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Guardianship Before and Following Hospitalization

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Abstract

When ethics committees are consulted about patients who have or need court-appointed guardians, they lack empirical evidence about several common issues, including the relationship between guardianship and prolonged, potentially medically unnecessary hospitalizations for patients. To provide information about this issue, we conducted quantitative and qualitative analyses using a retrospective cohort from Veterans Healthcare Administration. To examine the relationship between guardianship appointment and hospital length of stay, we first compared 116 persons hospitalized prior to guardianship appointment to a comparison group (n = 348) 3:1 matched for age, diagnosis, date of admission, and comorbidity. We then compared 91 persons hospitalized in the year following guardianship appointment to a second matched comparison group (n = 273). Mean length of stay was 30.75 days (SD = 46.70) amongst those admitted prior to guardianship, which was higher than the comparison group (M = 7.74, SD = 9.71, F = 20.75, p < .001). Length of stay was lower following guardianship appointment (11.65, SD = 12.02, $t = 15.16$, $p < .001$); while higher than the comparison group (M = 7.60, SD = 8.46), differences were not associated with guardianship status. In a separate analysis involving 35 individuals who were hospitalized both prior to and following guardianship, length of stay was longer in the year prior (M = 23.00, SD = 37.55) versus after guardianship (M = 10.37, SD = 10.89, F = 4.35, p = .045). In qualitative analyses, four themes associated with lengths of stay exceeding 45 days prior to guardianship appointment were: administrative issues, family conflict, neuropsychiatric comorbidity, and medical complications. Our results suggest that persons who are admitted to hospitals, and subsequently require a guardian, experience extended lengths of stay for multiple complex reasons. Once a guardian has been appointed, however, differences in hospital lengths of stay between patients with and without guardians are reduced.

Keywords Guardianship · Hospitalization · Length of stay · Family conflict · Capacity

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Introduction

When hospitalized patients lack decision making capacity, clinicians rely on surrogate decision makers, such as healthcare agents identified in advance directives or next of kin (Torke et al., 2014). Where there is no identified agent or next of kin clinicians may turn to the hospital ethics committee to guide decision making who may, in some situations, recommend a court-appointed guardian (Moye et al., 2017). A guardian (also called a conservator in some jurisdictions) is a surrogate decision maker appointed through a court process who makes medical and/or financial decisions for another individual (ABA-APA Assessment of Capacity in Older Adults Working Group, 2006). Guardians may be family members or, if no family is willing or able to serve, professionals (Quinn, 2004).

Guardianship has been the focus of increasing concern. Article 12 of the UN Convention on the Rights of Persons with Disabilities (CRPD) (The United Nations, 2006) argues against the use of guardianship, emphasizing the rights of each person to "engage in transactions and create, modify, or end legal relationships" regardless of abilities and limitations (Committee on the Rights of Persons with Disabilities, 2014). They argue instead for a model of supportive decision making (National Conference of Commissioners on Uniform State Laws, 2017; Peterson et al., 2020), which employs "a series of relationships, practices, arrangements, and agreements of more or less formality and intensity, designed to assist an individual with a disability to make and communicate to others, decisions about the individual's life" (Dinerstein, 2012). Coupled with high visibility media reports about guardianship abuse (Aviv, 2017), ethics committees may seek to better understand the merits and limitations of guardianship.

Research to guide hospital ethics committees in the use of both family and professional guardianship is limited because guardianship status is not systematically collected by courts or hospitals. Even basic information such as typical age and diagnoses of those under guardianship is scant. One issue of particular relevance for ethics committees is the relationship between guardianship and prolonged hospitalizations for patients. Evidence from several prior studies suggests that patients experience medically unnecessary days of care while waiting for a guardian to be appointed. Hospital stays for patients who need guardians may be prolonged for a variety of reasons, including difficulties finding family members or professionals to serve in this role, time-consuming court processes, and slowness in resolving Medicaid and insurance issues (Babb et al., 2021; Chen et al., 2016; Moye et al., 2017; Ricotta et al., 2018). Ethics committees may be consulted when lengths of stay become excessive, thus a clearer understanding of how guardianship relates to length of stay may assist ethics committees in their advisory role.

In considering length of stay, distinct issues may arise for patients receiving end-of-life care for whom transition to hospice care is sought versus patients who are admitted for an acute medical issue for whom discharge to home or a transitional care setting is sought. For end of life care, issues may arise related to a desire to discontinue medically non-beneficial care (Sager et al., 2019), especially in the intensive care setting (Cohen et al., 2015; Moye et al., 2020)). In some jurisdictions,

guardians may seek a judicial order to withdraw life sustaining treatment – resulting in additional days of care at the end of life. In contrast, for patients undergoing acute admission with anticipated discharge, issues may arise related to consent for medically beneficial treatment and transfer to rehabiliation or long term care, although much less is known about this group. Only one previous study examined length of stay for those awaiting guardianship to a matched comparison group. In this study, 51 patients awaiting guardianship had an average length of stay of 29 days, which was higher than 18 days for 118 patients matched on the basis of discharging service and length of stay prior to medical clearance (Ricotta et al., 2018). Little is known also about whether issues with prolonged hospital length of stay improve once a guardian has been appointed or if patients under guardianship continue to experience disproportionately longer hospitalizations than other patients. Given increasing concern about the appropriateness of guardianship (Committee on the Rights of Persons with Disabilities, 2014) and guardianship abuse (Aviv, 2017), there is a need for ethics committees to understand more clearly when and why guardianship is necessary for patients with distinct care trajectories, which could inform ethics consultation.

With these facts in mind, we aimed to examine the role of guardianship in hospital length of stay within our healthcare system. Several concerns motivated our inquiry. Our state (Massachusetts) was considering legislation to create a public guardianship program which provides professional guardians to adults without family or friends to serve as guardians (Teaster et al., 2007). As such, we wished to replicate and extend the previous matched comparison study (Ricotta et al., 2018) to provide additional data to assist legislators in understanding the role of guardianship in healthcare. In quantitative analyses, we first gathered descriptive information about patients under guardianship, including data about why some may need professional guardians. We then examined hospital length of stay for patients prior to their guardianship appointment, compared to a matched control group, and hospital length of stay for patients after their guardianship appointment, compared to a matched control group. We hypothesized that individuals admitted to a hospital who subsequently are appointed a guardian would have a longer length of stay than other patients, but that any differences in length of stay would be diminished for hospitalizations in the year following a guardianship appointment. In qualitative analyses, our goal was to elucidate common themes among patients who had very long lengths of stay while awaiting their guardianship appointment to inform care planning and ethics consultation.

Methods

Study Design and Setting

This is a retrospective case–control cohort study conducted in the United States Veterans Health Administration (VHA). This study was reviewed and approved by the Institutional Review Board (IRB) at our institution (#3168).

Participants

Two guardianship samples were identified. The hospitalization before guardianship sample included 116 patients who had a hospitalization in the year prior to guardianship appointment. The hospitalization following guardianship sample included 91 patients who had a hospitalization in the year after guardianship appointment. Within these samples 35 patients had a hospitalization in both the pre and post period. Participants were patients who had a medical or surgical admission in VHA medical centers located in MA, our primary focus, combined with an existing sample from CT, hospitalized between 2003 and 2013 as shown in Fig. 1. We included the CT sample to increase our sample size, as the sample was made available to us and had been characterized through chart review (see below for further details) in a separate study (Cohen et al., 2019). The time period of 2003–2013 was selected to match the MA sample to the existing CT sample.

Procedures

Using the VA's Corporate Data Warehouse (CDW) (US Department of Veterans Affairs, 2020), an electronic search of N = 372,741 records for the term "guardian" (or "conservator," the equivalent term in CT) in progress note titles and next of kin fields yielded 2333 patients with potential guardians. Manual review of each patient's medical record, and when possible through court records, verified guardianship in 1049 patients, reduced to 1036 patients after removing 13 duplicates (the same patient in the MA and CT data bases). Next, because we were focused on length of stay for patients facing discharge home or to a transitional care setting rather than unique issues associated with end-of-life care, we excluded patients who died within one year of guardianship appointment. From this sample, we next identified patients who had a medical or surgical specialty hospital admission in the year prior to guardianship appointment or the year following guardianship appointment. We then extracted demographic variables, patient health information, and length of stay for patients with a guardian and comparison subjects (described below).

Variables

Guardianship Information

Manual record review was used to record the date of guardianship appointment, the type of guardian (family or professional), the reason family were not appointed guardian if there was a professional guardian, and the diagnosis associated with diminished capacity in the guardianship petition.

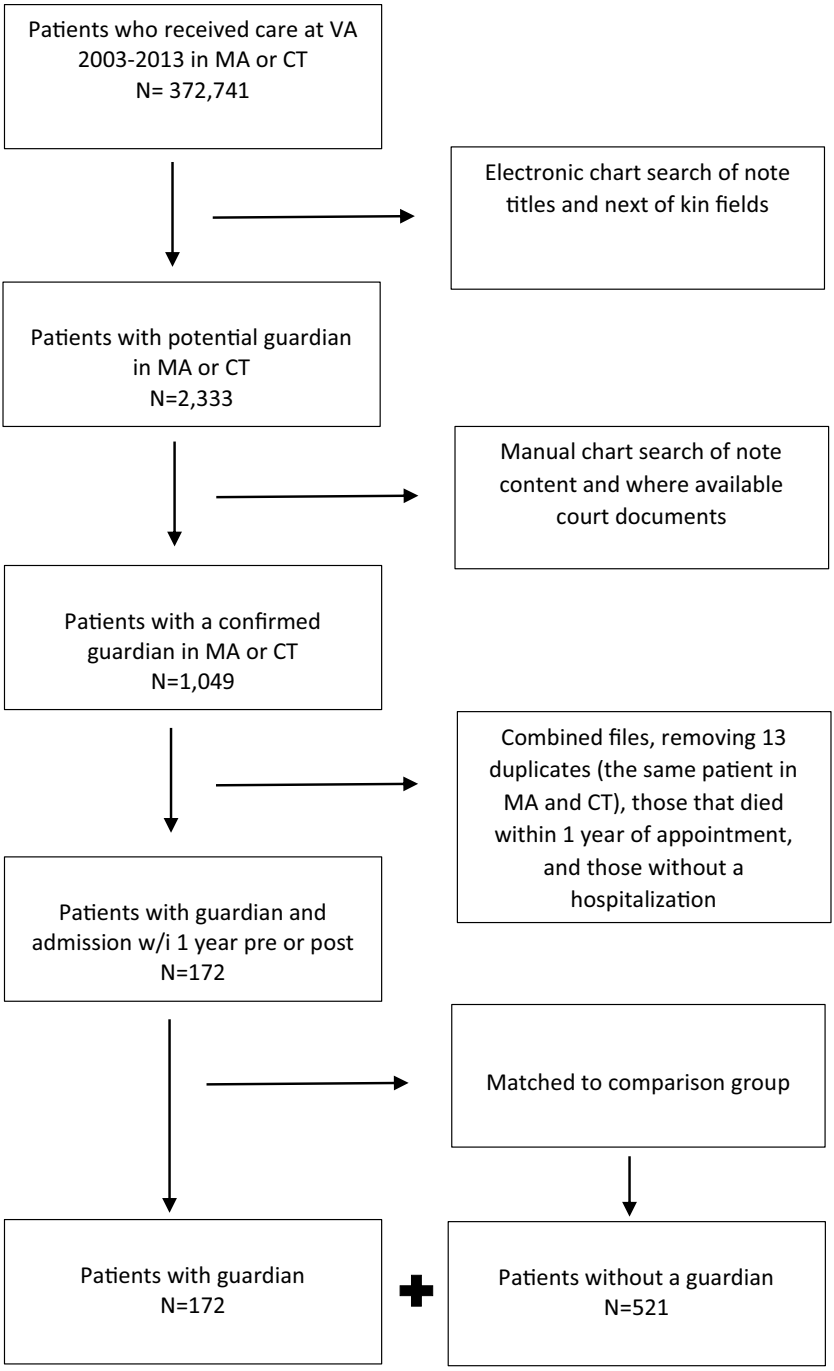


Fig. 1 Participant flow chart

Outcome Variables

Length of stay in days for the hospitalization most proximal to the guardianship appointment date with a treatment specialty coded to medicine or surgery was extracted from CDW. We chose the hospitalization most proximal to guardianship as we were interested to investigate the potential role of guardianship in length of stay.

Demographic Variables

Age at most proximal hospitalization, gender, marital status, and race were extracted from CDW.

Patient Health Information

Reason for admission was extracted from the "principal diagnosis" field which is defined in the electronic medical record as "the reason for admission" provided in the discharge summary. These were categorized into 23 diagnostic categories (see "Appendix A"), guided by methods used in similar studies (Brunner-La Rocca et al., 2020). Comorbidity was determined using the Elixhauser in-hospital comorbidity score (Thompson et al., 2015). To adjust for the potential effect of a mental health diagnosis on length of stay, a diagnosis of dementia, schizophrenia, substance use, or PTSD was coded if the diagnosis was coded in at least 2 outpatient encounters in the 6 months prior to admission or in 1 inpatient encounter following admission up to 6 months post-admission. We did not adjust for developmental disability, as individuals with developmental disability are often screened out of military service and therefore not represented in the veteran population. The use of ethics consultation was determined by counting any consultations which included ethics keywords in the "to" section of consultation requests.

Comparison Group

A control sample was created for each case hospitalization for each of the two guardianship samples (patients hospitalized prior to guardianship and patients hospitalized after guardianship) by using one to three matching, selecting from a sample of individuals without a guardian. The controls were matched by principal diagnosis as defined above, hospital location at admission, age at admission (plus or minus 10 years), date of admission (plus or minus 12 months), and Elixhauser hospital comorbidity score (plus or minus 20). Parameters were determined based on an iterative approach with increasing spans until matching was achieved, until we identified N = 348 patients for 3-to-1 match to the sample of

patients hospitalized prior to guardianship (N = 116) and N = 273 patients for 3-to-1 match to the sample of patients hospitalized after guardianship (N = 91).

Statistical Methods

Missing Data

Missing data for variables extracted from CDW (e.g., marital status) were replaced with values determined through chart review when possible (n = 11 for marital status), but otherwise were not imputed.

Sensitivity Analysis for Matching

Matching between the guardianship and comparison samples was evaluated by comparing groups on demographic and clinical variables of interest at the bivariate level. Participants were matched exactly on principal diagnosis as shown in "Appendix B". For additional variables, these analyses indicated that groups were equivalent for age, comorbidity, gender, and race (see Table 1), but differed based on marital status, schizophrenia diagnosis, and dementia diagnosis. Additionally, the total number of medical or surgical admissions in the prior year varied between those admitted following guardianship appointment and the comparison group. Subsequent analyses adjusted for nonequivalent variables.

Quantitative Analysis

Descriptive analyses were used to characterize individuals under guardianship in both guardianship samples. Next, two primary analyses examined the role of guardianship in length of stay by comparing the guardianship groups to the matched comparison groups. An analysis of variance compared mean length of stay in those hospitalized before guardianship appointments versus the comparison group adjusted for marital status, schizophrenia diagnosis, and dementia diagnosis. A second analysis of variance compared length of stay in those hospitalized after guardianship appointments versus the comparison group adjusted for marital status, schizophrenia diagnosis, dementia diagnosis, and number of admissions in the prior year. Effect size was determined through partial-eta squared and characterized as small = 0.01–0.05, medium = 0.06–0.13, large ≥ 0.14 (van den Berg, 2021).

Two supplemental analyses further examined the role of guardianship in length of stay to provide additional information about the role of guardianship in length of stay. A single sample t-test compared length of stay in the pre and post hospitalization appointment groups, using the pre length of stay mean as the test variable. A repeated measure ANOVA compared 35 individuals who were in both samples because they were hospitalized both before and after guardianship. Finally, to specifically consider the role of guardianship type (family or professional) in length of stay, an independent sample t-test evaluated the relationship of guardian type

Table 1 Participant characteristics

	Admitted within 1 year prior to guardianship appointment			Admitted within 1 year post-appointment		
	Guardian (N = 116)	Comparison (N = 348)	Statistic	Guardian (N = 91)	Comparison (N = 273)	Statistic
Variables used in matching						
Year of admission	2002–2013	2002-2014	$\chi^2 = 9.22$	2002–2014	2002–2014	$\chi^2 = 16.75$
Age at admission						
Range	40–94	32–96		38–94	28–95	
M(SD)	71.87 (14.03)	71.23 (12.94)	$t = 0.43$	70.88 (13.19)	70.94 (12.39)	$t = 0.37$
Comorbidity M (SD)	23.55 (18.61)	23.15 (17.46)	$t = 0.20$	25.42 (19.84)	25.20 (18.85)	$t = 0.10$
Variables not used in matching						
Gender						
Male	96.6%	98.3%	$\chi^2 = 1.23$	97.8%	97.4%	$\chi^2 = 0.38$
Female	3.4%	1.7%		2.2%	2.6%	
Marital status						$\chi^2 = 25.55$*
Married	15.5%	39.9%	$\chi^2 = 26.64$*	20.9%	37.0%	
Widowed	19.0%	16.7%		14.3%	13.9%	
Divorced/separated	37.1%	28.2%		25.3%	33.7%	
Never married	27.6%	14.7%		38.5%	15.0%	
Missing/unknown	0.9%	0.6%		1.1%	0.4%	

Table 1 (continued)

	Admitted within 1 year prior to guardianship appointment			Admitted within 1 year post-appointment		
	Guardian (N = 116)	Comparison (N = 348)	Statistic	Guardian (N = 91)	Comparison (N = 273)	Statistic
Race/ethnicity						$\chi^2 = 1.62$
Black/African American	13.0%	9.5%	$\chi^2 = 27.55$	14.3%	10.3%	
Hispanic/Latinx	1.7%	0.9%		2.2%	2.2%	
Asian	0.0%	0.0%		0.0%	0.4%	
Native American	0.0%	0.9%		0.0%	0.0%	
White	81.7%	84.2%		81.3%	83.8%	
Missing/unknown	3.5%	4.6%		2.2%	3.3%	
Neuropsychiatric diagnosiss						
Schizophrenia	17.2%	3.2%	$\chi^2 = 27.67$*	30.8%	4.4%	$\chi^2 = 48.53$*
Dementia	19.8%	8.0%	$\chi^2 = 12.34$*	37.4%	11.4%	$\chi^2 = 31.47$*
Substance use	17.2%	16.7%	$\chi^2 = 0.02$	18.7%	17.6%	$\chi^2 = 0.06$
Posttraumatic stress Disorder	9.5%	9.5%	$\chi^2 = 0.0$	5.5%	9.5%	$\chi^2 = 0.23$
Number of admissions within year prior[a] M (SD)	.80 (1.54)	.97 (1.55)	$t = 1.04$	.41 (1.00)	1.12 (1.62)	$t = 3.95$*

*$p < .01$

[a]Excludes index admission

(family or professional) and length of stay within the guardianship pre-hospitalization sample.

Qualitative Analyses

Recognizing that our data extraction methods may miss aspects of clinical complexity, we supplemented quantitative analyses with qualitative analyses for 36 individuals with length of stay exceeding 45 days prior to guardianship appointment. Two authors (JM, EA) conducted thematic analysis (Braun & Clarke, 2016) of the discharge summary progress note and social work progress notes during the admission to identify key themes that characterized the case. First, we created an initial code book with code names, definitions, and examples drawing from four themes identified in similar studies (Chen et al., 2016; Moye et al., 2020). A Microsoft Excel file was created to identify the participant and relevant progress notes (Meyer & Avery, 2009). The two coders independently reviewed progress notes and assigned themes to each participant in the Excel matrix, allowing for the use of more than one theme if necessary. Coding for each participant was discussed in six weekly meetings with disagreements resolved through discussion until 100% consensus was achieved. Brief narratives, altered to protect patient anonymity, were created for each case, two of which are provided here for illustrative purposes.

Results

Characteristics of Persons Subject to Guardianship

Hospitalized persons subject to guardianship appointment had a mean age of 71.34, (SD = 13.64); they were mostly male (97%) and white (83%). Participants in the guardianship sample were more likely than the comparison sample to never have been married and to have a diagnosis of schizophrenia and/or dementia. The most common principal diagnoses were dementia (13.9%), pneumonia (9.6%), heart disease (9.1%), and other infections (excluding pneumonia and urinary tract infection) (8.7%).

Guardianship was most often sought for diminished capacity related to dementia (56%), schizophrenia (16%), substance use (8%), brain injury (5%), or delirium (5%). Somewhat more than half (57%) had a family guardian whereas 43% had a professional guardian. For those with a professional guardian, the most common reasons family did not serve as guardian were: family unable or unwilling to serve as guardian (31%), no living family (19%), family abusive (17%) and family estranged (10%). Three persons under guardianship were the subject of ethics consultations. In two cases, the ethics request was unrelated to guardianship, but rather the provision of care when a guardian consents, but the patient does not (e.g., how to prep for colonoscopy in an individual suspected colon cancer and paranoid schizophrenia who is refusing colonoscopy preparatory drinks). A third case related to decisional authorities of a next of kin versus a guardian for inpatient care versus admission to a skilled nursing facility for a non-communicative patient.

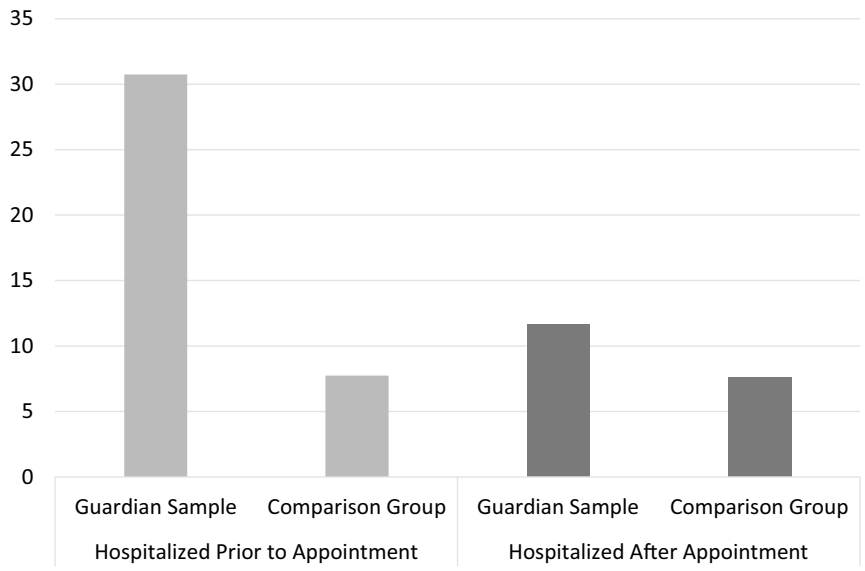
Primary Analyses for Length of Stay

Admissions Prior to Guardianship Appointment

Of the 116 individuals admitted prior to a guardianship appointment, the mean length of stay was 30.75 days (SD = 46.70) which was significantly more than those in the comparison group (M = 7.74, SD = 9.71) (Fig. 2), with a mean difference of 23 days [corrected model $F = 20.75$, $p < 0.001$, $\eta^2 = 0.15$ (large effect size)]. There was a significant effect of guardianship on length of stay [$F = 77.71$, $p < 0.001$, $\eta^2 = 0.15$ (large effect size)] (Table 2). Additionally, 7% of the overall sample had a diagnosis of schizophrenia (17% in those under guardianship and 3% in the comparison sample), which was associated with length of stay ($F = 7.41$, $p = 0.007$, $\eta^2 = 0.02$ (small effect size). No other covariates were associated with length of stay.

Admissions Following Guardianship Appointment

Of the 91 individuals hospitalized in the year following guardianship appointment, the mean length of stay for individuals under guardianship was 11.65 days ($SD = 12.02$) which was significantly higher than those in the comparison group ($M = 7.60$, $SD = 8.46$) (Fig. 2), with a mean difference of 4 days [corrected model



Note. For individuals hospitalized prior to guardianship appointment, mean differences are attributable to guardianship status (F=77.71, p<.001). For individualized hospitalized after guardianship appointment mean differences are not associated with guardianship status, but are associated with schizophrenia diagnosis (F=9.06, p=.003).

Fig. 2 Mean length of stay in days

Table 2 Variables associated with length of stay prior to and following guardianship appointment in analysis of variance

	Hospitalization prior to guardianship appointment N = 463			Hospitalization after guardianship appointment N = 364		
	F	*p*	η^2	*F*	*p*	η^2
Marital status	0.29	.590	< .01	.02	.882	< .01
Schizophrenia diagnosis	7.41	.007	.02	9.06	.003	.03
Dementia diagnosis	0.01	.915	< .01	0.36	.552	< .01
Admissions	[a]	[a]		0.73	.393	< .01
Guardianship status	77.71	< .001	.15	2.82	.094	< .01
Corrected model F	20.75	< .001	.15	4.81	< .001	.06

[a]Admissions in prior year not included as control variable as they were equivalent between the groups

$F = 4.81$, $p < 0.001$, $\eta^2 = 0.06$ (medium effect size)]. However, there was not a significant effect of guardianship on length of stay [$F = 2.82$, $p = 0.094$, $\eta^2 = 0.01$ (small effect size)] (Table 2). Further, 11% of the overall sample had a diagnosis of schizophrenia (31% in those under guardianship and 4% in the comparison sample), which was associated with length of stay [$F = 9.06$, $p = 0.003$, $\eta^2 = 0.03$ (small effect size)]. No other covariates were associated with length of stay.

Supplemental Analyses

Comparison of Admissions Prior to and Following Guardianship Appointment

Comparing the two hospitalization cohorts with guardianship appointments to each other, the length of stay was greater for those admitted in the year prior to guardianship appointment (n = 116) versus those admitted in the year after appointment (n = 91, $t = 15.16$, $p < 0.001$). Of the 35 individuals who were in both hospitalization cohorts, because they were admitted both in the year prior to guardianship appointment and in the year following appointment, the length of admission was longer in the year prior to appointment ($M = 23.00$, $SD = 37.55$) than following appointment ($M = 10.37$, $SD = 10.89$) with a mean difference of 13 days, which was significantly different in a repeated measure ANOVA controlling for schizophrenia diagnosis at either time period (F = 4.38, p = 0.045).

Comparison of Admissions with Family Versus Professional Guardians

The length of stay was equivalent for those who had a family member appointed guardian versus those with a professional appointed guardian in both the group hospitalized prior to appointment ($t = 0.10$, $p = 0.918$) and following appointment ($t = 1.30$, $p = 0.197$).

Qualitative Analyses

Four factors described individuals with lengths of stay exceeding 45 days admitted prior to guardian appointment: administrative issues, neuropsychiatric comorbidity, medical complications, and family conflict. Administrative issues consisted of delays in discharge related to guardianship appointment or Medicaid/ insurance issues often necessary to resolve prior to admission to a skilled nursing facility. Such situations often occurred for individuals with significant neuropsychiatric comorbidity, namely dementia or schizophrenia, who were unable to complete such applications independently. Medical complications were noted in which the individual's length of stay was related at least in part to an unanticipated treatment complication or unexpected findings of significant medical illness requiring further attention. Finally, family conflict or elder abuse also emerged as a factor complicating discharge.

The following case example includes these four factors in a person hospitalized prior to guardianship appointment:

> An older person was admitted with difficulty breathing diagnosed as an exacerbation of COPD and mild cognitive impairment. During admission he was determined to have metastatic cancer requiring evaluation and treatment planning. A family guardian was appointed during the admission as the team observed signs of dementia and felt he needed more decisional support during hospitalization and once discharged home. Subsequently, the family guardian became an obstacle to discharge, as the family member attempted to use the patient's assets for the family member's interests rather than the patient's care. Thus, the team pursued the appointment of a professional guardian. After the new guardian appointment, the guardian was able to arrange for the patient to be discharged to home with in-home support.

The following case example illustrates a person hospitalized both prior to and following guardianship appointment.

> An older person was admitted for fever and diarrhea, subsequently diagnosed as Clostridiodes difficile. He had moderate dementia and the spouse refused to allow discharge to home citing escalating aggression in the context of dementia and longer-term marital discord. The team recommended guardianship appointment due to his dementia, need for care, and report of elder abuse (to the spouse). A professional guardian/ attorney was appointed, found an assisted living facility agreeable to the older adult, and facilitated discharge after two months. The person was readmitted within several months for shortness of breath. After he was successfully treated, the guardian provided for discharge back to assisted living in a timely manner, which continued to match the patient's preference.

Discussion

Given the paucity of research on outcomes associated with adult guardianship, in this study, we characterized inpatients with guardianship appointments prior to or following hospitalization and evaluated hospital length of stay versus a comparison group matched for principal diagnosis, comorbidity, age, and gender. The main findings of this study are: (1) medical or surgical length of stay was longer for individuals in need of guardians; qualitative analyses suggest administrative issues, neuropsychiatric comorbidity, medical complications, and family conflict may all contribute; (2) length of stay was lower in the year following guardianship appointment; group differences were associated with a diagnosis of schizophrenia not guardianship status; (3) those subject to guardianship were older adults who were about equally likely to have a family member or professional serve as guardian. We further discuss these findings further below.

In a prior retrospective case analysis, the mean length of stay for persons requiring guardianship was longer than a matched comparison group (29 v 18 days) (Ricotta et al., 2018). Consistent with this study we found a longer length of stay in those awaiting guardianship (31 v 8 days). Our sample, while not large, is larger and matched on multiple variables providing further evidence to support clinician perceptions that those awaiting guardianship may experience extended hospital admission (Catlin et al., 2021; Farrell et al., 2021). Such delays may be related to difficulties finding guardians and with awaiting a hearing date (Moye et al., 2017), rather than solely the medical characteristics and treatment needs of those requiring a guardian.

These findings provide evidence to ethics committees who turn to guardianship when no other options exist to make critical decisions which may be necessary for in-hospital care and/or discharge. Guardianship appointments are a source of concern, particularly in disability rights communities, because they remove an individual's legal right to decision making, who argue for supportive decision making by families and friends (Committee on the Rights of Persons with Disabilities, 2014; Dinerstein, 2012). Yet, our examination of cases with particularly long lengths of stay find that guardianship appointments may become necessary to intervene in complex family situations and to facilitate discharge to a setting desired by the patient. These findings also highlight a dilemma facing clinical teams and hospital ethics committees. Given potential extended lengths of stay when no surrogate is available and associated risks (e.g., risk of infection, residing in not the least restrictive setting), it may be helpful to identify those in potential need of a guardian earlier. Identification could focus on characteristics such as anticipated discharge to a different setting, medical complexity, neuropsychiatric comorbidity, and family conflict, factors identified in our qualitative analysis as red flags. Nimble hospital and court processes that identify and facilitate guardianship appointments might reduce risk for extended lengths of stay. At the same time, a rush to guardianship should be avoided, as appointments, once established can be surprisingly difficult to vacate (Wood et al., 2017). Consideration of the need for guardianship should be tempered by aggressive searches for family members, who, if found, may be able to facilitate

decisions and obviate the need for guardianship appointment or other surrogate approaches (Griggins et al., 2020). Hospital ethics committees play critical roles in educating clinicians about strategies and less restrictive alternatives to guardianship. Further, ethics committees can play a leadership role in synthesizing data across appointments, increasing efficiency of processes, and collaborating with the court to align the need for due process with a desire to limit unnecessary time in the hospital.

In our sample, those subject to guardianship prior to and following hospital were mostly older adults, most commonly in the setting of dementia. Nearly half required the appointment of a professional guardian. Professional guardianship may be used when adults are socially isolated because there is family conflict or abuse or because they have outlived family members (Anderson & Thayer, 2018), as was true in our sample. Older adults with diminished capacity, no advance directive, and no family or friends to serve as decisional supports are referred to in the literature as "unbefriended" or "unrepresented" (Farrell et al., 2016). Most states have public guardianship mechanisms to provide professional guardians in such situations, although these programs are often under-funded and under-staffed (Teaster et al., 2007). In our sample, length of stay was equivalent for those with professional versus family guardians, suggesting those with professional guardians do not fare worse than those with family guardians. Qualitative analysis found professional guardians arranged necessary care when family would or could not. These findings, along with the finding that the appointment of a guardian may have benefits in terms of reducing length of stay, may be a reason, despite its restrictive nature, for ethics committees to recommend this approach in cases in which incapacity may be prolonged.

Our findings about length of stay within the guardianship group and comparison group are complex. In patients hospitalized prior to guardianship appointment, their length of stay was 31 days versus 8 days in the comparison group—a large and statistically significant difference—suggesting needing or awaiting a guardianship appointment is associated with an extended length of stay. For patients hospitalized after guardianship appointment, their length of stay was 12 days versus 8 days in the comparison group—a modest yet still statistically significant difference. However, in examining covariates, the difference was associated with the presence of schizophrenia not guardianship status. This finding underscores the potential complexity of medical hospitalizations for persons living with schizophrenia (Paredes et al., 2020). Nevertheless, the majority of our sample did not have a diagnosis of schizophrenia. Additional studies of hospitalization for individuals living with schizophrenia who also need decisional support are needed. Given smaller sample sizes, a qualitative approach may be necessary. In addition, we found just 20% of those hospitalized prior to guardianship appointment had a diagnosis of dementia, but within this group, 56% were eventually subject to guardianship based on dementia. The importance of accurate early detection of dementia is a component of emerging models of healthcare for older adults such as the Geriatrics 5 M's (Tinetti et al., 2017) and the Age-Friendly Health Systems (Institute for Healthcare Improvement, 2022).

While our quantitative analyses provide a window of understanding about hospitalizations, our qualitative analyses illustrate that there are often intersecting issues of multimorbidity and complex biopsychosocial situations—or multicomplexity

(Tinetti et al., 2017). This multicomplexity highlights the challenges hospital ethics committees confront in resolving care pathways for these vulnerable individuals.

Limitations

We were committed to expanding the empirical data base about guardianship yet faced numerous challenges in doing so—some of which we anticipated and some we did not. Although we selected a large date range and began with > 300,000 patient records, our sample size was modest and may have been under-powered to capture complete differences between samples. We identified those under guardianship through progress note titles and next of kin fields and may have missed those whose guardianship status was not in these fields. Yet, it took us more than a year to characterize this sample through manual review of medical and court records. Our focus on the Veterans Health Administration allowed us to leverage the large amount of information in the Corporate Data Warehouse. However, the demographics of our veteran sample (primarily male and Caucasian) are also not nationally representative. We matched the guardianship group to the comparison group the basis of 23 diagnostic categories and overall comorbidity—but our sample size was too small to permit consideration of how the principle diagnosis was associated with length of stay. While we matched on diagnosis and comorbidity, we did not specifically adjust for clinical exacerbations or inter-hospital transfers. Additionally, although we found differences in length of stay between our groups, the Veterans Health Administration is an integrated healthcare system, and may have underestimated length of stay because patients could be transferred to rehabilitation and long term care beds within the system without a guardian.

Conclusions

In summary, we found persons admitted to acute medical and surgical beds and subsequently appointed a guardian may experience extended lengths of stay, which were reduced in the period after guardianship appointment. Qualitative findings suggest complex risk factors requiring skilled negotiation by team members as they await guardianship appointment (Connor et al., 2016). Closer attention in the outpatient setting to patients at risk of being unrepresented and to advance care planning may avert later guardianship, which should be used as a last resort. Use of ethics consultation was rare in our sample and might have been an underutilized resource for understanding pathways to resolving the complex issues facing clinical teams. Ethics committees may wish to promote more use of ethics consults for this purpose. Additional search for and support for families willing to take on responsibility of guardianship, and an adequately funded public guardianship program may enhance guardianship processes in situations where it is needed. Finally, research on guardianship is challenging. The complexity of cases points to the value of mixed-methods approaches in researching this population.

Appendix A: Disease Categories and ICD9 Codes Used for Matching

Disease categories	ICD9 code groups
Infectious disease	
1. Urinary tract infection	599.0 Urinary Tract Infection
2. Other infection except pneumonia	008.0–008.8 Intestinal infection 050–059 Viral diseases 114 Coccidiodomycosis 038 Septicemia 995.91–999.92 Sepsis 572.0 Abscess of Liver 681–682 Cellulitis 696.1 Other psoriasis
Neoplasm related admission	
3. Any neoplasm	140–239
Cardiac disease	
4. Heart disease	401–405 Hypertensive disease 415–417 Diseases of pulmonary circulation 420–428 Other forms of heart disease 440 Atherosclerosis 458 Hypotension
5. Acute myocardial infarction	410 Acute myocardial infarction 786.50 Unspecified chest pain 786.79 Other chest pain 411.1–414.9 Other forms of chronic ischemic disease
Infarction or aneurysm	
6. Cerebral infarction or stroke	431–438 Cerebrovascular disease excluding subarachnoid hemorrhage
7. Aneurysm, embolism or thrombosis	441–445 Aortic and other Aneurisms
Pulmonary disease	
8. Pneumonia and bronchitis	466 Acute Bronchitis 480–486 Pneumonia 507 Pneumonitis due to solids or liquids
9. Chronic pulmonary disease	490 Bronchitis NOS 491–492.8 Chronic Bronchitis and Emphysema 494 Bronchiectasis 496 Chronic airway obstruction NOS 518 Pulmonary Failure and Collapse
Gastrointestinal disease	
10. Esophagitis	528 Disease of oral soft tissue 530 Esophagitis / ulcer of Esophagus
11. Pancreatitis	577 Acute and chronic pancreatitis
12. Enteritis and colitis	555–558 Gastroenteritis and colitis 562 Diverticulosis 567 Peritonitis 568–569 Other disorders of Peritoneum 578 Gastrointestinal Hemorrhage – other
13. Hernia of the abdominal cavity	550–553 Hernia
Liver disease	

Disease categories	ICD9 code groups
14. Cirrhosis and other liver disease	571 Cirrhosis of Liver 572.2 Hepatic Encephalopathy 789.59 Other Ascites
Renal disease	
15. Acute and chronic renal failure	583 Nephritis 584.5–584.9 Acute renal failure 585. Chronic kidney disease 586–587 Renal failure or sclerosis, unspecified 588 Disorders resulting from impaired renal function
16. Diabetes	250 Diabetes
Orthopedic	
17. Osteoarthritis and Spondylopathies	715–716 Osteoarthritis and related disorders 719 Pain in joint 720–721 Spondylitis 724.2 Lumbago 724.4 Thoracic or lumbosacral neuritis 730 Osteomyelitis 733.99 Other dx of bone or cartilage 781 Abnormality of gait
18. Fracture	820–829 Fracture of lower limb 843–845 Sprain of lower limb
Neurocognitive or neuropsychiatric	
19. Any dementia, schizophrenia, substance use	290, 293, 294 Dementia 295–298 Schizophrenia 303–305 Substance Use
Other	
20. Syncope	780.2 Syncope and collapse
21. Adverse drug reaction	960–973 Poisoning by drugs 995.2 Other adverse drug reaction 359.4 Toxic Myopathy 333.92 Neuroleptic Malignant Syndrome
22. Surgical Aftercare	V55 Attention to artificial openings V58 Aftercare following procedures/surgery
23. Anemia	280–285 Anemia

Appendix B: Disease Categories Frequency

Type	Cohort (%)	Comparison (%)
Infectious disease		
Urinary tract Infection	3.8	3.8
Other Infection except pneumonia	8.7	8.7
Neoplasm	4.8	4.8
Cardiac disease		
Heart disease	9.1	9.1

Type	Cohort (%)	Comparison (%)
Acute myocardial infarction	3.4	3.4
Infarction or aneurysm		
Cerebral infarction or stroke	3.8	3.8
Aneurysm, embolism or thrombosis	1.4	1.4
Pulmonary disease		
Pneumonia and bronchitis	9.6	9.6
Chronic pulmonary disease	2.4	2.4
Gastrointestinal disease		
Esophagitis	1.4	1.4
Pancreatitis	2.9	2.9
Enteritis and colitis	4.3	4.3
Hernia of the abdominal cavity	1.0	1.0
Liver disease		
Cirrhosis and other liver disease	2.9	2.9
Renal disease		
Acute and chronic renal failure	3.8	3.8
Diabetes	2.4	2.4
Orthopedic		
Osteoarthritis and spondylopathies	5.3	5.3
Fracture	2.9	2.9
Neurocognitive or neuropsychiatric		
Dementia	13.9	13.9
Schizophrenia	1.4	1.4
Substance use	0.5	0.5
Other		
Syncope	2.4	2.4
Adverse drug reaction	2.4	2.4
Surgical aftercare	2.4	2.4
Anemia	2.9	2.9

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Data Availability Anonymized data are available upon request.

Code Availability Data analysis was conducted with SPSS version 26.

Declarations

Conflict of interest The authors have no financial or personal relationships to disclose. The contents do not represent the views of the U.S. Department of Veterans Affairs or the United States Government.

Ethical Approval This study was reviewed and approved by the Institutional Review Board (IRB) at the VA Boston Healthcare System (#3168).

Consent to Participate This retrospective analysis of anonymized electronic records did not utilize consent.

Consent for Publication Not applicable.

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