Patient Preferences for Using Technology in Communication Post Hospital Discharge

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Abstract

Background: Technology is increasingly transforming the way we interact with others and undertake activities in our daily lives. The healthcare setting has, however, been relatively slow to adopt technology solutions to facilitate communication between patients and healthcare providers. While the procedural and policy requirements of healthcare systems will ultimately drive such solutions, understanding the preferences and attitudes of patients is essential to ensure that technology implemented in the healthcare setting facilitates communication in safe, acceptable, and appropriate ways. Therefore, the purpose of this study was to examine patient preferences for using technology to communicate with health services about symptoms experienced following discharge from the hospital.

Methods: Primary data were collected from patients admitted to a large metropolitan hospital in Australia during three consecutive months in 2018. Participants were asked about their daily use of technology including use of computers, email, phone, text messaging, mobile applications, social media, online discussion forums, and videoconference. They were then asked about their use of technologies in managing their health, and preferences for use when communicating about symptoms with health services following discharge from hospital.

Results: Five hundred and twenty-five patients with a wide range of differing clinical conditions and demographics participated. Patients indicated they used a range of technologies in their everyday lives and to manage their health. Almost 60% of patients would prefer to return to hospital if they were experiencing symptoms of concern. However, if patients experienced symptoms that were not of concern, over 60% would prefer to communicate with the hospital via telephone or using technology. Admitting condition, income, and age were significantly associated with preferences for communication about symptoms following hospital discharge.

Conclusions: Patients have varied preferences for communicating with the health service post-hospital discharge. Findings suggest that some, but not all patients, would prefer to use technology to traditional methods of communicating with the healthcare team. Health services should offer patients multiple options for communicating about their recovery to ensure individual needs are appropriately met.

Background

Information and communication technologies (ICT), such as telehealth, electronic patient-reported outcome measures (ePROMs), and patient portals for electronic medical records (EMR), hold great promise in enabling more efficient and effective healthcare service delivery (1). Despite recognition that ICT enhances communication possibilities, health services have been slow to adopt the full potential of technologies into practice (2). Factors identified by healthcare workers critical to adoption include: access to functional technologies, integration with workflow, evidence of positive impact on patient outcomes, and resourcing to support implementation (3). Where ICT is used in clinical practice, it has primarily been unilateral in that the health service or clinician initiates communication with patients, or uses technology in health management without patient involvement (4). With growing demands on health services, and as patients are increasingly encouraged to engage more in self-management of their health (5), understanding patient preferences for initiating communication with health services warrants exploration.

Information and communication technologies are now part of almost every aspect of daily life. Alongside the proliferation of ICT across the world is the rise in their use in health care (6). With the emergence of the COVID-19 pandemic, *telehealth remote monitoring, consultation, and mentoring are now commonplace (7). Other technologies such as ePROMs assist in systematically and comprehensively monitoring and improving symptoms resulting in reduced data entry burden for clinicians* (8-10)*. Patient portals for EMRs can assist with clinical history documentation, clinician prescribing, and messaging between healthcare staff and patients (4). However, these technologies rarely accommodate ad-hoc communication initiated by a patient with their health provider outside of scheduled activities.*

The time following discharge from an admission to hospital is of great importance to recovery. Patients with different clinical conditions may experience a range of symptoms following discharge that may or may not be of clinical relevance. Being able to communicate about symptoms effectively is, therefore, of great importance to the patient and the clinician. With the increasing availability of digital technologies, the possibility exists for patients to communicate about health needs electronically from the comfort of their homes, avoiding unnecessary trips to the hospital, saving both time, travel, and costs (11). Little is known about individuals' preference for communicating with health services through the use of digital technologies. The purpose of this paper, therefore, is to report on patient experience with, and preferences for, using a variety of technologies to communicate with health services about symptoms following discharge from the hospital.

Methods

Design and Participants

Patients arriving for a planned admission to a metropolitan hospital in Queensland during three consecutive months in 2018 were surveyed about their technology use and preferences. Patients were given verbal and written information about the study and provided with a paper survey. Verbal and implied consent was obtained from all participants. Patients interested in participating did so by voluntarily and anonymously completing the survey and returning it to the research team via collection boxes. This form of informed consent was used because of the low-risk nature of the study, to reduce time pressures in participation, and to ensure participant anonymity. A waiver of written consent for this study met national regulations and was approved by the Institutional Research Ethics Committee.

Measures

The survey was developed for this study and is provided as Additional File 1. The survey included self-reported questions about patient characteristics as well as current use of technology, and preferences for the use of technology when communicating with their healthcare team post-hospital discharge. The questions about the use of technology asked patients about their use of 11 types of digital technologies in their general day to day activities, and for managing health, as well as their future interest in using. Participants could answer with one of three options: 1) 'I currently use', 2) 'I don't use but would be interested in using', and 3) 'I don't use and don't have any interest in using'. The survey also asked participants to rank their preference of nine options for communicating about symptoms with the healthcare team following discharge. Members from the hospital consumer group provided input about the survey readability, and the survey was pilot tested with 33 admitted medical patients. Minor wording modifications were made to the survey after testing. Responses collected during the pilot testing were excluded in the final analyses.

Data Analysis

SPSS (Version 25) was used to perform data analyses. Descriptive statistics were primarily used in this study to describe the responses to most survey questions. Crude relationships between patient characteristics and communication preferences, categorised as 'in-person', 'by telephone' or 'through digital technology applications', were established using Chi-square analyses. Multinominal logistic regression, which included significant ($p < 0.05$) covariates identified in the bivariate analyses and which force included age and gender, was used to explore communication preferences in the presence of other variables. Relative Risk Ratios (RRR), Confidence Intervals (CI), and p-values are presented. As the focus of the analyses was exploratory, not to test or build a predictive model, standard multiple regression analysis was used over other regression models.

Results

During the period of the survey there were 2,401 unique planned admissions at the hospital. A total of 603 surveys were returned. Due to significant missing data about their current technology use and preferences 78 surveys were removed. The results for this study included responses from 525 patients with a planned admission to the hospital. Table 1 provides the characteristics of the sample. There was an approximately equal distribution of male (n = 244, 51%) and female (n = 238, 49%) patients, and the majority (n = 294, 70%) were aged over 50 years and most (n = 503, 98%) spoke English at home. Many (n = 285, 54%) had completed vocational or postgraduate studies and a third (n =152, 33%) had an annual household income above 100,000 AUD. The majority lived with other people (n = 456, 89%), but did not have responsibilities for children (n = 393, 76%) or elders (n = 485, 94%) at home. Reasons for admission were for surgery (e.g., knee replacement, breast cancer surgery) (n = 326, 68%) or for investigational procedures and medical care (e.g., angiogram, cystoscopy) (n = 153, 32%). Patients were admitted for a variety of conditions including gastrointestinal (n = 111, 21%), orthopaedic (n = 142, 14%), cardiac (n = 75, 14%), and oncological (n = 41, 8%).

Patients reported using a range of technologies as part of their general day to day activities (Table 2). The most frequently reported use was mobile phone (n = 495, 97%), text messaging (n = 454, 93%), email (n = 452, 93%), and the internet/websites (n = 451, 93%). The least frequently used was online discussion groups or forums (n = 152, 40%). Patients also reported high use of technology to assist in managing their health (see Table 2). For example, the most frequently reported use was mobile phone (n = 365, 82%), internet/websites (n = 320, 78%), email (n = 325, 93%), a laptop or desktop computer (n = 317, 74%), and text messaging (n = 275, 76%). Using a tablet or mobile phone application to assist in managing health was the most frequently reported technology to be of interest to those not currently using (n = 70, 20%). However, across all technologies, more patients were not interested than those who were interested in using each technology.

Patient-ranked communication preferences regarding symptoms post-discharge from the hospital are presented in Table 3. For symptoms of little concern, telephoning the hospital was the most common first preference (n = 193, 37%), followed by attending the hospital in-person (n = 179, 34%). Approximately 30% (n = 160) of patients ranked a type of technology as their first preference for communication about symptoms that were of little concern. For symptoms of concern, in-person communication was the most common preference (n = 305, 58%), followed by communicating by telephone (n = 168, 32%). Communicating with any other technologies was the first preference by only 10% (n = 49) of respondents. In terms of the types of technology, the least common preferred option for both symptoms of low and higher concern was for online discussion forums.

Bivariate analyses (Table 4) identified significant associations between several variables. Age ($p = .0001$), condition requiring treatment ($p = .02$), admitting medical condition ($p = .02$), employment ($p = .0001$), and household income ($p = .01$) were associated with differing preferences for communicating about symptoms that were not of concern following hospital discharge. Type of condition requiring treatment was the only variable associated with preferences for communicating about symptoms that were of concern ($p = .01$).

In the multivariable analyses, after controlling for salient covariates (i.e., those identified through bivariate analyses as well as age and gender), the admitting condition, income, and age remained significantly associated with communication preferences about symptoms following hospital discharge (Table 5). Type of treatment received and employment were not included in the multivariable model because of the potential for multicollinearity with condition receiving treatment and annual household income, respectively. For symptoms not of concern, having either a cardiac or 'other' condition compared to having an orthopaedic condition was associated with increased preference for in-person communication than a telephone call (RRR 0.19; CI 0.08-0.45, RRR 0.44; CI 0.20, 0.98, respectively). Having a household income of more than 100,000 AUD per year was associated with increased preference for telephone and technology than in-person modes of communication about symptoms of low concern (RRR 2.43; CI 1.25, 4.74, RRR 2.09; CI 1.08, 4.07, respectively). In comparison to those aged between 18-30 years, those aged 66-80 years and those aged over 80 years had a greater preference for telephone than in-person to communicate about symptoms of concern (RRR 4.08; CI 1.11, 15.02; RRR 7.63; CI 1.64, 35.55, respectively). Lastly, patients with gastrointestinal conditions had a greater preference for in-person communication than using technology to communicate about symptoms of concern compared to patients with orthopaedic conditions (RRR 0.280; CI 0.086, 0.914).

Discussion

Consistent with reports of increasingly widespread use of communication technology in society, patients in this study reported using a wide variety of communication technologies in their daily activities (12). At least half of the patients in this study reported some technologies such as computers, the internet, and the telephone (including text messaging) to manage their health. This finding is consistent with reported trends of individuals' rapidly increasing uptake of technology, such as the internet, to manage their health (13). However, only a small proportion of patients were interested in using new technologies that they were not currently using in general daily activities in managing their health. The reluctance to utilise more technology-enabled approaches in the context of healthcare may be indicative of a lack of experience with the technology for health management (14-16), and concerns about privacy (16, 17). It may also be reflective of an older demographic of patients who may have misconceptions about the difficulty of using technology, or issues with trust (18).

Our findings show differences in patient preferences for communicating with the healthcare team post-hospital discharge. Nearly 60% of patients preferred to return to hospital to communicate about symptoms that were of concern to them, but at least 30% preferred to communicate via telephone. If patients experienced symptoms that did not cause them concern, two-thirds preferred to use either telephone or other technology to communicate with the health service. These results may suggest that many patients would prefer not to return to the hospital for follow-up unless they were experiencing symptoms of concern. Our findings should not only prompt renewed interest in the role of follow-up telephone calls for patients discharged from the hospital (19) but the role of virtual follow-up visits with health services (20).

In the current study, having a cardiac condition was associated with preferencing in-person communication over a telephone call. Having a gastrointestinal condition was also associated with a decreased preference for using technology to communicate when concerned about symptoms. Perhaps the experience of specific conditions is associated with higher treatment-seeking behaviour and the need for more urgent attention. Tran and colleagues (21) found that patients with concerns about cardiac symptoms were more likely to self-present to the emergency department despite receiving telephone review and health helpline advice that their symptoms were of 'low urgency' and 'require self-care'. All orthopaedic patients received a planned surgical intervention. In contrast, the patients with a cardiac condition may feel more acutely at risk of rapid deterioration, and perhaps this finding reflects the perceptions of the anticipated possible outcomes between conditions. If true, this highlights the importance of pre-admission education about the possible outcomes and actions to be taken post-discharge (22, 23). Research on technology use in health care has predominantly focused on the experiences of patients with particular conditions and on patients that have used technology (18). In this study, we sought to understand the preferences of both those who do and who do not currently use technology in daily life and health management. Investigation of experiences across different conditions warrants further investigation in order to inform appropriate health service responses for patients with a variety of conditions.

Income may affect preferences for communicating about symptoms that are not of concern post-hospital discharge. Patients that reported earning over 100,000 AUD per household per year were more likely than respondents with lower incomes to prefer to use telephone or technology-enabled forms of communication. Earning over 100,000 AUD per household per year was also associated with having higher educational qualifications in this study. Higher-income and education have been previously associated with greater technology use to manage health, such as patient portals (24) and smartphone applications (25). Some have suggested that there is an emerging 'digital divide' where patients that lack access to computers and smartphones for a variety of reasons could miss out on health innovations that use digital technology (26). However, a recent review (albeit of few studies) reported no associations with patient characteristics (including income) and digital health tool use (27).

Age was significantly associated with different preferences in communication when concerned about symptoms. Older people were more likely to prefer making a telephone call over attending in-person when they had a concerning symptom. This finding may be because older people have had more experience with illnesses and have had more time to develop an understanding of their conditions and health services (28-30). Alternatively, older persons may seek to negotiate a delay in admission to the hospital (31). One review of health-related decision-making in older adults found that limited research in this area exists, however, delays in treatment-seeking by older persons were noted (32). The desire to remain independent, the influence of others, availability and perceptions of health services available, and having access to information may also affect decisions to seek treatment (33).

Several limitations should be considered in the interpretation of the results of this study. These results represent a small proportion of patients at a metropolitan hospital that predominantly performs surgical or investigational procedures. Therefore, the preferences for communication may not be generalisable to other patients with either different characteristics, those receiving different types of interventions, or those receiving care at different facilities. There was a low completion rate compared to the number of patients admitted during the time of the survey. As participation in the study was voluntary, the results of this study may be biased towards patients that were more interested in the topic, those with more time in the admission area, and those less distracted or concerned by the admission. Future research should measure actual behaviours and reasons for choice in communication with hospitals post-hospital discharge if alternative technologies are made available. It should also consider understanding a broader range of patient characteristics that may be amenable to facilitating the adoption of technology in healthcare. Differences in technology availability and utilisation across private and public facilities should also be investigated.

Implications for practice

The role of the patient partnering with health services is an evolving concept that is increasingly recognised as integral to the delivery of patient-centred and quality healthcare (18). The use of technology in health will continue to expand, but this study highlights the need for considering the needs and preferences of patients for communicating about their health needs. As health services continue to develop, the move away from a paternalistic system towards self-advocacy, empowerment, and quality is likely to see patients demand increased choice and control about how and when they communicate with healthcare providers (34). Our study here highlights that acceptance of technology for communication about health is not pervasive, and that service development should also be informed by the needs and preferences of the patients they serve. In addition, these findings perhaps signal that most patients may prefer not to return

to hospital for routine follow-up care if they have little or no concerns about their recovery. Health services with protocols requiring in-person follow-up care when recovery is progressing as planned should re-evaluate this practice.

Conclusion

We found patients use a variety of technologies to manage their daily activities and health. Patients also had preferences that varied depending on their concerns for communicating with the healthcare team post-hospital discharge. It demonstrates that some, but not all, patients may prefer to use technology to traditional methods for communicating with the healthcare team post-hospital discharge. These findings reinforce that health services should offer patients multiple options for communicating about their recovery to ensure individual needs are met appropriately. To fully realise the potential for greater service delivery efficiency and enhanced patient satisfaction with the health care experience that ICT may provide, health services looking to introduce new technologies to assist people with their symptom management should collaborate with patients to ensure such investments are warranted and adopted.

Abbreviations

ICT Information and communication technology

ePROMs electronic patient-reported outcome measures

EMR electronic medical record

RRR Relative Risk Ratio

CI Confidence Interval

Declarations

Ethics approval and consent to participate

Human research ethics approval was obtained from St Vincent's Health and Aged Care Human Research Ethics Committee (HREC 17/25) and administrative review approval was obtained from the Queensland University of Technology Human Research Ethics Committee. Participants were given verbal and written information about the study and provided with a survey. Verbal and implied consent was obtained from all participants. Patients interested in participating did so by voluntarily and anonymously completing the survey and returning it to the research team via collection boxes. This form of informed consent was used because of the low-risk nature of the study, to reduce time pressures in participation, and to ensure participant anonymity. A waiver of written consent was approved by the Human Research Ethics Committee and met national regulations (i.e., the *National Statement on Ethical Conduct in Human Research (2007)* (National Statement (2007)).

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Competing Interests

The authors declare that they have no competing interests

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Authors contributions

K.A. devised the project, conducted the analysis, interpreted the results, and contributed to the writing of the manuscript. H.H. acquired the data for the study and contributed to the writing of the manuscript. T.O contributed to the analysis of the results and to the writing of the manuscript. L.L and N.B, aided in interpreting the results and revising the manuscript. All authors read and approved the final manuscript.

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Tables

Table 1. Characteristics of patients that presented to hospital for a planned admission and participated in the study

Characteristic		Respondents (n = 525)	%
Gender	Male	244	50.6
	Female	238	49.4
Age group (years)	18-30	28	6.7
	31-50	97	23.2
	51-65	136	32.5
	66-80	135	32.2
	81+	23	5.5
Geographic area of residence	Metropolitan	353	73.5
	Inner regional	98	20.4
	Outer regional/remote	29	6.0
Condition requiring treatment	Orthopaedic	142	27.0
	Cardiac	75	14.3
	Oncological	41	7.8
	Gastrointestinal	111	21.1
	Other	74	14.1
Planned treatment	Surgery	326	68.1
	Investigation/medical care	153	31.9
Highest Educational Training	School	229	44.5
	Vocational	154	30.0
	Tertiary	131	25.5
Language spoken at home	English	503	97.9
	Other	11	2.1
Employment	Employed	284	55.4
	Unemployed	19	3.7
	Retired	210	40.9
Annual Household Income (AUD)	< 100,000	314	67.4
	≥ 100,000	152	32.6
Living arrangements	Lives with others	456	88.9
	Lives alone	57	11.1
Responsibilities for children at home	No	393	76.3
	Yes	122	23.7
Responsibilities for elders at home	No	485	94.2
	Yes	30	5.8

Table 2. Use of technology in general daily activities and to manage health

	Use of technology in general daily activities						Use of technology to manage health					
	Currently use		Do not use but interest in using		Do not use and no interest in using		Currently use		Do not use but interest in using		Do not use and no interest in using	
	n	%	n	%	n	%	n	%	n	%	n	%
Laptop or desktop computer	430	89.2	15	3.1	37	7.7	317	74.2	41	9.6	69	16.2
Tablet	321	75.5	46	10.8	58	13.6	204	56.4	72	19.9	86	23.8
Internet or websites	451	93.2	8	1.7	25	5.2	320	77.7	34	8.3	58	14.1
Email	452	93.0	13	2.7	21	4.3	325	77.6	38	9.1	56	13.4
Mobile phone	495	97.2	4	0.8	10	2.0	365	82.2	31	7.0	48	10.8
Home phone	321	73.0	6	1.4	113	25.7	194	54.6	25	7.0	136	38.3
Text messaging	454	93.2	10	2.1	23	4.7	275	70.5	50	12.8	65	16.7
Mobile phone or tablet applications	360	82.8	25	5.7	50	11.5	191	54.4	70	19.9	90	25.6
Online social networking services	328	73.8	9	2.0	107	24.1	126	37.7	32	9.6	176	52.7
Online discussion group or forum	152	40.2	37	9.8	189	50.0	81	25.2	53	16.5	188	58.4
Tele/video conferencing	189	47.8	57	14.4	149	37.7	67	21.1	75	14.3	175	55.2

Table 3. Communication preferences of patients about symptoms with the healthcare team post hospital discharge

	Preferences for symptoms not of concern												Preferences for concerning symptoms					
	1st			2nd			3rd			9th			1st			2nd		
	Rank	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank	n	%
Telephone	1	193	36.8	1	160	30.5	4	57	12.4	7	2	0.4	2	168	32.0	1	258	54.3
In-person	2	179	34.1	4	58	12.1	5	46	10.0	4	14	2.7	1	305	58.1	2	99	20.8
Email	3	86	16.4	2	96	20.0	2	101	21.9	9	0	0.0	3	22	4.2	3	39	8.2
Text message	4	43	8.2	3	91	18.93	1	107	23.2	6	6	1.1	4	12	2.3	4	27	5.7
Online via laptop or computer	5	13	2.5	7	22	4.6	3	58	12.6	8	1	0.2	7	2	0.4	6	10	2.1
Tele/video conference	6	7	1.3	5	27	5.6	7	39	8.5	3	40	7.6	5	6	1.1	5	34	6.5
Online via mobile phone or tablet applications	6	7	1.3	6	24	5.0	6	45	9.8	5	7	1.3	6	3	0.6	7	7	1.5
Online via social networking services	7	2	0.4	9	1	0.2	8	7	1.5	2	130	24.8	8	1	0.2	8	1	0.2
Online via discussion group or forum	7	2	0.4	8	2	0.4	9	1	0.2	1	222	42.3	6	3	0.6	9	0	0.0

Table 4. Characteristics associated with preferences for communicating about symptoms post hospital discharge

		Preferences for symptoms not of concern								Preferences for symptoms of concern						
Characteristic		In-person		Telephone		Technology		χ^2	Sig.	In-person		Telephone		Technology		χ^2
		n	%	n	%	n	%			n	%	n	%	n	%	
Gender	Female	73	43.5	92	52.3	73	52.9	3.634	0.162	139	48.9	77	52.4	22	43.1	1.3
	Male	95	56.5	84	47.7	65	47.1			145	51.1	70	47.6	29	56.9	
Age group (years)	18-30	8	5.4	8	5.4	12	9.8	26.442	0.001	21	8.4	6	4.7	1	2.6	11
	31-50	27	18.2	39	26.4	31	25.2			61	24.3	26	20.2	10	25.6	
	51-65	43	29.1	39	26.4	54	43.9			87	34.7	37	28.7	12	30.8	
	66-80	60	40.5	51	34.5	24	19.5			73	29.1	48	37.2	14	35.9	
	81+	10	6.8	11	7.4	2	1.6			9	3.6	12	9.3	2	5.1	
Geographic area	Metro	128	76.2	126	72.0	99	72.3	1.107	0.893	219	76.8	104	71.2	30	61.2	7.0
	Regional	30	17.9	38	21.7	30	21.9			53	18.6	30	20.5	15	30.6	
	Remote	10	6.0	11	6.3	8	5.8			13	4.6	12	8.2	4	8.2	
Condition requiring treatment	Orthopaedic	43	27.4	57	35.0	42	34.1	18.662	0.017	74	27.7	45	33.8	23	53.5	19
	Cardiac	39	24.8	15	9.2	21	17.1			51	19.1	18	13.5	6	14.0	
	Oncological	11	7.0	18	11.0	12	9.8			19	7.1	18	13.5	4	9.3	
	Gastrointestinal	33	21.0	45	27.6	33	26.8			76	28.5	30	22.6	5	11.6	
	Other	31	19.7	28	17.2	15	12.2			47	17.6	22	16.5	5	11.6	
Planned treatment	Surgery	95	56.9	129	73.7	102	74.5	14.740	0.001	196	69.0	98	68.1	32	62.7	0.7
	Investigation/medical care	72	43.1	46	26.3	35	25.5			88	31.0	46	31.9	19	37.3	
Highest Educational Training	School	86	49.1	86	46.0	57	37.5	5.355	0.253	121	40.6	80	50.0	28	50.0	7.0
	Vocational	45	25.7	57	30.5	52	34.2			89	29.9	48	30.0	17	30.4	
	Tertiary	44	25.1	44	23.5	43	28.3			88	29.5	32	20.0	11	19.6	
Employment	Employed	85	48.6	98	52.4	101	66.9	20.375	<0.001	176	59.1	74	46.5	34	60.7	8.1
	Unemployed	2	1.1	9	4.8	8	5.3			9	3.0	7	4.4	3	5.4	
	Retired	88	50.3	80	42.8	42	27.8			113	37.9	78	49.1	19	33.9	
Annual Household Income (AUD)	< 100,000	115	77.2	111	64.2	88	61.1	9.902	0.007	179	65.8	102	71.3	33	64.7	1.4
	≥ 100,000	34	22.8	62	35.8	56	38.9			93	34.2	41	28.7	18	35.3	
Living arrangements	Lives with others	161	91.5	161	87.0	134	88.2	1.925	0.382	271	90.9	134	84.3	51	91.1	4.9
	Lives alone	15	8.5	24	13.0	18	11.8			27	9.1	25	15.7	5	8.9	
Children at home	No	135	76.7	141	75.4	117	77.0	0.138	0.933	221	73.9	128	80.0	44	78.6	2.3
	Yes	41	23.3	46	24.6	35	23.0			78	26.1	32	20.0	12	21.4	
Elders at home	No	162	92.0	177	94.7	146	96.1	2.509	0.285	280	93.6	149	93.1	56	100.0	3.9
	Yes	14	8.0	10	5.3	6	3.9			19	6.4	11	6.9	0	0.0	

Table 5. Multivariable analysis of characteristics associated with preferences for communicating about symptoms post hospital discharge

		Telephone					Technology				
Characteristic		B	(SE)	RRR	CI 95%	Sig.	B	(SE)	RRR	CI 95%	Sig.
Preferences for symptoms not of concern (n = 341)											
Gender	Female	REF					REF				
	Male	0.216	0.284	1.241	0.711, 2.167	0.448	0.087	0.294	1.090	0.612, 1.941	0.769
Age	18-30	REF					REF				
	31-50	0.628	0.712	1.875	0.465, 7.562	0.377	-0.560	0.602	0.571	0.175, 1.860	0.352
	51-65	0.761	0.691	2.141	0.552, 8.296	0.271	-0.135	0.565	0.873	0.288, 2.644	0.811
	66-80	0.744	0.697	2.104	0.537, 8.249	0.286	-1.058	0.595	0.347	0.108, 1.114	0.075
	81+	1.603	0.860	4.966	0.921, 26.779	0.062	-1.231	0.984	0.292	0.042, 2.011	0.211
Condition requiring treatment	Orthopaedic	REF					REF				
	Cardiac	-1.667	0.446	0.189	0.079, 0.453	<0.0001	-0.700	0.420	0.496	0.218, 1.130	0.095
	Oncological	-0.108	0.523	0.898	0.322, 2.499	0.836	0.134	0.564	1.144	0.379, 3.453	0.812
	Gastrointestinal	-0.405	0.374	0.667	0.320, 1.389	0.279	-0.403	0.395	0.669	0.308, 1.449	0.308
	Other	-0.817	0.407	0.442	0.199, 0.982	0.045	-0.809	0.450	0.445	0.184, 1.076	0.072
Annual Household Income (AUD)	< 100,000	REF					REF				
	≥ 100,000	0.889	0.340	2.432	1.248, 4.737	0.009	0.739	0.339	2.094	1.078, 4.066	0.029
Preferences for symptoms of concern= n=382											
		B	(SE)	OR	CI 95%	Sig.	B	(SE)	OR	CI 95%	Sig.
Gender	Female	REF					REF				
	Male	0.208	0.240	1.231	0.769, 1.970	0.387	-0.029	0.393	0.971	0.449, 2.098	0.940
Age	18-30	REF					REF				
	31-50	0.978	0.672	2.658	0.711, 9.930	0.146	0.969	1.099	2.635	0.305, 22.727	0.378
	51-65	1.032	0.660	2.806	0.770, 10.231	0.118	0.606	1.099	1.834	0.213, 15.808	0.581
	66-80	1.405	0.665	4.078	1.107, 15.019	0.035	0.850	1.098	2.339	0.272, 20.133	0.439
	81+	2.032	0.785	7.630	1.638, 35.549	0.010	1.135	1.314	3.112	0.237, 40.847	0.387
Condition	Orthopaedics	REF					REF				
	Cardiology	-0.636	0.366	0.530	0.259, 1.085	0.082	-0.480	0.538	0.619	0.215, 1.778	0.373
	Oncology	0.170	0.410	1.186	0.531, 2.648	0.678	-0.047	0.637	0.954	0.274, 3.329	0.942
	GI	-0.376	0.319	0.687	0.368, 1.283	0.239	-1.273	0.604	0.280	0.086, 0.914	0.035
	Other	-0.340	0.353	0.712	0.356, 1.423	0.336	-0.856	0.608	0.425	0.129, 1.399	0.159

RRR = Relative Risk Ratio

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