, Di Lalla et al. showed that cancer patients who received radiotherapy treatments had a high degree of satisfaction, and perhaps most importantly, felt that healthcare providers took appropriate precautions to make them feel safe (18). Conflicting results have been shown in the context of giving birth during the pandemic. In a sample of 237 women who gave birth at 2 hospitals in New York hospitals, Janevic et al. showed that delivery during COVID-19, positive COVID-19 status, and Black or Latina race were associated with lower birth satisfaction. More troubling was that these new mothers were also more likely to report higher postpartum anxiety, stress, depressive symptoms, and lower rates of exclusive breastfeeding (19). Recent work by Zeh et al. examined the effects of visitor restrictions upon surgical patients. In their mixed-methods study which included results from the HCAHPS survey, they reported that those hospitalized during visitor restrictions reported greater levels of social isolation and were less likely to have felt that their discharge preferences were adequately considered (20). In our study, we reported that patients hospitalized during COVID-19 reported much lower odds of reporting that family members and friends were involved in care decisions. Although we did not observe similar results as Zeh et al. with respect to discharge planning, we advocate for the necessity of novel ways to involve family members and friends (who may also play active roles as caregivers) in care decisions during times of physical hospital restrictions. As an example, the feasibility of a family centered, virtual visiting strategy in the ICU was recently highlighted by Thomas et al. This strategy was successful in satisfying five essential criteria that virtual visiting needed to (1) simulate open and flexible visiting; (2) be able to accommodate differences in family size, dynamics, and cultural practices; (3) utilize a video conferencing platform that is private and secure; and (4) be easy to use and not require special teams to facilitate meetings; and (5) not increase the workload of ICU staff (21).

Future studies which explore the experiences of inpatients and their potential associations with outcomes (e.g., unplanned readmissions, mortality, and quality of life), as well as those which seek to explain the reasons for our results, are warranted. We propose there may be three primary mechanisms that contributed to our results. First, it is possible that respondents to the CPES-IC survey may have had lowered expectations of their care. Given the novel nature of COVID-19, many may have gone into the hospital not knowing what to expect. Second, there may have been structural alterations (i.e., visitor restrictions or staffing levels) to care delivery which produced differences in results. The example of visitor restrictions was highlighted above. Although we did not have access to staffing information (e.g., number of full-time equivalents, team composition), providers may have been able to spend more time with each patient, given the decreases in hospital occupancy rates observed during the early months of the COVID-19 pandemic. To this effect, Aiken et al. showed an inverse correlation between nurse staffing levels and patient experience.

### Table 3. Percent of Respondents in “top box” During COVID-19 by Month of Discharge From the Hospital.

| Item description                  | April 2020 | May 2020 | June 2020 | July 2020 | August 2020 | September 2020 | $P$  |
|-----------------------------------|------------|----------|-----------|-----------|-------------|----------------|-----|
| **Global ratings of care**        |            |          |           |           |             |                |     |
| Overall rating                    | 67.0       | 65.9     | 66.5      | 64.0      | 64.7        | 64.4           | .30 |
| Recommendation of hospital        | 75.9       | 74.3     | 75.8      | 73.4      | 74.3        | 72.9           | .21 |
| Helped by hospital stay           | 75.0       | 73.8     | 75.2      | 73.6      | 73.6        | 73.6           | .75 |
| Overall experience                | 69.6       | 68.6     | 68.8      | 65.1      | 66.9        | 66.7           | .04 |
| Overall rating of nursing care    | 70.7       | 69.7     | 69.9      | 68.7      | 68.7        | 69.3           | .80 |
| Overall rating of doctor care     | 74.9       | 75.8     | 78.3      | 76.1      | 75.1        | 75.1           | .13 |
scores in data from 12 European countries and the United States (22). In the third potential mechanism, the demographic and clinical profile of hospitalized patients may have shifted during the COVID-19 pandemic. Even if this profile did not shift, it is possible that respondents may have framed their answers differently during our study period, when compared to pre-pandemic.

This study has limitations that warrant consideration. Although we controlled for a variety of demographic and clinical factors, it is possible that our data set did not contain any other explanatory factors (23–26). Given the nature of surveys, which ask respondents to reflect on past events, the potential for recall bias cannot be discounted (27). To mitigate this potential, the CPES-IC survey protocol used by AHS directed interviewers to remind respondents of the hospital stay in question, and the date on which they were discharged from the hospital. Additionally, during our study period, AHS included patients who were hospitalized due to COVID-19 in the survey sample. However, as COVID-19 test results were not part of our research agreement, we were not able to determine which respondents were hospitalized due to COVID. The potential differences in experiences of those hospitalized due to COVID-19 versus other reasons could be a topic for future research. The remaining study limitations pertain to the survey protocol and methodology. At the time of data collection, Alberta was the only province to administer the CPES-IC exclusively by telephone. Therefore, our results may not be generalizable to other Canadian results in the absence of a mode adjustment—a statistical correction that accounts for the differences in results that may be observed according to survey format (e.g., mail, phone, and e-mail) (28). Finally, surveys were conducted exclusively in English, and did not allow for proxy respondents. This precluded non-English-speaking patients and those unable to verbally communicate from participating.

Conclusion

In the first Canadian study to explore the experiences of hospitalized patients during the COVID-19 pandemic at a provincial level, adults hospitalized during the early months of the pandemic had experiences that were largely better or comparable to pre-pandemic. The results also highlighted patients’ informational needs about the admission process and involvement of family members and friends in their care as opportunities for improvement. Overall, our positive findings may help mitigate fears among those who are hesitant to seek care during pandemics or public health emergencies, including future waves of COVID-19. Given the dynamic nature of the pandemic, future research is necessary to determine strategies that optimize information exchange during admission to the hospital and facilitate the inclusion of family members and friends in care decisions. Research is also necessary to explore whether patient experiences may have shifted in subsequent waves of the pandemic.

Declaration of Conflicting Interests

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

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

ORCID iD

Kyle A Kemp https://orcid.org/0000-0003-0138-5013

References

1. CTV News. Novel coronavirus in Canada: here’s a timeline of COVID-19 cases across the country. Accessed August 11, 2021. https://www.ctvnews.ca/canada/novel-coronavirus-in-canada-here-s-a-timeline-of-covid-19-cases-across-the-country-1.4829917
2. Center for Systems Science and Engineering (SCCE) at Johns Hopkins University. COVID-19 dashboard. Accessed August 11, 2021. https://coronavirus.jhu.edu/map.html
3. Dudevich A, Frood J. Impact of the COVID-19 pandemic on health system use in Canada. Healthc Q. 2021;24(2):12-4.
4. Canadian Institute for Health Information. Impact of COVID-19 on Canada’s health care systems. Accessed August 11, 2021. https://www.cihi.ca/en/covid-19-resources/impact-of-covid-19-on-canadas-health-care-systems
5. Craig C. Policy brief: a closer look at postponed surgeries due to COVID-19. Accessed August 11, 2021. https://www.secondstreet.org/wp-content/uploads/2021/03/Policy-Brief-Closer-look-at-postponed-surgeries.pdf
6. Health Quality Council of Alberta. FOCUS on healthcare: hospital occupancy. Accessed August 11, 2021. https://focus.hqca.ca/emergencydepartments/hospital-occupancy
7. Renfert-May E, Leal J, Thanh NX, Lang E, Dowling S, Manns B, et al. The impact of COVID-19 on hospital admissions and emergency department visits: a population-based study. PLoS One. 2021;16(6):e0252441.
8. CTV News. Don’t avoid going to the ER because of the pandemic, Canadians urged. Accessed August 11, 2021. https://www.ctvnews.ca/health/don-t-avoid-going-to-the-er-because-of-pandemic-canadians-urged-1.5268577
9. Berwick DM, Nolan TW, Whittington J. The triple aim: care, health, and cost. Health Aff (Millwood). 2008;27(3):759-69.
10. Key T, Kulkaar N, Kandhari V, Jawad Z, Hughes A, Mohanty K. The patient experience of inpatient care during the COVID-19 pandemic: exploring patient perceptions, communication, and quality of care at a university teaching hospital in the United Kingdom. J Patient Exp. 2021;8:1-6.
11. Canadian Institute for Health Information. Canadian Patient Experiences Survey – Inpatient Care. Accessed August 11, 2021. https://www.cihi.ca/sites/default/files/document/patient_expsurvey_inpatient_en.pdf
12. Hadibhai S, Lacroix J, Leeb K. Developing the first pan-Canadian acute care patient experiences survey. PXJ. 2018;5(3):25-33.

13. Canadian Institute for Health Information. Canadian Patient Experiences Survey – Inpatient Care procedure manual. Accessed August 11, 2021. https://www.cihi.ca/sites/default/files/document/cpes-ic-procedure-manual-2019-en-web.pdf

14. Canadian Institute for Health Information. Discharge Abstract Database (DAD) metadata. Accessed June 10, 2021. https://www.cihi.ca/en/discharge-abstract-database-metadata

15. Elixhauser A, Steiner C, Harris DR, Coffey RM. Comorbidity measures for use with administrative data. Med Care. 1998;36(1):8-27.

16. Quan H, Sundararajan V, Halfon P, Fong A, Burnand B, Luthi J-C, et al. Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Med Care. 2005;43(11):1130-9.

17. Canadian Institute for Health Information. Patient experience in Canadian hospitals – methodology notes. 2019. Accessed June 10, 2021. https://www.cihi.ca/sites/default/files/document/cpes-patient-experience-methodology-notes-april2019-en-web.pdf

18. Di Lalla V, Patrick H, Sirian-Ayoub N, Kildea J, Hijal T, Alfieri J. Satisfaction among cancer patients undergoing radiotherapy during the COVID-19 pandemic: an institutional experience. Curr Oncol. 2021;28(2):1507-17.

19. Janevic T, Maru S, Nowlin S, McCarthy K, Bergink V, Stone J, et al. Pandemic birthing: childbirth satisfaction, perceived health care bias, and postpartum health during the COVID-19 pandemic. Matern Child Health J. 2021;25(6):860-9.

20. Zeh RD, Santry HP, Monsour C, Sumski AA, Bridges JFP, Tsung A, et al. Impact of visitor restriction rules on the post-operative experience of COVID-19 negative patients undergoing surgery. Surgery. 2020;168(5):770-6.

21. Thomas KAS, O’Brien BF, Fryday AT, Robinson EC, Hales MJL, Karipidis S, et al. Developing an innovative system of open and flexible, patient-family-centered, virtual visiting in ICU during the COVID-19 pandemic: a collaboration of staff, patients, families, and technology companies. J Intensive Care Med 2021;36(10):1130-40.

22. Aiken LH, Serneus W, Van den Heede K, Sloane DM, Busse R, McKee M, et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. Br Med J. 2012;344:e1717. doi: 10.1136/bmj.e1717

23. Becker ER, Hockenberry JM, Bae J, Ayyar AC, Liu SS. Factors in patients’ experience of hospital care: evidence from California, 2009–2011. PXJ. 2014;1(1):95-110.

24. Belasen AR, Tracey MR, Belasen AT. Demographics matter: the potentially disproportionate effect of COVID-19 on hospital ratings. Int J Qual Health Care. 2021;33(1):1-7.

25. Berkowitz B. The patient experience and patient satisfaction: measurement of a complex dynamic. Online J Issues Nurs. 2016;21(1):1.

26. Merlino JJ, Raman A. Understanding the drivers of the patient experience. Harvard Business Review. 2013. Accessed August 15, 2021. https://hbr.org/2013/09/understanding-the-drivers-of-the-patient-experience

27. Salzberg CA, Kahn CN III, Foster NE, Demehin AA, Guinan ME, Ramsey P, et al. Modernizing the HCAHPS Survey: recommendations from patient experience leaders. Accessed August 13, 2021. https://www.aha.org/system/files/media/file/2019/07/FAH-White-Paper-Report-v18-FINAL.pdf

28. Elliott MN, Zaslavsky AM, Goldstein E, Lehrman W, Hambarsoomians K, Beckett MK, et al. Effects of survey mode, patient mix, and nonresponse on CAHPS® hospital survey scores. Health Serv Res. 2009;44(2 Pt 1):501-18.