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De-mystifying General Medicine: A Descriptive Analysis of Occupational Therapy and General Medicine

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Abstract

Background

Occupational therapists in acute care play a significant role in mitigating hospital-related issues and facilitating patients' reintegration into the community. Despite its importance, research on the role of occupational therapists in acute general medicine units is scarce. This study aims to explore patient populations and services, seeking to improve services through the development of client-centered interventions and programming.

Methodology

A retrospective chart review from January 1 to June 30, 2023, in an urban medical center, examined the diversity of occupational therapy services on a general medicine unit. Data from electronic medical records for 250 patients were analyzed for patient demographics and service utilization.

Results

The average age of the sample was 64.98 years old (SD ±16.33), with a range of 19-100 years old. Patients that were seen for OT on the general medicine unit had an average length of stay of 8.55 days and were seen for an average 3.14 OT sessions. Out of 250 patients, 192 diagnoses were individually collected from the medical record review. These were then consolidated into 18 more broad diagnostic categories, with a predominant representation of Black or African American individuals (44.80%). Occupational therapists performed evaluations of moderate complexity, employing self-care (23.34, SD ± 36.81) and therapeutic activity (22.60, SD ± 36.94) for intervention.

Discussion

This study highlights the critical role of OTs in acute care general medicine units, revealing the complexity and diversity of conditions they manage. It emphasizes the need for comprehensive clinical skills, cultural humility, efficient time management and effective discharge planning to enhance patient outcomes. This study underscores the value of OTs in acute care and their ability to manage fluctuating patient needs efficiently in a fast-paced environment.

Keywords: General medicine, occupational therapy, cultural humility, self-care, therapeutic activity

Introduction

Occupational Therapy in Acute Care

In the United States, approximately 30% of occupational therapists (OTs) work in hospital settings (U.S. Department of Labor, 2022). One specific setting within the hospital where OTs practice is acute care, where OTs may provide evaluation and intervention in areas of critical care, medical-surgical, neurology, orthopedics, behavioral health, pediatrics, and general medicine (AOTA, 2017). In general, an OT's role is to minimize hospital-related conditions, support patients in returning safely to the community, and reducing patient length of stay (Pritchard et al., 2019). OT services in the acute care setting include evaluating patients using interviews and assessments to identify client factors and social supports or barriers that may influence a patient upon discharge (Britton et al., 2015, Griffin & McConnel, 2001, Kinney et al., 2022, & Smith-Gabai, 2017). The findings from these assessments serve as a guide to decide which treatment approaches best fit the patient's needs. Therapists may choose to provide education on home modifications and assistive devices to improve occupational performance (AOTA, 2017). Therapists also determine the need for splints to protect joints and prevent skin breakdown, evaluate bed mobility, assess eating abilities, and train families and caregivers on range-of-motion exercises and transfers (AOTA, 2017).

Impact of Occupational Therapy in Acute Care

Emerging research has shown the benefits of OT in acute care (Edelstein et al., 2022 & Freburger et al., 2020). Pritchard et al. (2019) found that OT improved patient satisfaction, patient outcomes, and productivity in the hospital. More intense OT services were also shown to lead to greater functional improvements in patients

(Marston et al., 2022). Rogers et al. (2017) reported that compared to other medical professions, OT was the only field where increased spending resulted in decreased readmission rates for medical conditions such as heart failure, acute myocardial infarction, and pneumonia. Additionally, Rogers et al. (2017) suggested that despite the fact that OT services were generally a low cost, about 12 to 20 dollars per patient, only 21%-28% of patients received OT services. Researchers have suggested that patients who receive more OT services had a lower risk of death or being readmitted and suggested that it is beneficial to increase spending on OT services and increase the amount of therapy provided in the acute care setting as this can lead to improved patient quality of life and hospital productivity (Freburger et al., 2020 & Rogers et al., 2017).

Occupational therapy interventions performed in acute care are combined into categories based on Current Procedural Terminology (CPT) codes and include therapeutic exercise, therapeutic procedures, development of cognitive skills, therapeutic activities, and ADL/self-care training (Edelstein et al., 2021). Edelstein et al. (2021) found reduced risks of readmission were also associated with higher frequencies of OT services more and ADL/self-care retraining, suggesting that OT services can reduce readmission in the acute care setting (Edelstein et al., 2021). Further, in a metanalysis conducted by Lockwood & Porter (2022), OT interventions for some adult hospitalized patients were effective in reducing readmission rates, including those who were admitted for managing acute medical conditions or surgery.

General Medicine Occupational Therapy

Although OTs play an important role in the acute setting, there is limited research regarding the role of OT specifically on the acute general medicine unit as this population has often not been well defined. In a retrospective study of seven hospital sites conducted Verma et al. (2017), the number of patients admitted to general medicine services was shown to be growing by 32.4% between 2010/2011 and 2014/2015. Within acute general medicine units, practitioners encounter a wide variety of conditions, populations, and complexities, with the most frequent conditions being stroke, heart failure, chronic obstructive pulmonary disease (COPD), and pneumonia. However, patients may vary in individual attributes, the reason for hospital admission, and outcomes within each situation (Verma et al., 2017).

It is essential to understand general medicine care to encourage a high-quality, continual healthcare system (Verma et al., 2017). A challenge exists in delineating the characteristics of the typical patient population and comprehensively outlining their needs when operating within a general medicine unit. Although limited research has been conducted to describe general medicine OT services, interprofessional disciplines have increased research on general medicine that may lead to improved services for patients through the development of clinical pathways and programming with the utilization of this data (Bergbower et al., 2020).

The purpose of this study was to identify typical general medicine patients and classify the types of services patients received. Further research could increase understanding of the characteristics of the typical general medicine patient population and associated therapy services. These findings may help to further define the role of

OT services and their efficacy in acute general medicine. It is expected that the results from this study may lead to improved services for general medicine patients through the development of clinical pathways and programming with the utilization of this data.

Methodology

Study Design

A retrospective review of patient medical records was conducted to categorize the typical acute general medicine patient and the types of occupational services offered in this context. The data analyzed was de-identified, and the study received approval from a University Institutional Review Board, obtaining exempt-IRB status.

Setting

The data analyzed was from an urban not-for-profit academic medical center in the Midwest. The medical center has 676 beds total and 151 of those beds are on the general medicine floors. The average daily census is 215. There are 17 full time OTs and 19 registry OTs employed. The daily therapist caseload is 10 patients per day and OTs co-treat with physical therapy and/or speech and language pathology as needed and individualized to the needs of the patient.

Procedures

The research team consisted of an acute care OT, OT university faculty member, and three OT students. A list of medical records was provided by the acute care OT consisting of patients who were admitted to the general medicine units and had received OT services. This includes patients who were screened for OT services and did not require further therapy needs. Patients who were screened for OT did not have billing codes to reflect formal evaluations. The research team met to discuss data

extraction procedures and ensure consistency and validity with data extraction amongst the team before initiating the review for this study. 16 data points were identified to be extracted from the medical records. Manual data extraction of 250 electronic medical records was completed using EPIC, an electronic health record. Data was extracted, entered, and managed through a password-protected data sheet that only the research team had access to. Medical recorded numbers were de-identified and assigned an anonymous code and no identifying information was collected. Each member of the research team was assigned an equal number of medical record numbers to review. Team members met weekly to triangulate any outstanding issues with data extraction for assigned reviews to ensure consistent data collection practices and allow for frequent review for error detection in the data collection process.

Participants

Participants included 250 patients admitted to an urban medical center in the Midwest between January 1 and June 30, 2023. Inclusion criteria consisted of patients who were referred to and received OT services and were discharged from the unit. This includes those who did not have a formal evaluation but were screened for OT services and did not receive additional OT services. Participants who did not receive OT services, were deceased, and/or were currently on the general medicine unit were not included in the study.

Measures

Descriptive information from identified patient medical records was analyzed. Five items collected were specific to patient demographics and included age, sex, race, ethnicity, and prior living situation. Age was obtained as a number from the patient's

date of birth within the medical record. Race and ethnicity were defined by the National Institutes of Health (NIH, 2022) as white, black, or African American, Asian, and other. Ethnicities were defined as not Hispanic or Latino, Hispanic or Latino, and were located within the medical record with some annotated as refused/not provided. Eleven items collected were specific to hospital course and OT services that included admitting diagnosis, admission date, date of discharge, length of stay, actual discharge disposition, OT discharge disposition recommendation, Current Procedural Terminology (CPT) billing codes and units, number of OT encounters throughout the stay, and if the patient received speech-language pathology or physical therapy services. International Classification of Disease (ICD) 10 codes were used to classify one primary admitting diagnosis for each medical record (World Health Organization, 2023). These diagnoses were later classified into 18 diagnostic categories through a standardized coding procedure developed by the research team where the team went through each diagnosis together to determine which category it belonged. Categories included cardiac, immune, urinary, endocrine, infection, oncology, ortho, neuro, respiratory, gastrointestinal, vascular, renal, hepatology, weakness/fall, adverse reaction, mental health, pain, and syncope as many diagnoses were only represented once amongst the sample. Length of stay was identified within each patient's discharge summary within their electronic medical record. CPT billing codes were determined through documented productivity OT notes. CPT billing codes and units were defined by the Centers for Medicare and Medicaid Services (CMS) (*List of CPT/HCPCS Codes*, 2023).

Data Analysis

Descriptive statistics were used to provide a summary of data points collected and were analyzed using Excel. Descriptive statistics are effective when describing a population as it allows the ability to sort and categorize the variables (Kaliyadan & Kulkarni, 2019).

Results

The average age of the 250 patients in this study was 64.98 years old (SD ±16.33), with a range of 19-100 years old. Complete patient demographics and characteristics are represented in Table 1.

Table 1

Characteristics of Patient Sample

Characteristic	n	%
Race		
Black or African American	112	44.80
White	89	35.60
Other	36	14.40
Asian	10	4.00
Refusal/Not Provided	3	1.20
Ethnicity		
Not Hispanic or Latino	204	81.60
Hispanic or Latino	44	17.60
Refusal/Not Provided	2	0.80
Sex		
Males	116	46.40
Females	134	53.60
Physical Therapy		
Yes	241	96.40
No	9	3.60
Speech-Language Pathology		
Yes	55	22.00
No	195	78.00

The types and frequency of OT billing codes, and evaluation types are represented in Table 2. On average, patients that were seen for OT on the general medicine unit had an average length of stay of 8.55 days and were seen for an average 3.14 OT sessions.

Table 2

Use of Evaluation and Therapeutic Billing Codes

Variable	n (%)	Mean	Standard Deviation
Evaluation Minutes			
Low Evaluation	101 (40.40)	6.66	8.80
Mod Evaluation	131 (52.40)	9.46	10.76
High Evaluation	7 (2.80)	0.42	2.83
Re-Evaluation	19 (7.60)	1.38	5.28
Billing Minutes			
Self-Care	136 (54.40)	23.34 (136)	36.81
Therapeutic Activity	136 (54.40)	22.60 (136)	36.94
Therapeutic Exercise	46 (18.40)	6 (46)	19.06
Orthotic Fitting	2 (0.80)	0.24 (2)	5.28

Out of 250 patients, 192 individual diagnoses were collected from the medical record review. These were then consolidated into 18 more broad categories. Out of the 18 categories, respiratory diseases were represented as the most common patient diagnosis. See Figure 1 for additional details related to patient diagnoses.

Figure 1

Patient Diagnoses (n=250)

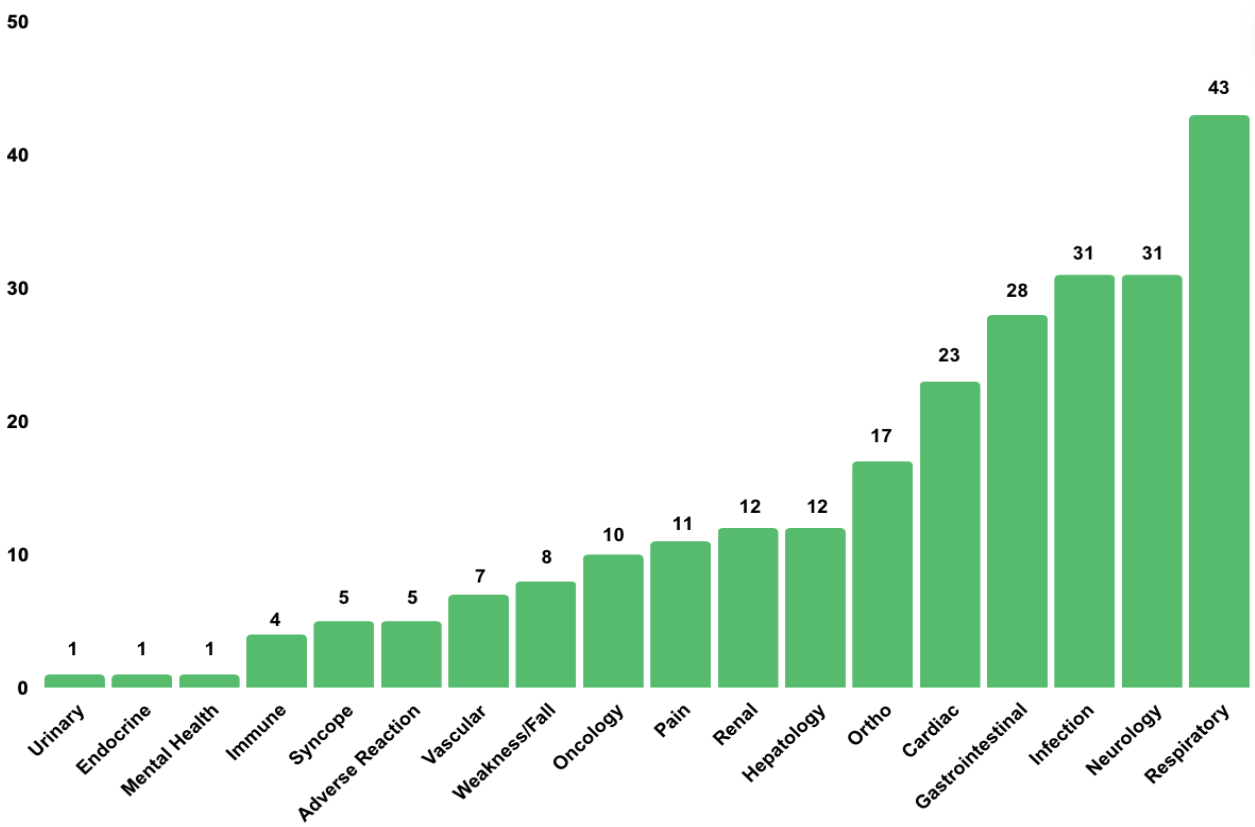


Figure 2 represents the actual patient discharge disposition from the general medicine unit. Seventy-seven percent of the patients who were reviewed for this study were discharged home from the hospital either with or without the need for home health services. Figure 3 represents the OT discharge recommendation and sixty-four percent of the patients in this study were recommended to be discharged home either home with no OT needs or to receive home health OT services.

Figure 2

Actual Discharge Disposition (n=250)

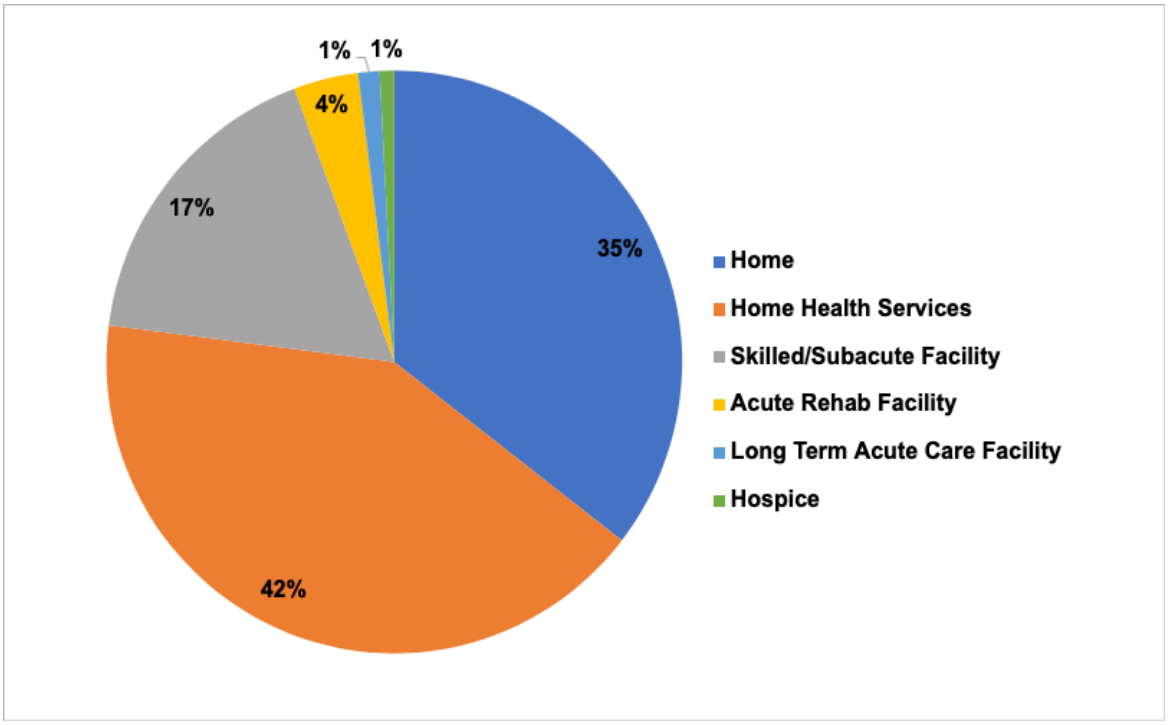
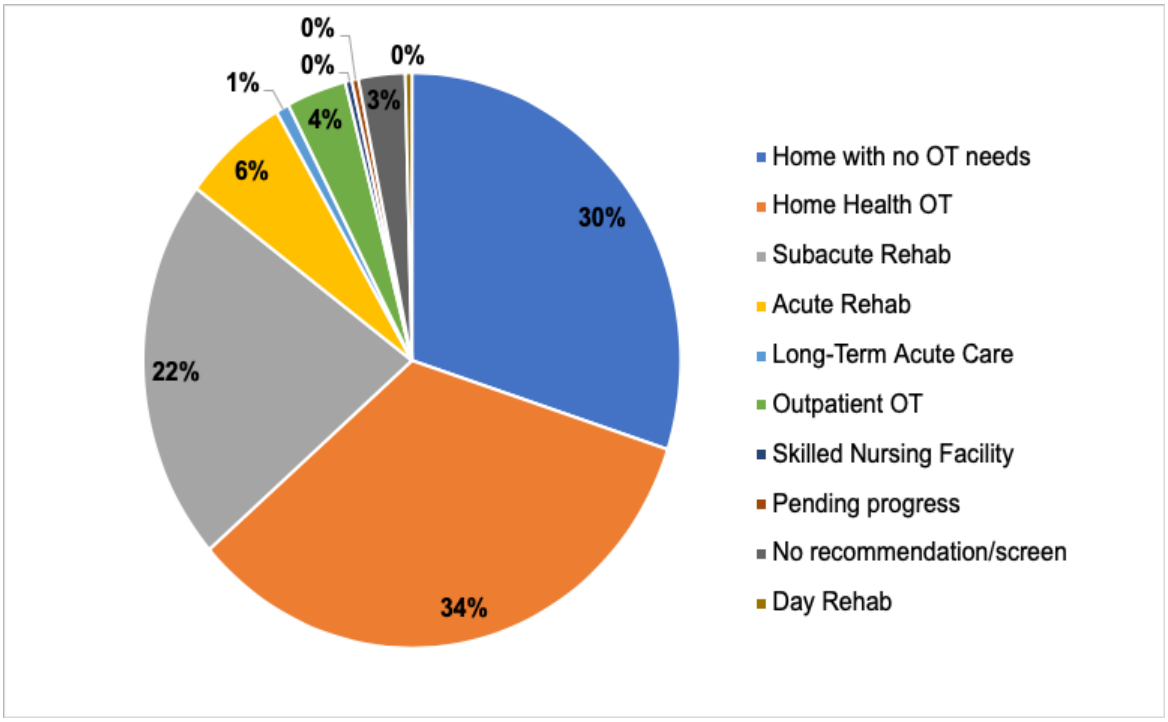


Figure 3

OT Discharge Recommendation (n=250)



Discussion

Occupational therapists practicing on acute general medicine units are exposed to a wide range of diagnoses, requiring various skill sets to meet the needs of the patients they treat. In this study, 192 individual diagnoses and 18 different diagnostic categories were identified as encountered within the general medicine unit over a six-month period. This exhibits the required complexity of an OT's knowledge on the general medicine unit and suggests OTs working on the general medicine unit need to efficiently and skillfully transition between skills needed to treat a patient with a neurological condition (i.e., use motor learning approaches, neuromuscular re-education, electrical stimulation, etc.) to someone with a respiratory diagnosis (i.e., teaching energy conservation, ADL, and breathlessness training, etc.).

In this study, the top three diagnostic categories included respiratory, neurology, and infection. Out of the 18 diagnostic categories, respiratory conditions were reported to be the most common (n=43). It is important to note that COVID-19 and co-morbidities could be an implication for higher admission of respiratory conditions in the hospital (Jolley et al., 2022; Pant et al., 2020). The highest repeat diagnosis in this study was acute respiratory failure with hypoxia.

Not only is it important that OTs be competent in providing care to a wide variety of diagnoses, but they must also be aware of the various patient demographics. The hospital where the data was extracted is in an urban city where there is a diverse population. Most of the patients from the sample were Black or African American, accounting for 44.80% of the sample. Individuals who were not Hispanic or Latino accounted for 81.60% of the sample. Moreover, the age range of the general medicine

unit in this study varied from 19-100, requiring OTs to be well-prepared to address a broad spectrum of generations. Given the diversity in age, race, ethnicity, OTs can effectively utilize cultural humility as a tool for providing comprehensive treatment to patients on the general medicine unit.

The use of OT was evaluated based on the number of encounters, level of evaluation, and billing code types. Patients in the general medicine unit received an average of 3.144 (SD ± 3.048) OT encounters. This variation may be due to the wide variety of diagnoses and complexities seen on the unit. The most common evaluation type in this study was moderate, indicating the complexity of patients on acute care general medicine units. An OT evaluation of moderate complexity requires an assessment identifying three to five performance deficits that result in limitations of activities, and clinical decision-making that involves moderate complexity (Bhatnagar, 2023). The two most common billing codes used were self-care (n = 136) and therapeutic activity (n = 136). This accurately reflects the holistic view of the OT profession and the focus on using occupations to increase independence and participation in meaningful activities (Pellegrini et al., 2018). Compared to patients re-admitted, there was a significantly higher percentage of patients not re-admitted that received activities of daily living (ADLs) or self-care training (Edelstein et al., 2021). This aligns with self-care and therapeutic activity being the two most common billing codes used in the present study, which could indicate that acute OT services may help minimize the risk of readmission.

With respect to the average length of stay in the general medicine unit in this study, it was 8.55 days (SD ± 10.64), which is high compared to the 5.9-day average

acute care length of stay (OECD Data, 2023). It is important to note that this national average does not specify if patients received OT services. It is also slightly higher than the median length of stay of seven days in a previous study by Jenkins et al., (2023, which studied 6628 patients across multiple sites, who received physical and occupational therapy during the hospital stay. Another factor contributing to the extended length of stay in this study may be indicative of insurance-related barriers. When patients face insurance obstacles, they might stay in the hospital for a prolonged duration until an appropriate discharge recommendation can be arranged. Additionally, the length of stay in this study might surpass the national average because the data originated from a large urban medical center, functioning as a level II trauma center in an urban area that frequently receives medically complex patients. The complexity of patient diagnoses emerges as a significant contributing factor to extended hospital stays. Given the diverse array of patient diagnoses, individuals may transfer between general medicine units and other medical, surgical, or intensive care units throughout their hospitalization. These transfers, accompanied by changes in medical status, may contribute to prolonged stays.

General medicine OTs provide discharge recommendations based on each individual patient. The OT considers prior level of functioning, diagnosis and implications, and medical complexities for an appropriate discharge recommendation. These recommendations can include home with no OT needs, home health OT, subacute rehabilitation, acute rehabilitation, long term acute care facility, outpatient OT, and skilled nursing facility. In this study, researchers found that OT recommended most patients (30%) to be discharged home with home health OT. Based on actual discharge

disposition by the case manager, data reflected these recommendations, where home health services were the most common forms of discharge (41.2%). The secondary most popular discharge disposition was home without services (35.2%). To be recommended to the community setting, a person must be safe to live at home and have support available. The long-term acute care facility and the acute rehabilitation were documented as the least common discharge dispositions. Researchers found that the data shows that discharge recommendations allowed the majority (76.4%) of patients to return to the least restrictive environment. Acute rehabilitation and long-term acute care facilities are the most restrictive environments for patients discharging from acute care. The data supports research (Molitor et al., 2021) that allows patients the greatest chance at success in living up to their full potential. The home environment is considered the least restrictive environment where patients can achieve successful and client-centered recovery.

Readmission rates may decrease with a higher concordance between therapist discharge recommendations and actual post-acute discharge setting (Chou et al., 2021). In this study, researchers identified a concordance of 65.6% between OT discharge recommendations and actual discharge disposition and discordance of 34.4%. Some of the OT recommendations were home with no OT needs (30%) and home health OT services (34%). Comparing this to the actual discharge disposition, 36% of patients were discharged home and 41% were discharged with home health services. This could mean that patients received home health PT services and not necessarily home health OT services only. This can indicate that OT discharge

recommendations were considered for the actual discharge disposition. However, this cannot be assumed due to not having this information.

OTs collaborate with other disciplines on acute care general medicine units to prevent services from being repeated, decrease health care costs, and help increase patient satisfaction overall (Alotaibi et al., 2019). OTs collaborate with nurses, physicians, case managers, physical therapists, and speech-language therapists. In the interprofessional relationship with physical therapists, 96.40% of patients saw both OT and physical therapy. Along with physical therapy, speech-language pathologists have interprofessional collaboration with OT. Patients who received both speech-language pathology and OT services made up 22% of participants in this study. Within the interprofessional team, an OT must prioritize effective communication and advocacy to secure the optimal outcomes for the patient. Interprofessional collaboration has also been found to improve patient satisfaction, increase job satisfaction and is beneficial to all healthcare providers (Bosch & Mansell, 2015). Acknowledging individual roles, developing trust and confidence, overcoming personal differences and adversity, along with leading as a collective team, are essential when working as an interdisciplinary team (Bosch & Mansell, 2015). These skills are essential for OTs to deliver high-quality care to patients and to foster collaboration among other healthcare professionals.

Implications to Practice

The findings from this study underscore several key implications for OT practice in acute general medicine units:

Comprehensive Training and Mentorship: OTs must receive extensive training and mentorship to develop the diverse skill sets required to treat the wide range of

diagnoses encountered in general medicine units. For example, one of the most common diagnostic categories in this study was neurological conditions and infections. Neurologic conditions may result in both physical and cognitive impairments and a general medicine OT may need to be equipped with adequate preparation of cognitive strategies to provide care. Within the neurology category, altered mental status was treated the most. This diagnosis has implications of trauma, toxic ingestion, stroke, drug use, environment changes, delirium, and infection (Foidel et al., 2020 & Patti, 2023). Understanding each implication and how they may impact a treatment session will assist an OT in treating altered mental status. Specifically, OTs should have education and training for assessment, prevention, and management of delirium as 29-31 percent of patients will develop delirium while in the hospital (Foidel et al., 2020 & Vasilevskis et al., 2012). By employing a trauma-informed care approach and directing their focus to mental health considerations, an OT will be better prepared to work with patients experiencing altered mental status. In addition to adopting a mental health perspective, an infection management perspective is a necessity in general medicine units. As infections being the second highest ranking diagnostic category, practicing infection management protocols for various infections before entering and exiting a room ensure safety among other patients and staff on the unit. Being trained on personal protective equipment and hand hygiene principles will allow an OT to be better prepared for general medicine patients. Beyond infection prevention, OTs play a vital role in educating on disease management and implementing interventions to support health maintenance.

Cultural Humility: Given the diverse patient demographics, OTs should adopt cultural humility practices to provide patient-centered care. Cultural humility is a concept of self-reflection, learning from patients' experiences, acknowledging power dynamics, and challenging individuals to address inequalities (Stubbe, 2020). Cultural humility must be applied within this setting to cultivate a therapeutic relationship with the patient that supports re-engagement in meaningful and cultural-based occupations. It is critical to apply cultural humility and critically analyze potential disparities in healthcare access. Recent studies have identified reduced utilization of occupational therapy services based on socioeconomic, insurance type and ethnicity (Jolley et al., 2022; Kinney et al., 2022). Identification of these disparities in health care access and utilization of cultural humility will better prepare OTs working in general medicine settings.

Effective Time Management: OTs must develop strong time management skills to handle fluctuating and diverse diagnoses efficiently. This ensures that all patients receive timely and appropriate care, which is essential in a fast-paced acute care environment. Along with mentorship and training, time management is a necessary skill in order to treat large fluctuating diagnoses on the general medicine floor (Britton et al., 2015).

Limitations and Future Research

Several limitations should be considered in the interpretation of the study's findings. First, the reliance on data from a single medical center limits the generalizability of the results. Additionally, the retrospective nature of the study may hinder the capture of real-time changes in patient conditions, treatments, or healthcare practices, imposing temporal limitations. There was also the potential for human errors

during manual data extraction. Lastly, data was collected from electronic medical records which may not provide the full scope of patient information required to make conclusions about various aspects of the general medicine patient. Addressing these limitations enhances the transparency of the study's constraints and acknowledges the need for careful consideration.

In future studies, readmission rates can be evaluated to see if there is a correlation between patients who received occupational services and if they were readmitted or not within the next 30 days. In addition, co-treatments could be evaluated to assess what other disciplines are involved and display the effectiveness of interprofessional collaboration. Another area of future research is how comorbidities affect the length of stay and billing in the acute care setting. Patients were classified by their admitting diagnosis, however many patients presented with comorbidities that could impact how they present in the hospital. Lastly, there is an opportunity to evaluate the incorporation of more various intervention types based on patient diagnoses in future studies.

Conclusion

This study explored the pivotal role of OTs in acute care, specifically within the dynamic realm of the general medicine unit, while concurrently unraveling gaps in existing research. The findings illuminate the intricacies and diversity of this setting. The identification of 192 diagnoses underscores the sheer complexity and variability of conditions encountered in the acute care general medicine unit, emphasizing the need for OTs to wield a multifaceted skill set tailored to meet the unique needs of each patient. From specialized care in respiratory, neurology, and infection diagnoses to the

nuanced understanding of patient demographics, this study unveils the profound diversity of challenges OTs face. The identification of a moderate complexity in billing codes for self-care and therapeutic activity signifies an embrace of a holistic and occupation-based approach by OTs. Operating within interprofessional teams, the collaboration of diverse knowledge backgrounds amplifies the impact on patient outcomes and job satisfaction. Discharge settings, particularly the noteworthy trend toward home, signal a strategic move towards the least restrictive environment for optimal patient recovery. The discharge planning process emerges as a linchpin, where OTs, armed with a foundational knowledge of diagnoses, adherence to the Occupational Therapy Code of Ethics, practice of cultural humility, and collaboration skills, play a pivotal role in identifying and recommending the safest discharge location.

This study underscores the value of OTs in acute care, elucidating their commitment to enhancing patient independence and meaningful participation in activities. By adeptly addressing gaps in research, OTs stand poised to deliver tailored interventions, elevating the overall quality of care in the general medicine setting. This research can help define the narrative of OT in general medicine and potentially lead to improved services for patients through the development of clinical pathways and programming with the utilization of this data.

References

Alotaibi N. M., Manee F. S., Murphy L. J., & Rassafiani, M. (2019). Knowledge about and attitudes of interdisciplinary team members toward occupational therapy practice: Implications and future directions. *Med Princ Pract, 28*(2), 158-166. https://doi.org/10.1159/000495915

American Occupational Therapy Association. (2017). *Occupational therapy's role in acute care.* American Occupational Therapy Association. https://www-aota-org.ezproxy.rush.edu/~/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/RDP/Facts/Acute-Care.pdf

AOTA 2020 Occupational Therapy Code of Ethics. (2020). *American Journal of Occupational Therapy*, *74*(Supplement_3), 7413410005p1-7413410005p13. https://doi.org/10.5014/ajot.2020.74s3006

Bergbower, E. a. S., Herbst, C., Cheng, N., Aversano, A., Pasqualini, K., Hartline, C., Hamby-Finkelstein, D., Brewer, C., Benko, S., & Fuscaldo, J. (2020). A novel early mobility bundle improves length of stay and rates of readmission among hospitalized general medicine patients. *Journal of Community Hospital Internal Medicine Perspectives.*, *10*(5), 419–425. https://doi.org/10.1080/20009666.2020.1801373

Bhatnagar, R. (2023). Occupational therapy medical billing & coding guide for 2023. *Neolytix*. https://neolytix.com/occupational-therapy-medical-billing-coding-guide/

Bosch, B., & Mansell, H. (2015). Interprofessional collaboration in health care. *Canadian Pharmacists Journal / Revue Des Pharmaciens Du Canada*, *148*(4), 176–179. https://doi.org/10.1177/1715163515588106

Britton, L., Rosenwax, L., and McNamara, B. (2015). Occupational therapy practice in acute physical hospital settings: Evidence from a scoping review. *Australian Occupational Therapy Journal*, *62*: 370-377. https://doi.org/10.1111/1440-1630.12227

Chou, A., Euloth, T., Matcho, B., Pastva, A.M., Bilderback, A., & Freburger, J.K. (2021). Is discordance between recommended and actual postacute discharge setting a risk factor for readmission in patients with congestive heart failure? *Journal of the American Heart Association, 10*(15), e020425. https://doi.org/10.1161/JAHA.120.020425.

Edelstein, J., Walker, R., Middleton, A., Reistetter, T., Gary, K. W., & Reynolds, S. (2022). Higher frequency of acute occupational therapy services is associated with reduced hospital admissions. *American Journal of Occupational Therapy, 76*(1). https://doi.org/10.5014/ajot.2022.048678

Foidel, S.E., Birrer, C.M., Stinogel, A.K., & Krusen, N.E. (2020). Delirium in acute care: Occupational therapists' perspectives, experiences, and practice implications. *Journal of Acute Care Occupational Therapy*, *3*(1), 1-25.

Freburger, J. K., Chou, A., Euloth, T., Matcho, B. (2020). Variation in acute care rehabilitation and 30-day hospital readmission or mortality in adult patients with pneumonia. *JAMA Netw Open.* 3(9):e2012979. https://doi.org/10.1001/jamanetworkopen.2020.12979

Freburger, J. K., Li, D., Johnson, A. M., & Fraher, E. P. (2018). Physical and occupational therapy from the acute to community setting after stroke: Predictors of use, continuity of care, and timeliness of care. *Archives of Physical Medicine and Rehabilitation*, *99*(6), 1077–1089.e7. https://doi.org/10.1016/j.apmr.2017.03.007

Griffin, S. D., & McConnell, D. (2001), Australian occupational therapy practice in acute care settings. *Occupational Therapy International*, *8*(3), 184-197. https://doi.org/10.1002/oti.145

Jolley, S., Nordon-Craft, A., Wilson, M. P., Ridgeway, K., Rauzi, M. R., Capin, J., ... & Erlandson, K. M. (2022). Disparities in the allocation of inpatient physical and occupational therapy services for patients with COVID-19. Journal of Hospital Medicine, 17(2), 88-95. https://doi.org/10.1002/jhm.12785

Kaliyadan, F., & Kulkarni, V. (2019). Types of variables, descriptive statistics, and sample size. *Indian Dermatology Online Journal*, *10*(1), 82. https://doi.org/10.4103/idoj.idoj_468_18

Kinney, A. R., Graham, J. E., Bukhari, R., Hoffman, A., & Malcolm, M. P. (2022). Activities of daily living performance and acute care occupational therapy utilization: Moderating factors. *American Journal of Occupational Therapy*, *76*(1), 1–9. https://doi.org/10.5014/ajot.2022.049060

List of CPT/HCPCS Codes | *CMS*. (n.d.). https://www.cms.gov/medicare/regulations-guidance/physician-self-referral/list-cpt/hcpcs-codes

Lockwood K. J., & Porter J. (2022). Effectiveness of hospital-based interventions by occupational therapy practitioners on reducing readmissions: A systematic review with meta-analyses. *American Journal of Occupational Therapy, 76*(1). https://doi.org/10.5014/ajot.2022.048959

Marston, C., Koye, D. N., Goonan, R., Lim, K., Juj, G., & Klaic, M. (2022). Is there a relationship between intensity of occupational therapy and functional outcomes in hospitalised older patients? A prospective cohort study. *Australian occupational therapy journal*, *69*(5), 536–545. https://doi.org/10.1111/1440-1630.12808

Molitor, W. L., Feldhacker, D. R., Lohman, H., Lampe, A., & Jensen, L. (2021).Occupational therapy and the IMPACT Act: Part 1. A Systematic review of evidence for fall prevention and reduction, community discharge and reintegration, and readmission prevention interventions. *American Journal of Occupational Therapy*, *76*(1). https://doi.org/10.5014/ajot.2022.049044

National Institutes of Health (NIH). (2022, December 8). *Race and National Origin*. https://www.nih.gov/nih-style-guide/race-national-origin

OECD Data (n.d.). *Health care use: Length of hospital stay.* Organisation of Economic Co-operation and Development. https://data.oecd.org/healthcare/length-of-hospital-stay.htm

Pant, P., Joshi, A., Shrestha, B., Basnet, B., Bam, N., & Das, S. K. (2020). Pattern of respiratory diseases, morbidities and outcome in patients admitted in respiratory ward of a tertiary care hospital: A descriptive cross-sectional study. *Journal of Nepal Medical Association*, *58*(232), 1061-1054 https://doi.org/10.31729/jnma.5613

Patti, L. (2023, August 7). *Change in mental status*. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK441973/#:~:text=Young%20adults%20most%20often%20present,alterations%20in%20the%20living%20environment.

Pellegrini, M., Formisano, D., Bucciarelli, V., Schiavi, M., Fugazzaro, S., & Costi, S. (2018). Occupational therapy in complex patients: A pilot randomized controlled trial. *Occupational Therapy International*, *2018*, 1–11. https://doi.org/10.1155/2018/3081094

Pritchard, K. T., Fisher, G., Rudnitsky, K. M., & Ramirez, R. D. (2019). Policy and payment changes create new opportunities for occupational therapy in acute care. *American Journal of Occupational Therapy, 73*(2), 7302109010p1-7302109010p8. https://doi-org.ezproxy.rush.edu/10.5014/ajot.2018.732002

Rogers, A. T., Bai, G., Lavin, R. A., & Anderson, G. F. (2017). Higher hospital spending on occupational therapy is associated with lower readmission rates. *Medical Care Research and Review*, *74*(6), 668-686. https://doi.org/10.1177/1077558716666981

Smith-Gabai, H. (2017). An action research approach to occupational therapy discharge planning in the acute care setting. *The American Journal of Occupational Therapy, 71*(4_Supplement_1), 7111505068p1. https://doi.org/10.5014/ajot.2017.71S1-RP202B

Stubbe, D. E. (2020). Practicing cultural competence and cultural humility in the care of diverse patients. *Focus (American Psychiatric Publishing), 18*(1), 49-51. https://doi.org/10.1176/appi.focus.20190041

U.S. Department of Labor. (2022, September). *Occupational outlook handbook: Occupational therapists*. U.S. Bureau of Labor Statistics. https://www.bls.gov/ooh/healthcare/occupational-therapists.htm

Vasilevskis, E. E., Han, J. H., Hughes, C. G., & Ely, E. W. (2012). Epidemiology and risk factors for delirium across hospital settings. *Best Practice & Research Clinical Anaesthesiology*, *26*(3), 277–287. https://doi.org/10.1016/j.bpa.2012.07.003

Verma, A. A., Guo, Y., Kwan, J. L., Lapointe-Shaw, L., Rawal, S., Tang, T., Weinerman, A., Cram, P., Dhalla, I. A., Hwang, S. W., Laupacis, A., Mamdani, M. M., Shadowitz, S., Upshur, R., Reid, R. J., & Razak, F. (2017). Patient characteristics, resource use and outcomes associated with general internal medicine hospital care: the General Medicine Inpatient Initiative (GEMINI) retrospective cohort study. *CMAJ open*. *5*(4), E842–E849. https://doi.org/10.9778/cmajo.20170097

World Health Organization (2023, February 14). *International Classification of Diseases (ICD)*. https://www.who.int/standards/classifications/classification-of-diseases