January 2022

On The Same Page? Agreement Between Older Adults And Emergency Clinicians Regarding Desired Outcomes And Its Association With Return Hospital Visits

Hollie Dowd
dowdhollie@gmail.com

On the same page? Agreement between older adults and emergency clinicians regarding desired outcomes and its association with return hospital visits

Hollie Dowd
Department of Chronic Disease Epidemiology
Yale School of Public Health

Primary Reader
Becca Levy, PhD
Department of Social and Behavioral Sciences
Yale School of Public Health

Secondary Reader
Mary Tinetti, MD
Department of Geriatrics
Yale School of Medicine

A thesis submitted to the Yale School of Public Health
Yale University

In partial fulfillment of the requirements for the degree of Master of Public Health
(Chronic Disease Epidemiology)
2022

Abstract

Objectives. To develop a framework for as well as examine the relationship between patient-clinician agreement on what matters to older adults in the emergency department (ED) and 30-day ED return visits.

Methods. A sample of 45 emergency department patients aged 70+ and their emergency clinicians were separately asked about the patient's desired outcomes for their ED visit. Thematic analysis of interview transcripts was conducted and dyadic agreement for each of the identified themes was recorded, then a percent agreement composite score was calculated. 30-day ED return visits were tallied and additional sociodemographic and clinical data was accumulated. Descriptive, bivariate, and multivariate analyses were then conducted.

Results. The shared desired outcome themes identified were diagnosis, disposition, reassurance, and resolution of symptoms. Within the total sample, 48.9% of patient-clinician dyads had a below acceptable (>75%) level of agreement regarding the desired outcome themes. Out of the 45 participants enrolled in the study, 11 had a 30-day ED return visit. No significant associations were found in bivariate or multivariate logistic regressions.

Conclusion. Although no significant associations were found, the importance of and paucity of data surrounding the topic of alignment on what matters and return visits in the ED among older adults and their clinicians was highlighted. A framework was developed that may act as a foundation for further investigation into these potential relationships. More detailed research is necessary and encouraged to learn more about patient priorities for older adults and return visits to the ED.

Acknowledgments

Thank you first and foremost to Dr. Cameron Gettel who brought me onto the What Matters project, worked with me through much of the data, and gave crucial guidance on the direction of this thesis. I'd also like to my thesis readers, Dr. Becca Levy and Dr. Mary Tinetti, for their patients, expertise, and feedback. Last but not least I would like to thank my whole family, but particularly my parents and my fiancé Natnael Doilicho, for their unending love and support.

Table of Contents

List of Tables

Introduction

Older adults (those aged 65 years and over) are heavy utilizers of emergency medical services. In fact, this group accounts for over 23 million emergency department (ED) visits annually, representing 18% of all ED visits nationally[1] and making older adults the most frequent visitors to the ED [2]. Many of these visits, however, are not isolated events as older adults also have the highest rate of ED re-visits[3], defined as a visit within 30 days of a prior visit[4]. The risk of a return visit for adult ED patients over 65 years of age is approximately 300% higher than that for adults aged 30 years, and 200% higher than that for adults ages less than 46 years [1]. Many older adults can end up in the ED not just once, but multiple times within a short period of time [5].

Although predicated on the goal of meeting emergent medical needs, ED visits can unfortunately also lead to unwanted consequences such as financial burdens, emotional distress, and delirium, particularly for older adults [6-8]. Identifying and reducing risk factors for repeat visits to the ED for older adults is an opportunity to minimize these negative outcomes. A potentially modifiable risk-factor for older adults returning to the ED may be an inadequate understanding or addressing by the clinical care team of the patient's goals for the visit. Research shows that older adults are more likely to experience goal discordant care in the ED [9,10]. Goal discordant care is medical care that fails to honor a patient's individual goals and values and align medical treatments with those goals of care[11,12], which can be used as a quality metric in evaluating care. This raises the question of whether patient-clinician agreement on patient priorities could be associated with an older adult's risk of returning to the ED [13-15]. Should this is the case, it would be critical to emphasize the importance of patients and care providers aligning

on the patients' priorities prior to treatment or discharge in order to help reduce the likelihood of ED re-visits [12].

In this thesis, I seek to utilize our locally-collected primary dataset to further probe into the concept of what matters to older adults in the ED and how it relates to 30-day ED return visits. One of the main points will be to attempt to conceptualize a framework with which to accurately measure the relationship, requiring innovative approaches to categorizing and interpreting the data. More specifically, to determine a way to define themes from the qualitative data, calculate a composite score for agreement, and decide for how long to monitor for return visits that are meaningful to the model. Once a framework is established, the next task will be to evaluate the associations between predictor and outcome variables to look for a potential relationship. I hypothesize that older adults in the ED with priorities that are not in agreement with what their clinicians believe them to be are more likely to return to the ED than elderly patients with priorities that agree with what their clinicians perceive. The logic here is that not only are return visits and goal discordant care both present in the older adult population, but that there may exist a causal link between the two. Patient priorities alignment has been shown to lead to better health outcomes [16,17] so it is important that we apply this framework to older adults in the emergency room setting [18] and measure its impact.

Methods

Study Design

Qualitative interviewing and analysis was performed involving cognitively intact older adult patients and their treating clinicians. Study methods and results are presented in accordance with the COnsolidated criteria for REporting Qualitative research (COREQ)[19]. This study was determined to be exempt research by the institutional review board of Yale University.

Sample

The study was conducted at two EDs, a community hospital (Shoreline Hospital) and a Level II trauma center (Bridgeport Hospital), both within the Yale New Haven Health system. Potential older adult participants were identified based on screening within the electronic medical records system, EPIC, with recruitment taking place during rotating evening and day schedules. Inclusion criteria included: 70 years or older, English-speaking, ability to answer questions without the assistance of caregivers, and an emergency severity index of 3, 4, or 5 suggesting lower acuity at triage. Exclusion criteria included: a status of medically unfit (as determined by the treating clinician) or evidence of cognitive impairment (detailed below).

The Six-Item Screener was used, with a score of <4 on the 6-point questionnaire indicating high risk for cognitive impairment, as previously performed in ED-based research[20]. Treating clinicians, including attending physicians and advanced practice providers, received a $5 gift card for their time participating in the interview. Enrollment occurred between December 2020 and May 2021.

Procedure

A trained interviewer (H.D.) obtained verbal consent and digitally recorded interviews with older adults and their treating clinicians, separately. Semi-structured interviews were

conducted with a sample of older adult ED patients using an interview guide, the 'What Matters in the ED' conversation guide. The guide was modified from another Patient Priorities Care guide and developed by stakeholders and experts in work related to age-friendly health systems and emergency care[21]. Contextually, the What Matters conversation guide was developed to align the IHI Age-Friendly Health System initiative with the ACEP Geriatric ED Accreditation process. The purpose of the What Matters conversation guide was to provide an outline for ED clinicians to ask and learn about What Matters to older adults presenting to the ED, with the knowledge gained contributing to care and treatment decisions. An initial version of the What Matters conversation guide was tested in three EDs to gain clinician insights regarding appropriateness and feasibility. The final two questions had been previously identified by expert consensus to be most salient to identify What Matters for older adults seeking emergency care[22].

To assess concurrent clinician impressions of their older adult patients, analogous questions were asked in a separate interview to the patient's ED treating clinician regarding what they believed mattered most to the older adult they were treating (Table 1). As suggested by stakeholder- and expert-guidance on the 'What Matters in the ED' conversation guide, H.D. could ask either question 1a or 1b to ascertain the older adult's desired outcomes while receiving healthcare in the ED. When identifying desired outcomes, H.D.'s approach was to start the interview by asking question 1a. H.D. asked question 1b if the participant had difficulty understanding the question, needed further clarification, or it was thought that greater information could be gathered by rephrasing the question. The final interview guide was pilot tested with two ED patients prior to beginning the study.

Both patients and clinicians were interviewed during the ED encounter when disposition uncertainty still existed. This occurred after the initial evaluation by the treating clinician, but

before laboratory and imaging results were available to inform decision-making. H.D. collected basic demographic information and ED clinical data regarding the encounter, and also recorded brief field notes immediately after the interview. No study authors were part of the participants' medical care teams.

Data Analysis

An iterative process of thematic analysis was used to synthesize the data, identify patterns, and develop themes across the interviews[23]. Specifically, an inductive qualitative approach that relies on the synthesis of qualitative data was utilized rather than relying on concepts considered *a priori*[24]. The coding team consisted of C.J.G., an emergency medicine physician and health services researcher with formal qualitative training and expertise working with older adults, and H.D., a masters-level research associate whom C.J.G. trained on qualitative research techniques. Digitally-recorded transcripts were professionally transcribed and corrected when the transcript passage was incomprehensible or had errors. NVivo 12 qualitative software (QSR International, Melbourne, Australia) was used to manage and analyze study data[25].

The coding team began with a line-by-line review of transcripts and open coding to identify key concepts. Following review of the first six transcripts, coders developed an initial codebook that was subsequently expanded and refined through independent and then joint review of additional transcripts. Coding discrepancies were resolved between coders through regular meetings, and the final codebook, containing 4 shared themes between patients and their clinicians, was then applied to all transcripts. Both coders coded all interviews to enhance consistency. Recruitment, interviewing, and coding occurred concurrently until thematic

saturation was reached[26]. Best practices for validity in qualitative research were followed by maintaining an audit trail and comments and revisions from group coding meetings[27-29].

Using these four themes identified above, dyads were given a score of 0 (disagreement) for each of the themes if there was a mismatch in their identification: either the patient identified the theme as a desired outcome and the clinician did not, or vice versa. Conversely, dyads were given a score of 1 (agreement) for each of the four themes if there was a match in their identification: either both the patient and the clinician identified the theme as a desired outcome, or neither of them identified the theme as a desired outcome. Interrater reliability between patient and clinician was then calculated using the percent agreement method. For each dyad, this was calculated as the total number of agreements (zero to four) over the total number of themes possible (four) equaling a percent agreement ranging from 0% to 100%[30]. This was then separated into high agreement (≥75%) and low agreement (<75%) categorical variable for future analyses[31].

Return visits were defined as the patient having at least one visit to the ED within the 30 days following the interview date[4,32]. This was tracked using the EPIC electronic medical system. This resulted in a dichotomous variable that identified "returners" versus "non-returners."

Descriptive, bivariate, and multivariate analyses were conducted using SAS version 9.4. Analysis focused on the associations between sociodemographic, clinical, thematic, and percent agreement, and 30-day ED return visits. Unadjusted associations between all covariates and return ED visits were explored using bivariate logistic regression. Adjusted associations between selected covariates and 30-day return ED visits was explored in using multivariate logistic regression. Stepwise logistic regression and manual backwards elimination strategies were made

challenging due to all factors having insignificant and relatively large p-values. Therefore, the multivariate model was created using forced retainment of factors that would logically have an effect on return visits (age, sex, relationship status, prior ED visits within 30 days) in addition to the main predictor variable of interest (percent agreement). The number of factors included in the multivariable model were also limited to 5 by the small sample size of 45 participants[33].

Results

Fifty-nine older adults were screened for eligibility; 8 refused to participate, 4 were found to be cognitively impaired, and 47 cognitively intact older adults and their treating clinicians agreed to participate and completed interviews. Of these forty-seven dyads, 2 were excluded from analysis due to incomplete interview dictation, leaving 45 patient-clinician pairs to be included in analysis, which is similar to prior literature involving dyadic pairs[34]. Older adult participants were primarily female (57.8%) and white (82.2%), and had a median age of 79 years. Characteristics of participants are shown in Table 2. 55.6% of participants were admitted to the hospital during their ED visit and 20% had a previous trip to the ED within the 30 days prior to the interview date. Treating clinicians consisted of attending physicians (MDs), advanced practice registered nurses (APRNs), and physician assistants (PAs) [Table 2].

When considering responses to the What Matters question regarding desired outcomes about the older adult's ED care, four main themes emerged among older adult respondents and their clinicians. These themes included: 1) obtaining a diagnosis, 2) disposition [wanting to be admitted to the hospital or return to home environment], 3) gaining reassurance, and 4) reducing or resolving symptoms. Table 2 also reflects the degree of dyadic agreement for each of these themes. The theme that reflected the most concordance was gaining reassurance (77.8%). 51.1% of dyads showed an acceptable amount of agreement, categorized as greater than or equal to 75% agreement[31] [Table 2].

Table 3 shows the characteristics of the study sample according to their 30-day ED return status. Of the 45 total participants, 11 had a return visit to the ED within 30 days. This table also documents unadjusted bivariate logic regression odds ratios and 95% confidence intervals. There

were no statistically significant ($p>0.05$) unadjusted increased odds of return visit present for any of the factors [Table 3].

Table 4 highlights the multivariate adjusted associations between the retained sociodemographic factors (age, sex, relationship status), clinical (prior ED visit within 30 days), and percent agreement, and 30-day ED return visits. In the final model accounting for the retained factors, there were also no statistically significant associations with increased odds of return visits [Table 4].

Discussion

In this sample population taken as a whole, there is a presence of substantial patient-physician misalignment (48.9%) while using a ≥75% cutoff for acceptable agreement. In the few studies published that utilize patient-physician agreement as a predictor of health outcomes, one study recorded a dyadic misalignment of only 17%[35], however this study focused on content and outcomes of coronary health disease prevention discussions. The misalignment found in our study, however, did not lead to a significant association with the outcome under investigation. While there is of course the possibility that this is due to the fact that there may not be an association to be found, there are also other potential reasons a relationship between agreement and return visits was not detected in this sample.

Initially, the What Matter's study was a feasibility study for incorporating that What Matters questions in ED clinical practice. This was a qualitative research effort that did not seek to ask the question of agreement and return visit. The idea that makes up the hypothesis of this thesis was identified throughout the What Matters data collection process and was then explored after the fact. Due to this, it may be possible that the What Matters questions were not the best geared toward collecting the most accurate information as it pertains to patient priorities. We attempted to account for this but selecting the question that we felt was most pertinent to patient priorities (desired outcomes), even though the What Matters script also asked patients and clinicians about concerns for their ED visit. Perhaps designing an interview script specifically for this research question or expanding the analysis to include the additional What Matters questions would yield a more comprehensive look into the association between patient priorities and return visits for older adults in the ED.

Another way in which a framework for this relationship was theorized, but may need to be adjusted to capture the association is the way in we conceptualized agreement. Upon reviewing the literature for approaches to create a composite score for agreement, we found literature on inter-rater reliability measures, which was the closest fit to our research design. There are a multitude of approaches to quantify agreement, the simplest being percent agreement, where the number of times a pair agrees is totaled and divided by the total number of opportunities for agreement[30]. Some sources say that there are better ways to measure this agreement, one of these being Cohen's Kappa[30]. This statistic can range from -1 to +1 where 0 represents that amount of agreement that can be expected from random chance and 1 represents perfect agreement between raters. The positives of this statistic are that it accounts for chance and is a standardized value that can be interpreted across multiple studies. However, it can be challenging to interpret when utilizing regressions and there is no absolute cutoff for what could be deemed "substantial agreement." For this thesis, percent agreement was selected for its ease of interpretation, however, Cohen's Kappa values were also calculated. There was a large range of values, from -1 to 1, which raised some red flags to its validity because, as Cohen notes, kappa values below zero are possible but they are unlikely in practice[36]. While we feel confident in the way in which agreement was conceptualized, there is room for exploration within this aspect of the research.

Furthermore, in this limited initial sampling, 24.4% of patients had a return visit within 30 days, highlighting the known problem of frequent return visits among older adults to the ED. This is compared to previous findings which state that the average return rate among all age-groups is about 3%[37]. Other studies have found 30-day ED revisit rates among older adults to range from 13% to 22% (the latter consisting of patients with dementia)[38,39]. These statistics

underscore the robust presence of return visit captured in our primary dataset and emphasize the potential for inquiry into why such a high rate of returns could be present.

The 30-day return visit cutoff was decided based both on precedent set by previous re-visit studies as well as the 30-day readmission rule for Centers for Medicare and Medicaid Services (CMS). One study looked at the predictors of return visits to the ED among different age groups of older adults and found that the rates of return visits were similar in different age groups of older adults using the 30-day return visit threshold[39]. Another found that although 30-day return rate varied markedly among the ED facilities studied, predictors of 30-day return visit among older adults included age, sex, race, Medicaid eligibility, Charlson Score, and prior ED encounter[4]. The CMS Hospital Readmissions Reduction Program (HRRP), a "Medicare value-based purchasing program that encourages hospitals to improve communication and care coordination to better engage patients and caregivers in discharge plans and, in turn, reduce avoidable readmissions," sets the readmission cutoff at 30 days[40]. These readmissions are counted regardless of what the principal diagnosis. Based on the numbers of applicable readmissions, the percent a hospital is paid can be reduced. However, despite this support for the return visit cutoff to be set at 30 days for our study, there is additional support for a different categorization of this variable. One review, investigating the risk factors associated with ED recidivism in older adults, found that various time intervals for return visit appear in the literature, including 2, 3, 7, 14, and 30 or more days (up to 1 year) post initial visit[41]. It is possible that in defining our return visit variable with a 30-day cutoff that some associations could be missed.

Conclusion

This thesis sought to explore the relationship between participant-clinician agreement for desired outcomes and 30-ED return visits within an older adult population. 45 dyads underwent a brief qualitative interview that was transcribed and developed into a thematic coding scheme. Those themes were the basis of a composite percent agreement score, which was modeled (with other factors), to determine its association with return visits to the ED. Unfortunately, no significant relationship was found in either unadjusted bivariate or adjusted multivariate logistic regression models, however the outlook for this field of research remains hopeful.

Major limitations for this study include, first and foremost, a small sample size of 45 dyads. This posed an extreme challenge to the power of the study's analysis and perhaps did not capture the full picture of the relationship between the variables present in the larger population. In addition, as is mentioned in the discussion, the framework of the study, including the questions asked as well as the way the agreement and return variables were conceptualized, may be a good starting point, but could have opportunities for improvement.

This study ultimately reiterates not only the presence of misalignment on patient priorities between older adult patients and clinicians in an ED context, it also emphasizes the burden of return visit to the ED in this population. This relationship remains ripe for further research as it holds the potential to improve health outcomes for patients as well as save hospital systems money that is lost due to HRRP. Further work is needed to solidify research methods to conceptualize the variables at the heart of this research, and this thesis stands as forward movement in that direction.

References

1. Ashman JJ, Schappert SM, Santo L. Emergency Department Visits Among Adults Aged 60 and Over: United States, 2014-2017. *NCHS Data Brief*. Jun 2020;(367):1-8.
2. Ukkonen M, Jämsen E, Zeitlin R, Pauniaho SL. Emergency department visits in older patients: a population-based survey. *BMC Emerg Med*. Feb 27 2019;19(1):20. doi:10.1186/s12873-019-0236-3
3. Uscatescu V, Turner A, Ezer H. Return visits to the emergency department: what can we learn from older adults' experiences? *J Gerontol Nurs*. Jul 2014;40(7):32-40; quiz 42-3. doi:10.3928/00989134-20140421-02
4. Biese K, Massing M, Platts-Mills TF, et al. Predictors of 30-Day Return Following an Emergency Department Visit for Older Adults. *North Carolina Medical Journal*. 2019;80(1):12. doi:10.18043/ncm.80.1.12
5. Latham LP, Ackroyd-Stolarz S. Emergency department utilization by older adults: a descriptive study. *Can Geriatr J*. Dec 2014;17(4):118-25. doi:10.5770/cgj.17.108
6. McCabe JJ, Kennelly SP. Acute care of older patients in the emergency department: strategies to improve patient outcomes. *Open Access Emerg Med*. 2015;7:45-54. doi:10.2147/oaem.S69974
7. Goodridge D, Martyniuk S, Stempien J. At Risk for Emotional Harm in the Emergency Department: Older Adult Patients' and Caregivers' Experiences, Strategies, and Recommendations. *Gerontol Geriatr Med*. Jan-Dec 2018;4:2333721418801373. doi:10.1177/2333721418801373
8. Aminzadeh F, Dalziel WB. Older adults in the emergency department: A systematic review of patterns of use, adverse outcomes, and effectiveness of interventions. *Annals of Emergency Medicine*. 2002/03/01/ 2002;39(3):238-247. doi:https://doi.org/10.1067/mem.2002.121523
9. Ula Hwang MNS, Jin H Han, Christopher R. Carpenter, Albert L. Siu, James G. Adams. Transforming Emergency Care For Older Adults. *Health Affairs*. 2013;32(12):2116-2121. doi:10.1377/hlthaff.2013.0670
10. Shankar KN, Bhatia BK, Schuur JD. Toward patient-centered care: a systematic review of older adults' views of quality emergency care. *Ann Emerg Med*. May 2014;63(5):529-550.e1. doi:10.1016/j.annemergmed.2013.07.509
11. Halpern SD. Goal-Concordant Care - Searching for the Holy Grail. *N Engl J Med*. Oct 24 2019;381(17):1603-1606. doi:10.1056/NEJMp1908153
12. Sanders JJ, Curtis JR, Tulsky JA. Achieving Goal-Concordant Care: A Conceptual Model and Approach to Measuring Serious Illness Communication and Its Impact. *J Palliat Med*. Mar 2018;21(S2):S17-s27. doi:10.1089/jpm.2017.0459
13. Mate K, Fulmer T, Pelton L, et al. Evidence for the 4Ms: Interactions and Outcomes across the Care Continuum. *Journal of Aging and Health*. 2021/08/01 2021;33(7-8):469-481. doi:10.1177/0898264321991658
14. Tinetti M, Huang A, Molnar F. The Geriatrics 5M's: A New Way of Communicating What We Do. *J Am Geriatr Soc*. Sep 2017;65(9):2115. doi:10.1111/jgs.14979
15. Fulmer T, Patel P, Levy N, et al. Moving Toward a Global Age-Friendly Ecosystem. *J Am Geriatr Soc*. Sep 2020;68(9):1936-1940. doi:10.1111/jgs.16675
16. Hashim MJ. Patient-Centered Communication: Basic Skills. *Am Fam Physician*. Jan 1 2017;95(1):29-34.

17. Feder SL, Kiwak E, Costello D, et al. Perspectives of Patients in Identifying Their Values-Based Health Priorities. *J Am Geriatr Soc*. Jul 2019;67(7):1379-1385. doi:10.1111/jgs.15850
18. Probst MA, Kanzaria HK, Schoenfeld EM, et al. Shared Decisionmaking in the Emergency Department: A Guiding Framework for Clinicians. *Ann Emerg Med*. Nov 2017;70(5):688-695. doi:10.1016/j.annemergmed.2017.03.063
19. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. Dec 2007;19(6):349-57. doi:10.1093/intqhc/mzm042
20. Carpenter CR, DesPain B, Keeling TN, Shah M, Rothenberger M. The Six-Item Screener and AD8 for the detection of cognitive impairment in geriatric emergency department patients. *Ann Emerg Med*. Jun 2011;57(6):653-61. doi:10.1016/j.annemergmed.2010.06.560
21. Care PP. Conversation guide and manual for identifying patients' health priorities. Accessed March 21, 2022. https://patientprioritiescare.org/wp-content/uploads/2018/11/Conversation-Guide-and-Manual-for-Identifying-Patients27-Health-Priorities.pdf
22. Care. PP. What Matters (Most) AHA Age Friendly Health Systems Action Community. Accessed March 18, 2022. https://www.aha.org/system/files/media/file/2020/02/Tinetti-What%20Matters.pdf.
23. Corbin J, & Strauss, A. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory (3rd ed.)*. Sage; 2008.
24. Miles M HA. *Qualitative Data Analysis: An Expanded Sourcebook.* 2nd ed. 1994.
25. International Q. NVivo. Accessed March 15, 2022. https://www.qsrinternational.com/nvivo/home
26. Fusch PI NL. Are we there yet? Data saturation in qualitative research. *Qual Rep*. 2015;20:1408-16.
27. JM M. Critical analysis of strategies for determining rigor in qualitative inquiry *Qual Health Res*. 2015;25(9):1212-22.
28. Lincoln YS GE. *Naturalistic Inquiry*. 1st ed. Sage Publications Inc; 1985.
29. Forero R NS, De Costa J, et al. Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine *BMC Health Serv Res*. 2018;18(1):120.
30. McHugh ML. Interrater reliability: the kappa statistic. *Biochem Med (Zagreb)*. 2012;22(3):276-82.
31. Graham M, Milanowski A, Westat J. Measuring and Promoting Inter-Rater Agreement of Teacher and Principal Performance Ratings. 01/01 2014;
32. Medicare Cf, Services M. Specifications for the all-cause unplanned readmission measure for 30 days post discharge from inpatient rehabilitation facilities. *Washington, DC: Centers for Medicare & Medicaid Services*. 2013;
33. Peduzzi P, Concato J, Kemper E, Holford TR, Feinstein AR. A simulation study of the number of events per variable in logistic regression analysis. *J Clin Epidemiol*. Dec 1996;49(12):1373-9. doi:10.1016/s0895-4356(96)00236-3
34. Coran JJ, Koropeckyj-Cox T, Arnold CL. Are physicians and patients in agreement? Exploring dyadic concordance. *Health Educ Behav*. Oct 2013;40(5):603-11. doi:10.1177/1090198112473102

35. Behrend L, Maymani H, Diehl M, Gizlice Z, Cai J, Sheridan SL. Patient-physician agreement on the content of CHD prevention discussions. *Health Expect*. Mar 2011;14 Suppl 1(Suppl 1):58-72. doi:10.1111/j.1369-7625.2010.00614.x
36. Marston L. *Introductory statistics for health and nursing using SPSS*. Sage Publications; 2010.
37. Hao S, Jin B, Shin AY, et al. Risk prediction of emergency department revisit 30 days post discharge: a prospective study. *PLoS One*. 2014;9(11):e112944. doi:10.1371/journal.pone.0112944
38. Kent T, Lesser A, Israni J, Hwang U, Carpenter C, Ko KJ. 30-Day Emergency Department Revisit Rates among Older Adults with Documented Dementia. *J Am Geriatr Soc*. Nov 2019;67(11):2254-2259. doi:10.1111/jgs.16114
39. Oliveira J. e Silva L, Jeffery MM, Campbell RL, Mullan AF, Takahashi PY, Bellolio F. Predictors of return visits to the emergency department among different age groups of older adults. *The American Journal of Emergency Medicine*. 2021/08/01/ 2021;46:241-246. doi:https://doi.org/10.1016/j.ajem.2020.07.042
40. Services CfMM. Hospital Readmissions Reduction Program (HRRP). Accessed March 15, 2022. https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HRRP/Hospital-Readmission-Reduction-Program
41. Sheikh S. Risk Factors Associated with Emergency Department Recidivism in the Older Adult. *West J Emerg Med*. 2019;20(6):931-938. doi:10.5811/westjem.2019.7.43073

Figures and Tables

Table 1 – 'What Matters' semi-structured interview guide for older adult patients and their treating clinicians

Questions for older adult patients
1. One question about outcome patients most want from their ED visit: a. What outcome are you most hoping for from this ED visit? *or* b. What are you most hoping for or looking for from your ED visit?
Questions for treating clinicians
1. What outcomes do you think the patient is most hoping for?

Table 2 – Descriptive Characteristics of the Study Population[a]

	Participants N = 45[b]
Age in years, median (IQR)	79 (13)
Sex, n (%)	
Male	19 (42.2)
Female	26 (57.8)
Race, n (%)	
White	37 (82.2)
African American	6 (13.3)
Other	2 (4.4)
Relationship Status, n (%)	
Partnered	22 (48.9)
Not Partnered	23 (51.1)
Clinician Type, n (%)	
MD	34 (75.6)
PA	9 (20.0)
APRN	2 (4.4)
Final ED Disposition, n (%)	
Discharge	20 (44.4)
Admit	25 (55.6)
Prior ED Visit Within 30 Days	
No	36 (80.0)
Yes	9 (20.0)
Diagnosis Theme[c], n (%)	
Concordant	30 (66.7)
Discordant	15 (33.3)
Disposition Theme[d], n (%)	
Concordant	26 (57.8)
Discordant	19 (42.2)
Reassurance Theme[e], n (%)	

Concordant	35 (77.8)
Discordant	10 (22.2)
Symptoms Theme[f], n (%)	
Concordant	26 (57.8)
Discordant	19 (42.2)
Percent Agreement, n (%)	
≥75%	23 (51.1)
<75%	22 (48.9)

[a] Table values are median and interquartile ranges (IQR) for continuous variables and n and row percentages (%) for categorical variables.
[b] Numbers may not sum to total due to missing data and percentages may not sum to 100% due to rounding.
[c] *Diagnosis Theme* is a dichotomous variable indicating agreement between patient and clinician regarding a desired outcome identified being diagnosis.
[d] *Disposition Theme* is a dichotomous variable that reflects agreement between patient and clinician regarding a desired outcome identified being disposition.
[e] *Reassurance Theme* is a dichotomous variable corresponding to agreement between patient and clinician regarding a desired outcome identified being reassurance.
[f] *Symptoms Theme* is a dichotomous variable showing agreement between patient and clinician regarding a desired outcome identified being resolution of symptoms.

Abbreviations. MD = Doctor of Medicine; PA = Physician Assistant; APRN = Advanced Practice Registered Nurse; ED = Emergency Department.

Table 3 – Bivariate Logistic Regression Models Predicting 30-Day Return ED Visit

	Non-Returners[b] N = 34	Returners[b] N = 11	Unadjusted Point Estimate, OR (95% CI)[c]
Age in years, median (IQR)	79 (14)	83 (15)	1.00 (0.92, 1.10)
Sex, n (%)			
Male	14 (73.7)	5 (26.3)	1.00 (reference)
Female	20 (76.9)	6 (23.1)	0.84 (0.21, 3.30)
Race, n (%)			
White	28 (75.7)	9 (24.3)	1.00 (reference)
African American	4 (66.7)	2 (33.3)	1.56 (0.24, 9.95)
Other	2 (100.0)	0 (0.0)	0.00 (0.00, 0.00)
Relationship Status, n (%)			
Partnered	17 (77.3)	5 (22.7)	1.00 (reference)
Not Partnered	17 (73.9)	6 (26.1)	0.83 (0.21, 3.26)
Clinician Type, n (%)			
MD	25 (73.5)	9 (26.5)	1.00 (reference)
PA	8 (88.9)	1 (11.1)	0.35 (0.04, 3.18)
APRN	1 (50.0)	1 (50.0)	2.78 (0.16, 49.22)
Final ED Disposition, n (%)			
Discharge	15 (75.0)	5 (25.0)	1.00 (reference)
Admit	19 (76.0)	6 (24.0)	0.95 (0.24, 3.72)
Prior ED Visit Within 30 Days			
No	29 (80.6)	7 (19.4)	1.00 (reference)
Yes	5 (55.6)	4 (44.4)	3.31 (0.70, 15.65)
Diagnosis Theme[d], n (%)			
Concordant	24 (80.0)	6 (20.0)	1.00 (reference)
Discordant	10 (66.7)	5 (33.3)	0.50 (0.12, 2.02)
Disposition Theme[e], n (%)			
Concordant	21 (80.8)	5 (19.23)	1.00 (reference)
Discordant	13 (68.4)	6 (31.6)	0.52 (0.13, 2.04)

Reassurance Theme[f], n (%)			
Concordant	24 (68.6)	11 (31.4)	1.00 (reference)
Discordant	10 (100.0)	0 (0.0)	0.00 (0.00, 0.00)
Symptoms Theme[g], n (%)			
Concordant	21 (80.8)	5 (19.2)	1.00 (reference)
Discordant	13 (68.4)	6 (31.6)	0.52 (0.13, 2.04)
Percent Agreement, n (%)			
≥75%	18 (78.3)	5 (21.7)	1.00 (reference)
<75%	16 (72.7)	6 (27.3)	0.74 (0.19, 2.90)

[a] Table values are median and interquartile ranges (IQR) for continuous variables and n and row percentages (%) for categorical variables.
[b] Numbers may not sum to total due to missing data and percentages may not sum to 100% due to rounding.
[c] OR predictions are predicting at least one ED return visit within 30 days.
[d] *Diagnosis Theme* is a dichotomous variable indicating agreement between patient and clinician regarding a desired outcome identified being diagnosis.
[d] *Disposition Theme* is a dichotomous variable that reflects agreement between patient and clinician regarding a desired outcome identified being disposition.
[f] *Reassurance Theme* is a dichotomous variable corresponding to agreement between patient and clinician regarding a desired outcome identified being reassurance.
[g] *Symptoms Theme* is a dichotomous variable showing agreement between patient and clinician regarding a desired outcome identified being resolution of symptoms.
* Indicated statistical significance at $p<0.05$.

Abbreviations. ED = Emergency Department; MD = Doctor of Medicine; PA = Physician Assistant; APRN = Advanced Practice Registered Nurse.

Table 4 – Multivariate Logistic Regression Models Predicting 30-Day Return ED Visit[a]

	Adjusted Point Estimate, OR (95% CI)[b,c]
Age in years, median (IQR)	1.02 (0.93, 1.12)
Sex, n (%)	
Male	1.00 (reference)
Female	0.43 (0.08, 2.35)
Relationship Status, n (%)	
Partnered	1.00 (reference)
Not Partnered	0.66 (0.14, 3.15)
Prior ED Visit Within 30 Days	
No	1.00 (reference)
Yes	4.92 (0.85, 28.63)
Percent Agreement, n (%)	
≥75%	1.00 (reference)
<75%	0.58 (0.13, 2.70)

[a] OR predictions are predicting at least one 30-Day ED return visit
b all models included n = 45 observations
c adjusted by age, sex, relationship status, prior ED visit within 30 days, and percent agreement.
* Indicates statistical significance at $p<0.05$

Abbreviations. ED = Emergency Department