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Disparities in Advance Care Planning Rates Persist Among Emergency General Surgery Patients: Current State and Recommendations for Improvement

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Abstract

Background: Unanticipated changes in health status and worsening of chronic conditions often prompt the need to consider emergency general surgery (EGS). Although discussions about goals of care may promote goal-concordant care and reduce patient and caregiver depression and anxiety, these conversations, as well as standardized documentation, remain infrequent for EGS patients.

Methods: We conducted a retrospective cohort study using electronic health record (EHR) data from patients admitted to an EGS service at a tertiary academic center to determine the prevalence of clinically meaningful advanced care planning (ACP) documentation (conversations and legal ACP forms) during the EGS hospitalization. Multivariable regression was performed to identify patient, clinician, and procedural factors associated with the lack of ACP.

Results: Among 681 patients admitted to the EGS service in 2019, only 20.1% had ACP documentation in the EHR at any timepoint during their hospitalization (of those, 75.5%

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Study design: AC, CJ, LP, TB, SR, EW, RLS
Data collection: LP, EW
Data analysis: AC, CJ, JAL
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completed before and 24.5% completed during admission). Two-thirds (65.8%) of the total cohort had surgery during their admission, but none of them had a documented ACP conversation with the surgical team preoperatively. Patients with ACP documentation tended to have Medicare insurance (aOR 5.06, 95% CI 2.09 – 12.23, p<0.001) and had greater burden of comorbid conditions (aOR 4.19, 95% CI 2.55 – 6.88, p<0.001).

Conclusions: Adults experiencing a significant, often abrupt change in health status leading to an EGS admission are infrequently engaged in ACP conducted by the surgical team. This is a critical missed opportunity to promote patient-centered care and to communicate patients' care preferences to the surgical and other inpatient medical teams.

Keywords

advance care planning; geriatrics; emergency general surgery; quality improvement; communication

Background

Unanticipated changes in health status, new medical diagnoses, or worsening of previously managed conditions often precipitate the prompt to consider emergency general surgery (EGS) and make other major health-related decisions. Advance Care Planning (ACP) is the process of understanding and sharing personal values, life goals, and preferences regarding future medical care. ACP has traditionally focused on end-of-life treatment preferences (e.g., cardiopulmonary resuscitation or mechanical ventilation), but the ACP paradigm has been expanded more recently to prepare patients to communicate their medical wishes and make informed medical decisions (1, 2). This expanded ACP paradigm (3, 4) seeks to elicit patients' values about quality of life and such discussions can help align treatment intensity with patient preferences to balance short-term risks and longer-term benefits of surgery and management of post-surgical complications.

To ensure patient-centered care in such situations, patients' goals and preferences require a reappraisal in relation to the specific surgical situation (5). Furthermore, working with patients to update goals of care before surgery may help stave off potential conflicts over decision-making that can occur with patients' surrogates (3, 4). For these reasons, ACP conducted within the context of EGS care can provide a critical perspective on patient tolerance for surgical risk, and more importantly, post-operative recovery and implications for functional status. This process is especially critical if the patient's course does not unfold as intended and care requires multiple specialist services and even changing the primary clinician. While such discussions may be occurring, frequently the outcome is not documented or can be difficult to locate in the medical record and so remains of limited clinical utility (5, 6).

Despite being endorsed by the American College of Surgeons (ACS) and the American Geriatrics Society, ACP has not traditionally been integrated into the surgical workflow, and physicians in a crisis are even less likely to have the time and resources to undertake difficult, time-consuming discussions about end-of-life care (1, 7, 8). Specifically, the ACS recommends that for patients 75 and older, surgeons review code status and any existing

advance directive preoperatively and that patiens are engaged in a discussion about their overall health goals, treatment goals specific to the current condition, and anticipated impacts of both surgical and non-surgical options.(9) Patients without a defined code status or an advance care plan must be offered the opportunity to establish an advance directive in addition to being provided with educational resources on advance care planning. Barriers to including ACP discussions in perioperative care include varying levels of comfort on the part of surgeons for conducting these conversations, lack of dedicated time in perioperative surgical care, and lack of preparedness on the part of the patients and surrogates (2). Additionally, ACP can be severely limited among patients experiencing functional impairment and decline or who lack close contacts to identify as a surrogate (10). The time-sensitive nature of successful surgical interventions threatens clinicians' capacity to engage patients and surrogates in of care discussions (11). However, not all patients prefer life-prolonging treatment that extends life without regard for quality of life, and therefore, ACP conversations should be attempted, if possible, prior to a surgical procedure.[3,19] Addressing ACP with patients early in their EGS care will help ensure patient's wishes are up to date and may help facilitate communication between patient and their caregivers (12, 13).

Factors and patterns associated with ACP documentation among EGS patients are currently unknown. We therefore sought to better understand ACP practices in EGS care and to describe the frequency of ACP documentation. We hypothesized that patient, clinician, medical and/or surgical conditions, and hospital course influence ACP completion rates.

Methods

Study Design

We conducted a retrospective cohort study at a single tertiary academic medical center using the electronic health record (EHR). All patients who were admitted to the EGS service for at least 12 hours at our institution were included. The study period of January 2019 through December 2019 was chosen because surgical services were disrupted in 2020 in response to the COVID-19 pandemic and at least 1 year of follow-up was required for the mortality data to be valid. This study was approved by the Institutional Review Board. Informed consent was waived. STROBE checklist available as Supplemental Digital Content.

Outcomes

The primary outcome of interest was "clinically meaningful" ACP documentation, including preoperative ACP documentation and any ACP documentation prior to discharge. "Clinically meaningful" ACP documentation was defined as follows: ACP discussions in an ACP note template in the EHR; previously completed advanced directives scanned into the EHR; or physician orders for life sustaining treatment (POLST) scanned into the EHR. If patients had ACP documentation completed both before and during admission, the first-recorded ACP was used for statistical analysis.

Other Variables

Patient demographics and procedure-related information were obtained from the EHR. For race and ethnicity, we used derived variables developed by our institution in which patients self-select one or more race/ethnicity categories. Race and ethnicity were included because prior data from surgical and nonsurgical populations have shown differing ACP documentation rates among minoritized populations (14), and we wanted to understand if such disparities exist among EGS patients specifically. To evaluate association between social determinants of health and ACP completion, the Neighborhood Deprivation Index (NDI) was linked by ZIP code. Charlson Comorbidity score was used to determine disease severity and was calculated using the EHR problem list. Participants were considered to have institution-concordant primary care if they were assigned to a primary care panel at the same institution within the EHR.

Hospital course variables

Hospital-based variables were determined in concordance with the American College of Surgeons Emergency General Surgery NSQIP Operations Manual (15). For patients who underwent an operation, post-operative diagnosis was determined by the ICD-10 recorded diagnoses. They were categorized into the common EGS categories outlined for ICD-9 codes and mapped onto ICD-10 codes (16, 17). Discharge disposition to home with or without services was coded as home discharge, whereas discharge to any place that was not the patient's home (excluding death) was categorized as a facility discharge.

Note Content Analysis

Chart review for all patients with inpatient ACP documentation was conducted. The content of the notes was coded for the presence of a documented surrogate, code status, overall health goals, and treatment goals specific to the surgical encounter. The hospital service of the author was also recorded.

Statistical Analysis

We used descriptive statistics (chi square, ANOVA) to compare distributions of key covariates between groups defined by the binary ACP completion outcome, and logistic regression to estimate associations between ACP completion and patient, provider, and hospital-level factors. Models were constructed to help identify important independent predictors of ACP completion status, adjusting for possible confounding influences. Analysis was conducted with Stata v17 (StataCorp LLC; College Station, TX: 2019), considering p-values < 0.05 to be statistically significant. Subgroup analyses were conducted after overall cohort analysis on patients ages 75 and over and on patients receiving major general surgery. These groups were identified as having higher morbidity and likely to have a higher ACP requirement.

Model assessment

A Hosmer-Lemeshow goodness of fit analysis produced a statistically non-significant p-value ($p=0.79$), ruling out a lack of fit. An assessment of collinearity produced VIF values all < 5, suggesting that there was not excessive collinearity between predictors. A test of

linearity for the continuous predictor length-of-stay demonstrated a statistically significant departure from linearity (p=0.0034). A model including a cubic spline transformation to address non-linearity did not qualitatively change the results of the regression model.

Results

Patient Characteristics

A total of 681 patients were admitted to the EGS service in 2019, 22.3% of whom were admitted through the Emergency Department (including those admitted originally to a non-EGS service and later transferred to the EGS service) (Table 1). The cohort was 46.0% female and the median age at time of admission was 55 years. The population included high risk patients, with a median ASA of 2.31 and 35.4% having a Charlson comorbidity index of ≥3. Most (93.7%) patients lived in well-resourced neighborhoods and were predominantly English-speaking (86.2%) and insured through Medicare or Medicaid (57.4%). 49.4% of the sample self-reported as a member of a racial or ethnic minority. Among the 65.8% of patients who underwent an operation during their admission, the most common post-operative diagnosis was upper gastrointestinal disease (21.3%), followed by hepatic-pancreatic-biliary (14.5%), intestinal obstruction (7.2%), hernia (7.2%), soft tissue (5.6%), and colorectal (4.2%).

Overall Rate of ACP Documentation

Of the 681 patients admitted to the EGS service during the study period, only 143 (21%) had any ACP documentation entered in the EHR by the time of hospital discharge. Of those who had clinically meaningful ACP documented in their medical record, 75.5% of the documentation was pre-admission and 24.5% was post admission. Pre-admission ACP was completed an average of 5 years before admission and consisted of scanned documents (advanced directives 61.1% (n=66), POLST forms 19.5% (n=21)), and provider-generated ACP notes with text bookended by EHR functions (19.5% (n=21)) (Figure 1).

For patients with post admission documented ACP (n=35), we extracted the text of notes for 25 patients, which we then analyzed for content. This analysis showed that 21 (84.0%) of ACP notes named a surrogate, 17 (68.0%) documented code status, 13 (52.0%) documented the patient's overall health goals, and 10 (40.0%) documented the patient's treatment goals specific to the surgical encounter. Authors of the inpatient ACP notes were overwhelmingly from the Internal Medicine service; only one note was by a member of the surgical team.

ACP Status by Hospital Course

Eighty nine (13%) were admitted to the ICU: 50 (56.2%) of these patients lacked ACP documentation by hospital discharge (Table 2). Among the 100 patients discharged to a nursing facility, 56 (50.9%) lacked ACP by discharge. A total of 19 patients died within 90 days of their operation and tended to have higher ACP rates (Table 2). Eight patients died in the hospital during their surgical admission, 2 of whom had ACP documentation (1 pre-admission and 1 during the admission completed by Internal Medicine).

ACP Status by Patient Characteristics

A multivariable logistic regression model for predictors associated with having ACP was developed using available pre- and post-operative data (Table 3). Patient factors associated with the presence of ACP documentation included having Medicare insurance (aOR 5.06, 95% CI 2.09-12.23, p<0.001) and receiving primary care at the same institution (aOR 2.35, 95% CI 1.39-3.98, p=0.001). Patients with higher Charlson comorbidity index (aOR 4.91, 95% CI 2.55-6.88, p<0.001) tended to have more frequent ACP documentation.

Subgroup Analysis for Patients Over Age 64

In our overall cohort, 31.6% (n=215) were age ≥ 65 years at the time of admission, of whom 42.3% (91 patients) had ACP documentation. Among these older patients, older age (aOR 1.06, 95% CI 1.01-1.11, p=0.01), higher-Charlson comorbidity burden (aOR 2.90, 95% CI 1.35-6.18, p=0.006), institution-concordant primary care (aOR 7.94, 95% CI 3.55-17.8, p<0.001), longer hospital LOS (aOR 1.12, 95% CI 1.04-1.20, p<0.002), and discharge to a facility (aOR 2.58, 95% CI 1.10-6.06, p=0.029) all predicted the presence of ACP documentation.

Subgroup Analysis for Patients Who Underwent an Operation

Two thirds (n=450, 65.8%) of patients in the cohort underwent an operation, yet only 91 (20.2%) had ACP by the time of hospital discharge. Among these patients for whom surgery was indicated, a higher-Charlson comorbidity burden (aOR 3.06, 95% CI 1.56 to 6.05, p=0.001), institution-concordant primary care (aOR 3.14, 95% CI 1.54-6.39, p=0.002), and higher ASA class (aOR 3.37, 95% CI 1.43 to 7.81, p=0.005) all predicted the presence of ACP documentation. One percent (n=8) were engaged in pre-operative inpatient ACP and 27 (4.0%) with post-operative inpatient ACP. None of the patients who had surgery had a pre-operative ACP note written by a member of the EGS team.

Discussion

This cohort of patients experiencing a significant, abrupt change in health status leading to an EGS admission was infrequently engaged in ACP. When it was documented, ACP was often out of date and not documented by the surgical team. This is a critical missed opportunity to promote patient-centered care and to communicate patients' care preferences to the surgical and other inpatient medical teams.

The inpatient healthcare team rarely completed ACP documentation, identified a surrogate decision maker, or documented patient goals of care. In fact, while most of the patients lacked ACP, those who *did* have ACP documentation had completed it an average of 5 years before the surgical encounter, with some having it completed up to 20 years before surgery. The prevalence of potentially out of date documentation raises concerns about the capacity of pre-existing ACP to inform decision-making during an acute surgical admission. When inpatient teams did document ACP, this tended to occur post-operatively and zero patients had pre-operative inpatient ACP documentation completed by a surgical team member. Patients admitted to the ICU or discharged to a skilled care facility tended to participate in post-operative ACP, suggesting that a more complicated or prolonged hospitalization may

have been the prompt for ACP documentation instead of pre-operative discussions. This suggests that any ACP-related discussions that would impact the decision to proceed with surgery were not documented, and that poor postoperative outcomes were more likely to lead the surgical team to document ACP. Sudden changes in health status that necessitate admission to a EGS service and may require an operation are pivotal timepoints when ACP discussions should be held between the surgical team and the patient or their surrogates. Documenting these discussions would be helpful in communicating the decision process and future goals of care.

While older adults were more likely to have ACP documentation than their younger counterparts, there was no evidence that the surgical team had been involved in pre-operative ACP discussions with these patients. In the United States, adults ≥65 years old comprise a significant percent of patients undergoing EGS. Among them, mortality rates are high (nearly 1 in 3) and rehospitalizations within one year are common (18). The lack of ACP documentation within this vulnerable population is a critical missed opportunity to move toward patient-centered care (18). We believe that discussion of goals and intervention preferences are important for all patients but recognize that ACP conversations cannot be conducted with a “one size fits all” approach. Addressing preoperative ACP necessitates a targeted approach that focuses engagement on patients most likely to benefit. We therefore recommend that ACP documentation be conducted by a member of the EGS surgical team, especially for adults 65 years and older, patients with pre-existing ACP who need their preferences reviewed and updated, patients with serious illness (often those co-managed by a Medicine service), and patients undergoing high risk procedures. Furthermore, the team-based nature of EGS care, with frequent hand-offs, makes essential the documentation of conversations related to ACP, as the primary clinician may change from the time of the operation to ongoing postoperative management.

Similar to prior work among elective surgical patients, we show that patients with higher odds of having ACP documentation tended to be older, prefer English, and possess government-funded health insurance (14, 19). While Medicare insurance may be a proxy for older age, which was also predictive of ACP documentation, funding structures such as reimbursement for ACP conducted during annual wellness visits, which began in 2016 have also been associated with an overall increase in ACP (20). Importantly, however, as part of this reimbursement structure only ACP conversations conducted as part of an annual wellness visit are protected from additional out-of-pocket patient costs. This limits reimbursement opportunities for other specialists or visits conducted outside the context of an annual wellness visit. Furthermore, Black, Hispanic, and Medicaid dual-eligible patients and patients with comorbidities are less likely to have annual wellness visits and also less likely to have ACP billed as part of one of these visits. Non-English preferred language is known to be a significant barrier to ACP among surgical patients (14) and several factors likely contribute to these differences, including cultural norms and patient preferences, yet lack of access to high-quality language-concordant ACP continues to be demonstrated across clinical contexts (21). For example, among 18,490 seriously-ill older adults, patients with non-English preferred language had higher end-of life healthcare utilization (higher odds of ED visits, readmission, in-hospital death) but were less likely to have ACP documents (22). Consistent with prior authors, we agree that eliciting all patients’ health goals, values, and

preferences is important to actively work against disparities that may disadvantage racial and ethnic minorities from receiving high quality, goal-aligned care (23).

To address the lack of standardized, easily accessible ACP documentation among our EGS patients, we developed a multipronged, inter-disciplinary quality improvement (QI) approach largely focused on surgical residents. However, despite modest gains in the frequency of ACP documentation, these strides were realized with considerable effort and there was still significant variation in comfort and practice with regards to resident-led ACP discussions. Therefore, we are reconsidering the approach and working to engage the entire team in ACP-related discussions that are appropriate to their knowledge of the patient's condition and surgical plan. For example, even a medical student may be comfortable conducting a discussion to help a patient identify their surrogate decision maker while only an attending surgeon may be comfortable talking about the options to avoid an ostomy. The benefit of developing a centralized approach to documentation in the EHR is that all team members can collectively contribute to the note and in the future, the information can be viewed holistically.

The surgical encounter, particularly that on an EGS service, can represent a major, sometimes abrupt, turning point in a patient's health trajectory, and so requires reappraisal of preferences and goals even if previously recorded. ACP conducted in the context of the surgical encounter can (and should) be focused on integrating the patient's overall goals and preferences into the management plan specific to the surgical disease. While we believe that technical conversations about the operation and potential outcomes should remain the purview of the surgeon, other team members can engage patients with more basic and universal discussions of goals and preferences. One strategy to improve adoption of ACP for surgical patients may be to engage the entire surgical team, from student to Advanced Practice Professional to resident in knowledge-appropriate discussions with patients and families.

Limitations to this study include the retrospective, single-center, observational design, which limits generalizability of our results to all EGS services. The neighborhood deprivation index variable assumes neighbored social determinants of health on individual patients, which may not be always accurately reflect individual circumstances and access to resources. The requirement for a home address excluded marginally housed patients and is of limited utility in smaller cities where ZIP codes may have mixed socioeconomic circumstances. We also only tracked documented ACP conversations, and we could be missing ACP discussions that were conducted but not documented, decreasing our measured prevalence. Furthermore, our data only captures ACP documentation in our single site EHR, therefore missing ACP that exists in external record systems. While we counted documentation of code status within an ACP EHR note template as 'clinically meaningful' documentation, a stand-alone code status order outside the context of a note would not have been considered clinically meaningful ACP meaning. Our content analysis of all inpatient ACP notes revealed that all ACP notes with code status documentation also included additional information about surrogate, overall health goals, and/or treatment goals specific to the surgical encounter and so we considered code status documented as part of an ACP note as meeting the criteria for 'clinically meaningful'. Lastly, given that we only included

patients admitted to the EGS service for at least 12 hours, we may have inherently missed some patinets with signifficant surgical risk who remained admitted (despite undergoing an opration) thorughout their encounter on a non-EGS service.

Conclusions

ACP rates among patients admitted to an EGS service have been historically low and even lower when considering ACP conducted by the surgical team. Our study suggests the following groups are ripe to engage with targeted ACP approaches: patients with pre-existing ACP who need their preferences reviewed and updated, patients ≥65 years old, patients with serious illness (often those co-managed by a Medicine service), and patients undergoing high risk procedures. Discussing and documenting patients' preferences and goals in a timely fashion, specific to the surgical encounter, makes it possible to provide care that is in alignment with both perioperative-specific and long-term goals. This care will then reflect quality expectations established by surgical societies and move surgical services closer to providing goal-concordant care.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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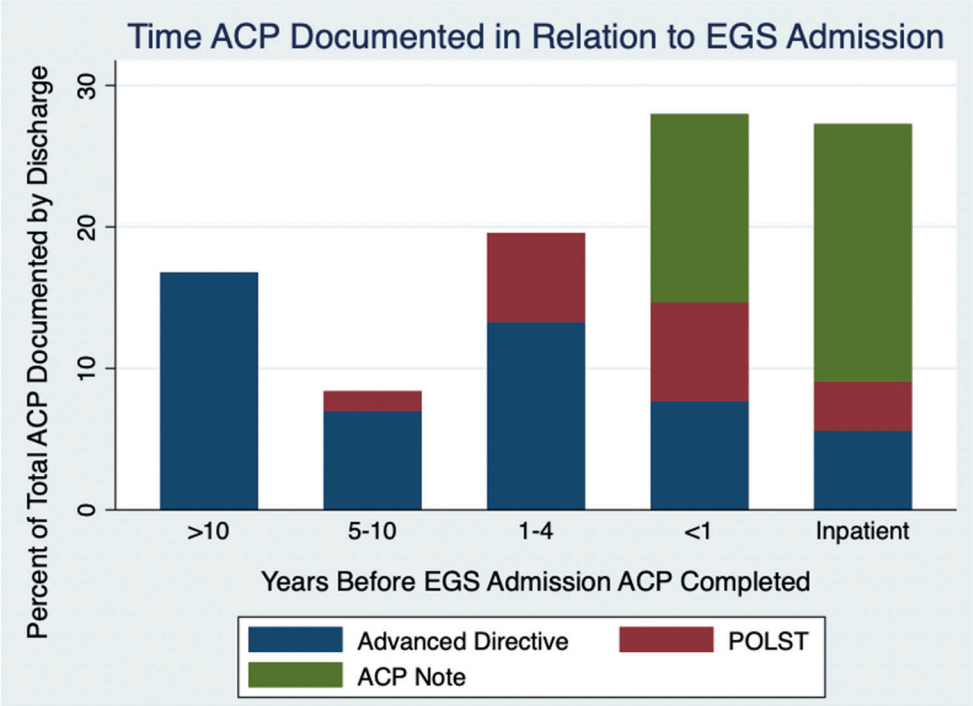

Figure 1.
Time Advance Care Planning documented in Relationship to Emergency General Surgery Admission

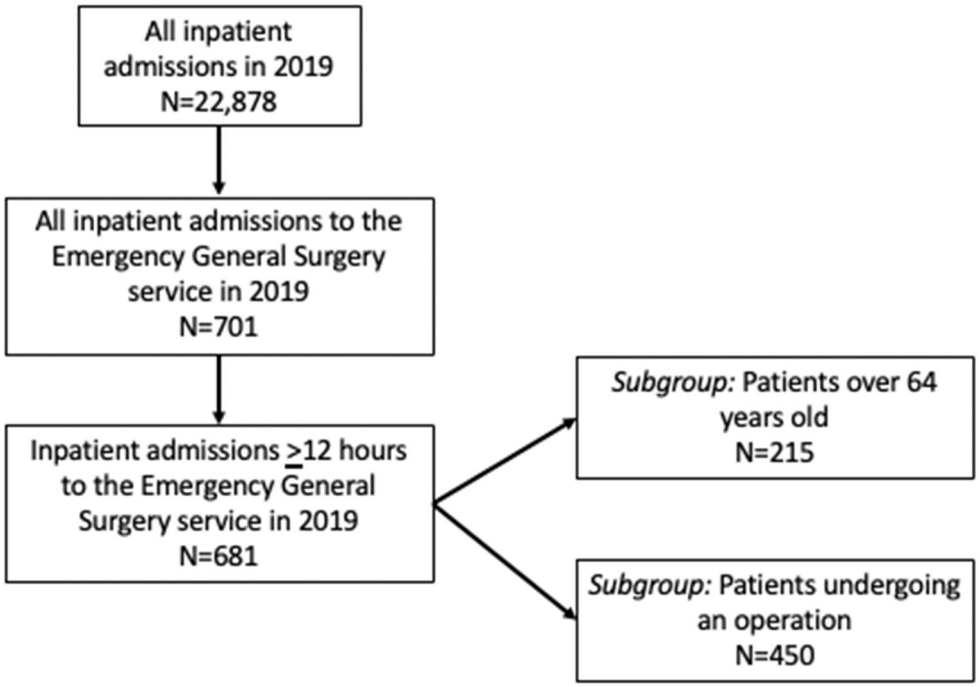

Figure 2.
Flow diagram

Table 1.

Characteristics of Emergency General Surgery Patients by Presence of ACP Documentation

Characteristic	ACP Completed by Discharge		p
	No N = 538	Yes N = 143	
Age, n (%)			<0.0001[1]
<35	138 (25.7)	6 (4.2)	
35-50	124 (23.1)	20 (14.0)	
50-65	148 (27.5)	26 (18.2)	
65-80	98 (18.2)	51 (35.7)	
>=80	30 (5.6)	40 (28.0)	
Sex, n (%)			0.420[1]
Female	243 (45.2)	70 (49.0)	
Male	295 (54.8)	73 (51.0)	
Race/ethnicity, n (%)			0.329[1]
White	276 (51.3)	69 (48.3)	
Asian	99 (18.4)	31 (21.7)	
Black/African American	37 (6.9)	16 (11.2)	
Latino/Latina	82 (15.2)	17 (11.9)	
Other	44 (8.1)	10 (7.0)	
Preferred language, n (%)			0.356[1]
English	469 (87.2)	118 (82.5)	
Spanish	17 (3.2)	6 (4.2)	
Other	52 (9.7)	19 (13.3)	
Insurance type, n (%)			<0.001[1]
Commercial	269 (50.0)	20 (14.0)	
Medicaid	128 (23.8)	25 (17.6)	
Medicare	141 (26.2)	98 (68.3)	
Neighborhood Deprivation Index, n (%)			0.241[1]
Less deprived	501 (93.1)	137 (95.8)	
More deprived	37 (6.9)	6 (4.2)	
Charlson Comorbidity Index, n (%)			<0.0001[1]
0-2	397 (73.8)	42 (29.4)	
≥ 3	141 (26.2)	101 (70.6)	
ASA class, n (%)			<0.0001[1]
0-2	243 (68.1)	15 (16.9)	
≥ 3	114 (31.9)	74 (83.2)	
Same-institution primary care, n (%)			<0.0001[1]
Yes	100 (18.6)	58 (40.6)	

Characteristic	ACP Completed by Discharge		p
	No N = 538	Yes N = 143	
Surgical Diagnosis			
Intestinal obstruction	33 (5.7)	20 (13.1)	
Upper gastrointestinal tract	144 (24.8)	12 (7.8)	
Hepatic-pancreatic-biliary	84 (14.5)	25 (16.3)	
Colorectal	21 (3.6)	10 (6.5)	
Abdominal/Hernia	45 (7.8)	8 (5.2)	
Soft tissue	33 (5.7)	8 (5.2)	

1. Pearson's Chi-squared test

ACP, advance care planning documentation. SD, standard deviation. ASA, American Society of Anesthesiologists.

Table 2:

Hospital Course for Patients by ACP Completion by Discharge

Characteristic	ACP Completed by Discharge		p
	Yes N = 143	No N = 538	
Died within 90 days	12 (8.4)	7 (1.3)	< 0.001[1]
Died within 365 days	20 (14.0)	13 (2.4)	<0.001[1]
Operative management	91 (63.6)	359 (66.7)	0.488[1]
Length of stay, mean (SD)	15.1 (26.0)	6.5 (13.2)	< 0.001[2]
ICU Admission	39 (27.3)	50 (9.3)	< 0.001[1]
Ventilatory days, mean (SD)	0.92 (3.0)	0.31 (2.3)	0.0075[2]
Discharge disposition			< 0.001[1]
Home	89 (62.2)	482 (89.6)	
Facility	54 (37.8)	56 (10.4)	

1. Pearson's Chi-squared test

2. Linear Model ANOVA

3. ICU, Intensive Care Unit

Table 3:

Predictors Associated with ACP Documentation in EHR by Discharge

Predictor	Adjusted Odds Ratio	95% CI	p
Age			
<35	*Reference*		
35-49	2.36	0.86 – 6.54	0.10
50-64	1.45	0.53 – 3.98	0.47
65-79	1.41	0.41 – 4.79	0.58
>=80	3.55	0.97 – 13.03	0.06
Sex			
Female	*Reference*		
Male	0.79	0.50 – 1.27	0.34
Race/ethnicity			
White	*Reference*		
Non-white	1.11	0.68 – 1.84	0.67
Preferred language			
English	*Reference*		
Non-English	0.50	0.25 – 1.02	0.05
Insurance type			
Commercial	*Reference*		
Medicaid	2.12	1.06 – 4.43	0.03
Medicare	5.06	2.09 – 12.23	<0.001
Neighborhood Deprivation Index			
Low	*Reference*		
High	0.52	0.19 – 1.42	0.20
Institution-concordant primary care (yes)	2.35	1.39 – 3.98	0.001
Charlson comorbidity index			
0-2	*Reference*		
≥3	4.19	2.55 – 6.88	<0.001
Length of Stay	1.02	1.00 – 1.03	0.05
ICU admission (yes)	1.60	0.77 – 3.27	0.21
Ventilatory days	0.98	0.88 – 1.08	0.67
Operative management (yes)	0.66	0.38 – 1.10	0.12
Died within 90 days (yes)	0.86	0.15 – 4.74	0.86
Died within 365 days (yes)	3.32	0.88 – 12.44	0.08
Discharge disposition			
Home	*Reference*		
Facility	2.76	1.52 – 5.03	0.001

ACP, advance care planning. CI, confidence interval. Surgical service included in the regression model, but covariates are not displayed.