



Original Article

Eliciting Patient Experiences About Their Care After Cardiac Surgery

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ABSTRACT

Background: Experience surveys provide an opportunity for patients to give their feedback about health care processes and services. Unfortunately, the most current surveys have been designed as “one-size fits-all” tools, and thus, do not take into account items pertaining to specific clinical groups. The objective of this study was to gain a deeper understanding of the specific aspects of care deemed important to cardiac surgery patients.

Methods: Individual semistructured telephone interviews were conducted with a cohort of patients who had previously underwent cardiac surgery. Interviews were recorded and transcribed. Using a phenomenological approach, a thematic analysis was used to generate a list of themes and subthemes deemed important by participants.

Results: Eight interviews were conducted in July and August 2019. Participants included 7 men and 1 woman, ranging from 55 to 84 years of age. Five key themes emerged from the data: (1) overall experience; (2) communication; (3) the physical hospital environment; (4) care needs and ongoing management; and (5) person-centred care.

RÉSUMÉ

Contexte : Les sondages sur l'expérience offrent l'occasion aux patients de transmettre leur point de vue au sujet des services et des processus de soins de santé. Malheureusement, la plupart des sondages actuels sont conçus comme des outils universels, et ne prennent donc pas en considération certains aspects propres à des groupes cliniques précis. L'objectif de cette étude est de mieux cerner les aspects précis des soins qui sont jugés importants par les patients qui ont subi une intervention chirurgicale cardiaque.

Méthodologie : Des entretiens téléphoniques individuels semi-structurés ont été menés avec une cohorte de patients ayant subi une intervention chirurgicale cardiaque. Les entretiens ont été enregistrés et retranscrits. Une analyse thématique utilisant une approche phénoménologique a été effectuée pour générer une liste de thèmes et de sous-thèmes jugés importants par les participants.

Résultats : Huit entretiens ont été réalisés en juillet et en août 2019. Les participants regroupaient sept hommes et une femme, âgés de 55 à 84 ans. Les données recueillies ont permis de cerner cinq thèmes

Patient-centred care is providing care that is respectful of, and responsive to, individual patient preferences, needs, and values, and ensuring that patient values guide all clinical

decisions.¹ To practice successful patient-centred care, it is essential to offer opportunities for patients to provide feedback about the health care services that they receive. There is now wide recognition that these patient reports are not only complementary to health care provider's perspectives, but also provide unique information about what contributes to the quality and effectiveness of health care delivery.^{2,3}

Experience surveys are an attractive, cost-effective option to capture feedback from patients in a timely manner.⁴ Since its launch in 2014, the Canadian Patient Experiences Survey—Inpatient Care (CPES-IC) has emerged as a gold standard for measuring the experiences of hospitalized Canadians.⁵⁻⁷ The CPES-IC was designed to capture the experiences of

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Ethics Statement: The research reported has adhered to the relevant ethical guidelines.

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See page 432 for disclosure information.

Our interviews revealed that participants had many overwhelmingly positive experiences with care. Through reports of their own experiences, participants highlighted important areas that might be improved.

Conclusions: Our results confirm and expand upon those highlighted in quantitative research by our group. Findings and knowledge derived from this study might be used to inform quality improvement activities. These might also play a key role in the development of a patient experience survey, specifically for those who undergo cardiac surgery; thus addressing a potential limitation of surveys currently in use.

many broad groups of patients. This presents a potential limitation in that potentially relevant condition-specific questions are not asked.

Previously, our research group examined the experiences of patients who underwent cardiac surgery (coronary artery bypass grafting [CABG] and/or valve replacement) over a 4-year period, using the CPES-IC.⁸ In addition to our main findings, we highlighted that the CPES-IC did not contain items that asked patients about their access to care, cardiovascular medications, lifestyle modification, and cardiac rehabilitation. Cardiac surgery has lasting effects on patients. A recent review showed that those who experience a cardiac event have informational and care needs that extend far beyond the inpatient setting.⁹ These can include navigating lifestyle changes, as well as the emotional reactions post event. In continuing to use the CPES-IC, a generic, “one-size fits-all” tool, to assess the experiences of cardiac surgery patients, we might only capture a portion of one’s experience.

Before developing new survey questions or an entirely new survey, however, it is important to know the aspects/topics of care that are important to patients. Therefore, this qualitative study was conducted to gain a deeper understanding of the elements of care that are important to cardiac surgery patients across our jurisdiction (Alberta, Canada).

Methods

The methodology for this qualitative project was guided by the Canadian Institute of Health Research Strategy for Patient Oriented Research vision for patient engagement. This vision ensures that patients are active partners in health research that will lead to improved health outcomes and an enhanced health care system. We adopted all 4 guiding principles of this vision: inclusiveness, support, mutual respect, and co-building.¹⁰ From the outset of the project, 3 patient partners from the Libin Cardiovascular Institute’s Person to Population (P2 Cardiovascular Health) Research Collaborative Group¹¹ collaborated with our research team. As individuals who had previously experienced cardiac surgery, their experiential expertise was invaluable to codesign the interview guide. They provided their advice on how to structure the interviews to ensure a logical flow of ideas, as well as which questions and prompts would be relevant to ask.

clés : 1) expérience globale; 2) communication; 3) environnement physique à l’hôpital; 4) besoins en matière de soins et prise en charge continue; et 5) soins axés sur le patient. Nos entretiens ont révélé que les participants avaient eu plusieurs expériences de soins extrêmement positives. En relatant leurs propres expériences, les participants ont souligné d’importants aspects qui pourraient être améliorés.

Conclusions : Nos résultats confirment ceux des recherches quantitatives effectuées par notre groupe, et viennent les étayer. Les données et les résultats générés par cette étude pourraient être utilisés pour mettre au point des mesures visant l’amélioration de la qualité. Ils pourraient également jouer un rôle important dans la création d’un sondage sur l’expérience des patients, et plus précisément l’expérience des patients ayant subi une intervention chirurgicale cardiaque, et ainsi remédier aux limites possibles des sondages utilisés à l’heure actuelle.

Participant eligibility and recruitment

Prospective participants were identified via collaboration with the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) team. APPROACH is part of a national database, which contains real-time data pertaining to cardiac patients and procedures.¹² Participants were eligible to participate if they were 18 years or older, and had been diagnosed with either stable angina or acute coronary syndromes resulting in surgical treatment with CABG and/or valve replacement within the previous 6 months at the Foothills Medical Centre (Calgary),¹³ or the University of Alberta Hospital (Edmonton).¹⁴ These 2 academic hospitals are the primary cardiac surgery centres for southern and northern Alberta, respectively.

Patients deemed eligible received a study invitation letter via e-mail, or regular mail, as per the contact information provided in the APPROACH database. Recruitment also took place via the assistance of social media (Facebook, Twitter) posts made by the Patient Engagement Platform of the Alberta Strategy for Patient Oriented Research Support Unit.¹⁵ In all cases, persons expressing interest in the study were asked to contact the research team (primary author) via e-mail or telephone. This also provided an opportunity for the research team to provide any additional details and to answer any questions before any agreement to participate. Efforts were made to obtain a purposive sample of participants according to sex, age, residence area (rural or urban), and clinical course (urgent or elective admission to hospital, cases with or without complications).

Data collection

Individual, semistructured interviews took place via telephone, as per participant convenience/availability. After an introduction, each interview began with the collection of relevant demographic characteristics (eg, age, city/town of residence, education level, employment status) and clinical (eg, procedure[s] the patient underwent, hospital, whether the patient experienced any complications or rehospitalizations) information. Participants were then asked to describe their clinical course, including their general impressions of care received. Questions then delved into what each participant deemed important (ie, stood out for them) in their journey leading up to, during, and after discharge from hospital. Initial

Table 1. Interview questions

1. Please tell us about your recent experience with heart surgery. (Probes: What went well, what would you improve?)
2. Thank you for sharing your experiences. Now knowing what you know, if you could go back in time, is there anything that you wish you knew ahead of time?
3. What kinds of things did you value about your experience? What matters to you? (Probes: how health care service providers interact with you, features of the hospital, begin able to access services, information sharing, having family/friends as part of your care team.)
4. A product of this work will be to develop a survey to improve care, and to highlight areas where care is done well. Are there any other things that you think are important to include?
5. Do you have any questions for us? Or is there anything you would like to add about your experience?

questions were followed-up with key prompts to ensure respondents had an opportunity to provide deeper and more elaborate responses. The list of interview questions is provided in [Table 1](#). All interviews were performed by 1 researcher (primary author), as part of his larger doctoral thesis work. He had received training on how to conduct research interviews and focus groups, and had honed these skills during previous employment as a research coordinator. Interviews were conducted until thematic saturation (ie, no new themes emerging)^{16,17} took place. Thematic saturation was determined and agreed upon by the 2 authors who completed the analysis of all data.

Data analysis

Because we were seeking to better understand the lived experience of cardiac surgery patients, the analysis was on the basis of a phenomenological approach.¹⁶ To achieve this, interviews were audio-recorded and transcribed verbatim within 2 weeks of completion. Each interview transcript was then read by 2 authors, with key quotes highlighted. A thematic analysis was used to classify items according to care topic (eg, care from nurses, medication, information exchange, etc). The coding framework was developed inductively, by first examining the interview transcripts, then by coding the themes as they appeared within the data (as opposed to defining themes a priori). To increase the trustworthiness of our thematic analysis, we incorporated many of the criteria outlined by Nowell et al.¹⁸ These included the 2 authors familiarizing themselves with the data, establishing themes (independently), and then reviewing these together. To limit potential biases due to reflexivity, 1 of the reviewing authors had no previous cardiovascular clinical or research experience. After analysis, findings were reviewed and discussed with the whole research team, which consisted of experts in qualitative and quantitative research, as well as 1 interventional cardiologist.

Ethics approval

This study was approved by the University of Calgary Conjoint Health Research Ethics Board (project number REB18-1180) and conducted at the University of Calgary, in Calgary, Alberta, Canada. All participants provided their written informed consent.

Results

Interviews took place with 8 participants (7 men and 1 woman) during July and August 2019, and concluded when thematic saturation was reached. Interviews ranged from 17 to 41 minutes in length. Participant age ranged from 55 to 74 years. A list of participant characteristics, which include age, sex, residence setting (urban/rural), employment status, and whether the participant experienced any complication(s) or readmission(s) to hospital are provided in [Table 2](#).

After review of the transcripts, 5 key themes emerged: (1) overall experience; (2) communication; (3) the physical hospital environment; (4) care needs and ongoing management; and (5) person-centred care. Where appropriate, subthemes had been further classified and presented. Each of these themes and subthemes are discussed briefly, with 1-2 supportive quotes as examples. The full list of participant quotes, arranged according to theme and subtheme, is provided in [Supplemental Table S1](#).

Overall experience

Our interviews revealed that participants had many overwhelmingly positive experiences with care. Despite this, participants were not shy to highlight important areas that might be improved. The participants’ overall experiences focused on their interactions with the clinical staff. This not only included doctors and nurses, but also allied health team members, such as physiotherapists. Participants expressed appreciation for the routine-like ability of the staff to perform their duties. In contrast, interactions with providers were

Table 2. Characteristics of interview participants

Participant	Sex	Age, years	Setting	Education level	Employment status	Complication	Readmission
P1	Male	65	Rural	Master’s	Retired	No	No
P2	Male	55	Urban	Bachelor’s	Full-time	Yes	No
P3	Male	63	Rural	Master’s	Part-time	No	No
P4	Male	68	Rural	College Diploma	Retired	Yes	No
P5	Female	74	Urban	High School	Retired	Yes	Yes
P6	Male	73	Urban	Bachelor’s	Retired	No	No
P7	Male	58	Urban	College Diploma	Retired	Yes	No
P8	Male	65	Urban	Bachelor’s	Part-time	Yes	No

empathy was lacking were described; for example, relating to anxieties around receiving the surgical intervention.

“I had excellent care overall. But, there may be some small areas for improvement.”

—P8

Communication

Throughout their surgical journey, participants experienced issues related to communication. This theme of communication included several subthemes: (1) informational needs through the surgical journey; (2) reporting concerns; and (3) communication between staff.

Informational needs through the surgical journey. Participants had many comments or insights regarding informational needs. Most of the comments reflected the care received in-hospital, but also included the lead-up to hospitalization (in the case of prebooked surgeries), during the discharge process, and after the patient returned home. Although some patients expressed receiving information, others highlighted this as a perceived gap. In one example, a participant perceived good communication by the time spent with the team, including explanations by the anaesthesiologist and the involvement of his wife in this communication. For other participants, the information provided was not sufficient. Some highlighted the information ahead of the surgery, but that these gaps in information also extended to knowledge about recovery time and healing. Some participants highlighted good communication for post hospital care, while recommending additional considerations. Good communication was regarded as paramount. Any absence could allow for potential distrust in the clinical staff, or the clinical plan.

“...oh yeah I had what you call pre-op visit, which took up a better part of the day and then they really tell you or try to explain to you what’s going to happen. I also met the anaesthesiologist prior to my operation and just explained how you’re going to be numbed down and that kind of story and my wife was with me on that occasion as well so she knew what to expect.”

—P4

“...yeah there’s no problem with courtesy or respect. That was fine, but information...I don’t think I was given it very often.”

—P1

Reporting concerns. Although participants tended to have overwhelmingly positive experiences, participants did express some concerns about the care that they received. Many brought their concern(s) forward to the hospital staff, the health authority, or in 1 case, a politician in the patient’s electoral riding. Participants were adamant that they did not want their concern(s) to result in punishment to staff (eg, disciplinary action, job loss), but rather, to serve as a lever for change to improve the care for future patients.

“I reported a nurse to the staff. He was always mad and slamming things. He was also bossing all of the other nurses around. I was afraid of him. I thought that this could be bad for other patients,

so I reported him. The staff escalated my concern and I was contacted by Patient Relations. They also talked to my family to get statements from them.”

—P5

“The cardiologist and surgeon told me about the complaint process. It seems like a lot of work but I don’t want to get anyone fired. They told me that they did their job, and they were very transparent. I did report my issue because they (the local health authority) need to know that for the benefit of others. I appreciated the chance to share my experiences. The system needs to be improved and fine-tuned along the way.”

—P8

Communication between staff. Participants indicated that one potential area for improvement in their care would be the communication and coordination between staff members. These perceived breakdowns occurred not only within teams, but between different areas of the health care system (eg, between paramedics and hospital staff). This might also be related to comments regarding the “machine-like” processes of care, which were highlighted previously. Quotes in this subtheme seem to imply that patients consider clear and united directives from their health care professionals as important. Further, there was indication of the need from patients for professionals to be on the same page for treatment and to be clear and transparent in communicating with each other.

“The staff disagreed about whether I should get a pacemaker and I was caught in the middle.”

—P5

The physical hospital environment

Several participants expressed concerns with the physical environment of the hospital. For instance, one participant expressed his wife’s challenges with finding parking during his urgent admission to hospital. Other concerns included annoyances with roommates and difficulties sleeping, which also extended to complaints with furnishings such as the hospital bed and placement of the air conditioning system.

“When I got to the hospital, she (patient referring to his wife) followed the ambulance and it took her 45 minutes to find parking, so that was stressful.”

—P8

Care needs and ongoing management

Participants stressed the importance of having their care needs met. This encompassed not only immediate acute care needs but extended to leaving the hospital and returning to normal life. The theme of care needs and ongoing management included 2 subthemes: (1) Access to care and post hospital needs; and (2) medications and pain control.

Access to care and post hospital needs. With respect to access to care, participants who were booked on an elective

basis expressed that they were pleased, and perhaps even surprised at the speed with which they received care. Some stressed the importance of a cardiac rehabilitation program after discharge from hospital. This expanded to discussions of being referred to cardiac rehabilitation years ago, and not appreciating fully how the program might help them to prevent further cardiac events. Participants also provided feedback about perceived shortcomings of such programs, including barriers (eg, living in a rural area, cost) and programming being designed for a broad spectrum of patients with differing needs. Further comments were made about one's return home and how their care continued after leaving the hospital. Many expressed ongoing physical and psychological concerns or limitations. There were also comments from participants about the desire to have routine testing after discharge from hospital; expressing the comfort that would bring in having an objective measure of their medical status.

"I understood and was fine with my place on the waiting list. I was given a 3 month window and I was done in 6 weeks. I was called on a Monday to tell me to come in on Friday. I was scared to do it."

—P7

"I went to cardiac rehabilitation 4 years ago after I had my heart attack. I didn't take it seriously. One thing that I would stress is that it is so vitally important. If I had realized that that was to prevent what I was going to go through in a few years, I would have taken it more seriously."

—P5

Medications and pain control. Participants highlighted the importance of adherence to their pain medication. This importance was perceived not only as the need to take medications as prescribed or suggested but also as a potential safety aspect of stopping pain medications like opioids when leaving the hospital.

"I wouldn't wish that pain on my worst enemy....But, they gave me a lot of great drugs for the pain. I was taking an opioid in hospital, but I didn't want to take it home."

—P7

Person-centred care

Participants spoke of their desire for programs and services to be more tailored to them as individuals. They also discussed the desire for inclusion of themselves and family members in decisions about their care. This theme of person-centred care can be further classified into 2 subthemes: (1) individualized care; and (2) patient and family involvement in care.

Individualized care. Participants provided many salient quotes regarding the need for protocols, services, and program offerings to be tailored to their individual needs. Concerns were also expressed regarding the perceived limitations of the regimented protocols and staff attitudes toward these. There was a sense of protocols being rigidly designed for the whole rather than the individual patient at hand. In the comments,

one can observe that this sentiment extended to medications and tests, as well as to interactions between the patient and staff members.

"...the only thing that I experienced afterwards was they gave everybody the same set of drugs as a protocol and it's the same thing for all heart patients and I never really had high blood pressure, but they gave me pills for controlling blood pressure. They gave me pills for lowering blood pressure so I already had really low blood pressure, but they still gave me pills."

—P1

Patient and family involvement in care. Participants expressed the desire to be involved in their care. In some instances, this extended to the inclusion of family members. There were also comments that expressed the burdens that might be inadvertently placed upon family members.

"...(patient referring to his wife) she was with me all the way. The operation was probably tougher on her than it was me."

—P4

Discussion

This qualitative descriptive study showed that patients who underwent cardiac surgery were grateful for, and appreciative of, the staff during their hospitalization. On the whole, participants reported receiving good care, but also highlighted areas for potential improvements. These focused on 6 aspects of care: (1) the perceived limitations of regimented protocols and staff attitudes toward these; (2) perceived breakdowns in communication or coordination of care—not only within teams, but between different areas of the system; (3) the physical environment of the hospital; (4) the need for information while in hospital, and in managing ongoing care concerns after leaving; (5) expressing or reporting concerns with care; and (6) perceived shortcomings of the "one-size fits-all" design of cardiac rehabilitation programs. Improvements in these areas can have positive effects in the provision of patient-centred care. However, it should be noted that these recommendations can vary in terms of their actionability. As an example, providing more information to patients and families via handouts, or as one participant suggested, in a video, might be easy to implement. Conversely, efforts to improve the physical environment might involve significant financial investments and might be limited by existing hospital infrastructure. Despite these challenges, participants in this study characterized the period after surgery as one of a lack of comfort, where one feels ill and is at heightened sensitivity to noise, distractions, and a lack of privacy. Efforts to improve the ability for patients to self-isolate in a comfortable environment after surgery might have great positive effect.

On a more global scale, the experiences of participants highlight the importance of harnessing patient feedback to inform and promote continuous improvement of health care services. Participants recognized the crucial role that they can play in quality improvement and were pleased that future patients could benefit from their own experiences. Through the methods used in this study, which were developed in collaboration with patient partners, and the resulting analyses,

this study provides reports on the aspects of care deemed most important to those who undergo cardiac surgery. In addition to the utility for quality improvement purposes, our findings can inform the development of additional survey questions to evaluate processes of care not addressed in existing surveys.

The results of this qualitative study align well and expand upon the results from our previous quantitative study of survey results using the CPES-IC instrument.⁸ In that previous study, more than 1000 participants who underwent CABG and/or valve replacement highlighted their high regard of their nurses and doctors. Like in the present study, concerns pertaining to coordination of care among staff members, lack of information provision (eg, medication side effects), night noise on the hospital unit, and cleanliness of the hospital room were also reported.⁸ Our findings pertaining to importance of informational needs, and the desire for more personalized programming in cardiac rehabilitation have been reported elsewhere.¹⁹ Further, the desire that participants expressed for ongoing information (ie, after leaving hospital) about their condition, appropriate symptom management, and the safe return to normal activities has been echoed in previous work.²⁰

There are notable limitations associated with this study. Although the age and sex distribution of participants mirrors that of cardiac surgery recipients in our jurisdiction,²¹ it is possible that our findings might not be generalizable to younger patients or women. Younger cardiovascular patients have been shown to have additional or different needs compared with older individuals who undergo cardiac surgery.²² This was highlighted by one of our study participants with respect to the program offerings of cardiac rehabilitation. It is also plausible that our findings might not report on the differing needs of women who undergo cardiac surgery. It has been reported that sex-related disparities exist in the diagnosis, treatment, and ongoing management of cardiovascular disease.²³ Additionally, our interviews were conducted in English only, among participants who identified as Caucasian. As such, it is possible that our results might not apply to non-English speakers, visible minorities, and those who identify as indigenous. Apart from the 1 female participant who had completed high school, our study participants had a high level of education. Although we did not collect information about job role or income, this might result in our results not being applicable to those who are less affluent. Future research is necessary to determine if our findings apply to these aforementioned groups. Finally, because interviews occurred after hospital discharge, one cannot discount the potential for recall bias.¹⁶ Although one might assume that cardiac surgery is a vivid, memorable experience in one's life, it is possible that participants might forget specific details of their care after they are discharged.

There are also several methodological strengths of this study. One of which was in its qualitative design. Through in-depth interviews, we were able to better understand the experiences of patients who underwent cardiac surgery at 2 teaching hospitals in our province. Our organic approach to interviewing, in which we asked participants what they believed was important during their experience, coupled with pertinent probing questions allowed for rich discussions. Participants were quite candid in their responses and were easily able to shine a light upon successes, while making

constructive, actionable suggestions for improvement. Another study strength was the patient-oriented design. Three patient partners played a valuable role in shaping the interview guide. This resulted in focused, pertinent questions being asked, from the perspective of those who had themselves, previously experienced cardiac surgery.

In conclusion, The findings of this study highlight the aspects of care that are deemed important to those who have experienced cardiac surgery at the 2 major surgical centres in Alberta, Canada. These findings could inform quality improvement activities. Next steps include dissemination to the surgical cardiac teams and quality experts, as well as an exploration of routine collection of these data to inform quality improvement activities in cardiac surgery. It is important to note that to date, the measure used to collect data on patient experiences is generic in nature. As such, it potentially misses out on assessing aspects of care that are important to cardiac surgery patients. Knowledge derived from this study might play a key role in the development of a patient experience survey, specifically for those who undergo cardiac surgery.

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Disclosures

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Supplementary Material

To access the supplementary material accompanying this article, visit *CJC Open* at <https://www.cjcopen.ca/> and at <https://doi.org/10.1016/j.cjco.2020.11.016>.