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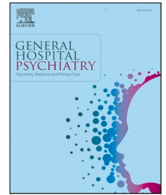

The diagnosis of malingering in general hospitals in the United States: A retrospective analysis of the National Inpatient Sample

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ABSTRACT

Objective: To characterize the socio-demographics and comorbid medical and psychiatric diagnoses of patients in the general hospital diagnosed with malingering.
Method: We conducted a retrospective observational cohort study using data from the 2019 National Inpatient Sample, an all-payors database of acute care general hospital discharges in the United States, querying for patients aged 18 and older discharged with a diagnosis of "malingerer [conscious simulation]," ICD-10 code Z76.5.
Results: 45,645 hospitalizations (95% CI: 43,503 to 47,787) during the study year included a discharge diagnosis of malingering. 56.1% were for male patients, and the median age was 43 years (IQR 33 to 54). Black patients represented 26.8% of the patients with a discharge diagnosis of malingering, compared to 14.9% of all patients sampled. Zip codes in the lowest household income quartile comprised 39.9% of malingering diagnoses. The top categories of primary discharge diagnoses of hospitalizations included medical ("Diabetes mellitus without complications"), psychiatric ("Depressive disorders"), and substance use ("Alcohol-related disorders") disorders. "Sepsis, unspecified organism," was the most common primary diagnosis.
Conclusion: The striking overrepresentation of Black patients in hospitalizations with diagnosis of malingering raises concern about the roles of implicit and systemic biases in assigning this label. The disproportionate number of patients of low socioeconomic status is further suggestive of bias and disparity. Lower health literacy in these populations may result in a limited knowledge of traditional ways to meet one's needs and thus greater reliance on malingered behavior as an alternative means. Accurate description of these patients' socio-demographics and comorbid medical and psychiatric diagnoses with reliable data from large samples can lead to improved understanding of how the malingering label is applied and ultimately better patient care.

1. Introduction

Deceptive patients—those with factitious disorder or malingering behaviors—pose a particular challenge when presenting or admitted to a general hospital. While both forms of deception syndrome involve conscious deception, malingering is distinguished from factitious disorder by its association with tangible secondary gain, as opposed to the latter's historical connection to the purportedly immaterial benefits of assuming the sick role [1]. Given what must be ruled out (i.e., somatic illness with a "natural" etiology, alternative psychopathology), ruled in (i.e., a deception syndrome), and intervened upon (i.e., discerning and addressing the patient's motives), decisions about "what to do with" malingering patients often fall to the consulting psychiatrist.

There is abundant literature but little quantitative work that characterizes patients who engage in deceptive behavior in medical-surgical settings [2–7]. The studies that do exist primarily rely on self-report or physician report, which limits reliability. Rismiller and colleagues measured a prevalence of feigned psychopathology of 10–12% based on anonymized self-reports of patients on an inpatient psychiatry unit [8,9]. Emergency department psychiatrists' estimates of malingering

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behavior ranged from 13% in 1996 to 20% in 2009 [10,11]. A survey of neuropsychologists found that the most common conditions suspected to be malingered included mild head injury, fibromyalgia, chronic fatigue syndrome, and chronic pain [12]. Malingering has been studied more extensively in forensic settings which make use of psychometric measures and tests [13]; however, their practical application in the general hospital is limited. Additionally, one prior study used administrative claims data to retrospectively examine the demographics of individuals diagnosed with malingering and found disparities in malingering diagnosis based on race and sex [14]. This analysis did not, however, explore the comorbid diagnoses associated with malingering. This lack of information contributes to malingering being challenging to detect and intimidating to name. Physicians may fear that incorrectly labeling behavior as deceptive could lead to stigma and decreased access to treatment. At the same time, not labeling such behavior accurately may result in extensive, unnecessary testing and iatrogenic harm for patients, as well as burnout among healthcare providers [2,3]. Physicians must also be aware of the roles that race-based biases can play in motivating suspicion for malingering behavior.

Reliable data from a large sample of medical hospitalizations would allow for a more accurate characterization of the diagnosis of malingering in usual clinical practice and afford a better understanding of the types of conditions and factors associated with it. This study explores the diagnosis of malingering among acute care hospital discharges in the United States in 2019 using a nationally-representative all-payors database of hospital discharges.

2. Methods

2.1. Data source

This analysis utilized the 2019 edition of the National Inpatient Sample (NIS) from the Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality (AHRQ) [15]. The NIS is an all-payors database of general hospital discharges in the United States, which samples discharges from 4568 acute care hospitals in 49 states, covering 98% of the US population. In order to provide nationally-representative estimates, hospitals are stratified on the basis of geographic region, hospital ownership, teaching status, and bed size, and then sampled 20% without replacement within strata. A weight is then applied to sampled hospitalizations to extrapolate to national numbers. The NIS includes information about patient demographics, hospital characteristics, and discharge diagnoses. As the study was performed on publicly available de-identified data, the Mass General Brigham Institutional Review Board determined this to be Not Human Subjects Research.

2.2. Data selection and analysis

Hospitalizations involving a diagnosis of malingering were defined as any whose discharge diagnoses included the *International Statistical Classification of Diseases, Tenth Revision, Clinical Modification* (*ICD-10-CM*) code Z76.5 (malingerer [conscious simulation]) [16]. We examined this group for socio-demographic variables in addition to associated medical and psychiatric diagnoses to better characterize how this label is being applied. We limited our query to adult patients (aged 18 years and older). Comorbidities were classified into diagnostic categories using the Clinical Classifications Software Refined (CCSR) codes [17], which groups the raw ICD-10-CM codes into clinically-relevant categories – for instance, clustering the various unipolar depression codes into the group MBD002 "Depressive disorders."

All analyses were conducted on data weighted according to the appropriate NIS discharge weight to obtain nationwide estimates. Due to the survey design of the NIS, all values come with an associated variance derived from the sampling methodology. This variance is presented for the overall number of patients, but weighted point estimates are provided for all other variables. Due to the non-normal distribution of age, length of stay, and total hospital charges, these values are reported as medians with interquartile range (IQR). Analyses were conducted using IBM SPSS Statistics (Version 29; IBM Software, Inc., Armonk, NY). This study is reported in accordance with the REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) statement [18].

3. Results

Among the 30,218,268 discharges for patients aged 18 years and older from general hospitals in the United States in the 2019 NIS, an estimated 45,645 patients (95% Confidence Interval: 43,503 to 47,787) were discharged with a diagnosis of malingering, for an overall diagnosis rate of 0.15%. Fifteen of the 45,645 discharges included a diagnosis code only for malingering without other secondary diagnoses. Among all hospitalizations with a malingering diagnosis, there was a slight predominance of male patients, who made up 56.1% of discharges; the median age of patients was 43 years (IQR 33 to 54). Patients were represented across the age spectrum (Fig. 1), with age peaks for patients in their late 30s and early 50s. Black patients represented 26.8% of the patients with a discharge diagnosis of malingering, compared to 14.9% of all patients sampled. Zip codes in the lowest household income quartile comprise 39.9% of malingering diagnoses, and full demographic information for hospitalizations with and without a discharge diagnosis of malingering is given in Table 1.

At the time of discharge, 74.0% of hospitalizations with a diagnosis of malingering ended with discharge home without in-home services, while 9.7% involved discharge to other facilities. Approximately 10% of hospitalizations with a malingering diagnosis ended in a discharge against medical advice (AMA). The median length of stay for hospitalizations involving a diagnosis of malingering was 3 days (IQR 2 to 6 days), with median hospital charges of $25,636 (IQR $13,676 to $47,990). Overall charges for hospitalizations with a diagnosis of malingering totaled $1.96 billion with an aggregate length of stay of 244,000 days.

Hospitalizations involving a malingering diagnosis included a diverse range of medical and psychiatric primary discharge diagnoses (Table 2). The top CCSR categories of primary discharge diagnoses were "Depressive disorders," "Schizophrenia spectrum and other psychotic disorders," "Diabetes mellitus with complications," "Alcohol-related disorders," and "Bipolar and related disorders." Examining individual primary discharge diagnostic codes (Table S1), the top principal discharge diagnoses were "Sepsis, unspecified organism;" "Hb-SS disease [*i.e., sickle cell anemia*] with crisis, unspecified;" "Major depressive disorder" (both "recurrent, severe, without psychosis" and "single episode, unspecified"); and "Alcohol dependence with withdrawal, unspecified."

Table 3 includes data on primary discharge diagnosis based on CCSR categories for hospitalizations both with and without a discharge diagnosis of malingering. Relative risk is expressed for hospitalizations with a diagnosis of malingering relative to those without a malingering diagnosis. "Sickle cell trait/anemia," "Trauma- and stressor-related disorders," and "Stimulant-related disorders" were all more than ten times as likely to occur with a discharge diagnosis of malingering than without. Conversely, "Septicemia," "Hypertension with complications and secondary hypertension," "Acute and unspecified renal failure," and "Pneumonia (except that caused by tuberculosis)" were all about half as likely to occur with a discharge diagnosis of malingering than without.

Expanding the diagnoses to all primary and secondary discharge diagnoses for all patients with malingering reveals an extensive list of medical and psychiatric comorbidities. In terms of individual diagnoses (Table S2), the most frequent comorbidities included common medical illnesses like "Essential (primary) hypertension," "Other chronic pain," "Gastro-esophageal reflux disease without esophagitis," and "Hyperlipidemia, unspecified. " Comorbid psychiatric illnesses include "Anxiety

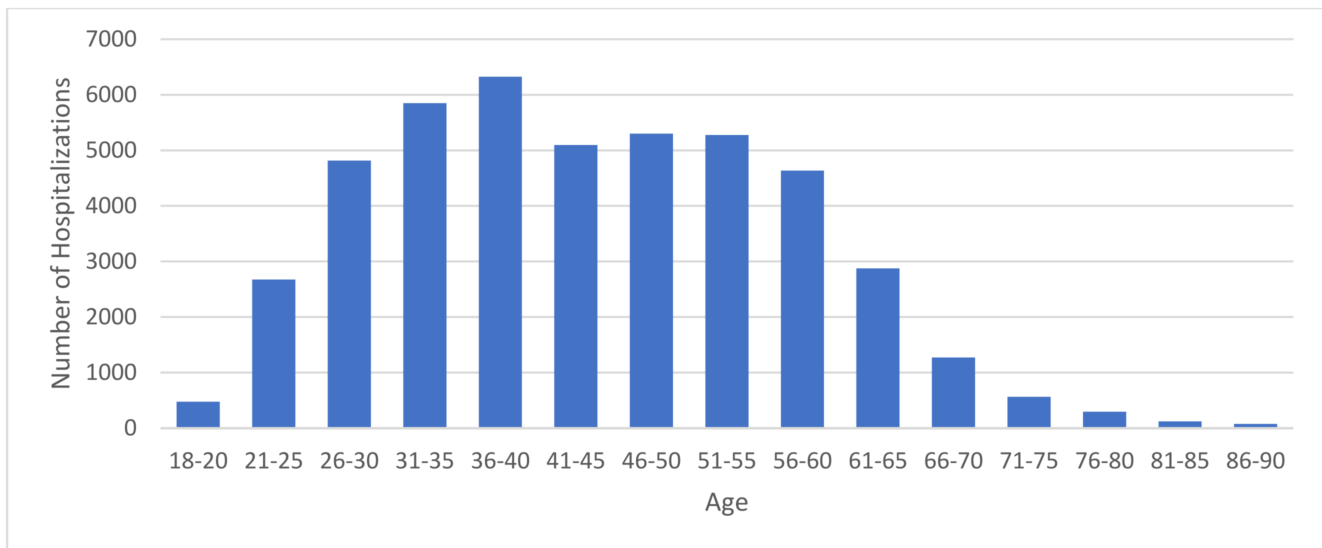

Fig. 1. Age histogram for hospitalizations involving a discharge diagnosis of malingering.

disorder, unspecified," "Major depressive disorder, single episode, unspecified," and "Suicidal ideations;" substance use disorders such as "Nicotine dependence, cigarettes, uncomplicated," and "Opioid dependence, uncomplicated," and other conditions like "Other long term (current) drug therapy," "Homelessness," "Patients noncompliance with other medical treatment and regimen," and "Patients other noncompliance with medication regimen." Table S3 shows the most common primary and secondary discharge CCSR categories for each ICD-10-CM diagnostic chapter. Lastly, Table S4 shows primary discharge diagnosis, based on CCSR categories, for hospitalizations not involving a discharge diagnosis of malingering for comparison.

4. Discussion

Malingering is a rare discharge diagnosis among patients in general hospitals, with the malingering diagnostic code present in only 0.15% of adult hospital discharges. Whereas prior studies suggest that males are more likely to be strongly or definitely suspected of malingering behavior in the psychiatric emergency department with male-to-female ratios of, for instance, 10:3 [10] and 9:2 [11], our data from the general hospital reveals a more even sex distribution with only a slight male predominance at a ratio of approximately 5:4. The NIS does not collect data on gender, and there may have been variability in the definition of "sex" used by the various reporting institutions. Malingering behavior appears to exist across the lifespan, though patients over 65 years are less likely to be labeled as malingering.

Strikingly, 26.8% of the patients with a discharge diagnosis of malingering were Black, compared to 14.9% of all patients sampled. This finding may be connected in part to the high frequency of sickle-cell disease as a comorbid diagnosis (Table S1), with individuals with sickle cell crisis being ten times more likely to be labeled as malingering than not. Together, these findings suggest bias and racism may factor into physicians' suspicion for malingering behavior. Such a pattern is unfortunately also thematically consistent with well-documented and extensive evidence that healthcare providers systemically undertreat Black Americans for pain [19].

Patients of lower socioeconomic status are also highly represented in the malingering sample. Zip codes in the lowest household income quartile comprised 39.9% of malingering diagnoses, and homelessness was a top 10 discharge comorbid diagnosis. Forty-three percent of patients diagnosed with malingering have Medicaid as a payor. On the one hand, these findings could reflect that patients with limited access to resources are more likely to engage in malingering behavior because of need – in the form of shelter, for example [11]. Low health literacy, which is linked with minority status and low socioeconomic status [20,21], could also lead to decreased ability to advocate for one's medical and social needs, resulting in reliance on malingering behavior. Importantly, however, such findings could also indicate further biases on the part of physicians against individuals of lower socioeconomic status, leading to greater suspicion of motives and an increased propensity for labeling behavior as deceptive. In addition to individual provider bias, systemic bias and racism are pervasive throughout the medical system [22,23], influencing patient behavior as well as provider response, and likely playing a role in these findings. Given concern for bias in the diagnosis of malingering and disproportionate representation of vulnerable groups, clinicians would be advised to cultivate awareness of their own biases, for instance by taking the Implicit Awareness Test through Harvard University's Project Implicit website [24]. Specific efforts should also be made to build health literacy and connection to structural resources among vulnerable and minoritized patients to address structural and systemic factors and reduce the necessity of malingering symptoms to meet their needs.

Not surprisingly, most patients labeled as malingering presented electively, and the vast majority were discharged home. Notably, 10% left AMA (n.b., AMA is the language used in the NIS; "patient-directed discharge" or "before medically advised" are becoming preferred terms for this situation) [25,26]. Our results indicate that AMA discharges are a frequent outcome for patients engaging in deceptive behavior, perhaps in the face of not having their demands met or in response to confrontation of behavior. Patients incorrectly suspected of malingering may also elect to leave AMA following concern about deceptive behavior coupled with implicit or overt bias on the part of the medical staff. Hospitalizations with a malingering diagnosis represented nearly $2 billion in aggregate hospitalization charges; further research is needed to explore whether efforts to detect malingering more effectively may represent a potential area of health savings.

With regards to primary diagnoses with which malingering behavior was comorbid, the overlap between malingering and psychiatric disorders (depressive disorders, schizophrenia spectrum and other psychotic disorders, and bipolar and related disorders) and substance use disorders (alcohol-related disorders) is consistent with prior research [27,28]. Our analysis also found that diagnoses of "Trauma- and stressor-related disorders" and "Stimulant-related disorders" were fourteen to fifteen times more likely to occur with a diagnosis of malingering than without. In addition to malingering behavior being highly comorbid with psychiatric illness, stigma towards patients with mental illness may lead

Table 1
Demographics of individuals with and without a discharge diagnosis of malingering.

	Malingering Dx		No Malingering Dx	
	n	%	n	%
N	45,645 (43,503 to 47,787)		30,172,623 (29,683,102 to 30,662,145)	
Age (yrs)	43 (33 to 54)		62 (41 to 75)	
Sex				
Male	25,605	56.1	12,953,080	42.9
Female	20,035	43.9	17,216,193	57.1
Race				
White	26,955	59.1	19,824,088	65.7
Black	12,220	26.8	4,506,930	14.9
Hispanic	3735	8.2	3,258,965	10.8
Asian or Pacific Islander	320	0.7	825,950	2.7
Native American	425	0.9	200,730	0.7
Other	1160	2.5	857,276	2.8
Missing	830	1.8	698,684	2.3
Census Division of hospital				
New England	1185	2.6	1,441,864	4.8
Middle Atlantic	4250	9.3	4,120,962	13.7
East North Central	6815	14.9	4,609,021	15.3
West North Central	4370	9.6	2,093,752	6.9
South Atlantic	12,155	26.6	6,383,147	21.2
East South Central	3145	6.9	2,088,463	6.9
West South Central	5210	11.4	3,547,885	11.8
Mountain	2335	5.1	1,886,412	6.3
Pacific	6180	13.5	4,001,117	13.3
Population of County of Residence				
Central metro county >1 million	15,415	33.8	8,720,609	28.9
Fringe metro county >1 million	9755	21.4	7,283,969	24.1
Metro Area 250,000-999,999	9515	20.8	6,303,732	20.9
Metro Area 50,000-249,000	4330	9.5	2,818,936	9.3
Micropolitan	2980	6.5	2,789,081	9.2
Non-core county	1890	4.1	2,071,211	6.9
Household Income Quartile for Pt ZIP Code				
1	18,215	39.9	9,066,319	30.0
2	11,015	24.1	7,540,121	25.0
3	8175	17.9	7,198,860	23.9
4	5660	12.4	5,828,268	19.3
Discharge Quarter				
Jan-Mar	11,130	24.4	7,554,490	25.0
Apr-Jun	11,205	24.5	7,551,029	25.0
Jul-Sep	11,770	25.8	7,522,235	24.9
Oct-Dec	11,465	25.1	7,511,525	24.9
Admission Type				
Elective	2310	5.1	6,703,900	22.2
Non-Elective	43,295	94.9	23,433,859	77.7
Primary Payor				
Medicare	13,365	29.3	14,501,879	48.1
Medicaid	19,645	43	5,433,689	18.0
Private Insurance	5470	12	7,935,396	26.3
Self Pay	5035	11	1,281,075	4.2
No Charge	410	0.9	104,240	0.3
Other	1665	3.6	879,655	2.9
Admission Status				
Not Transferred In	39,285	86.1	26,778,604	88.8
Transferred from Acute Care Hospital	4245	9.3	2,050,135	6.8
Transferred from Another Facility	1830	4	1,186,969	3.9
Disposition of patient				
Discharged Home	33,780	74	18,987,578	62.9
Transfer to Short-term Hospital	675	1.5	609,024	2.0
Transfer to Other Facility Type	3730	8.2	4,929,084	16.3
Home Health Care	2730	6	4,457,211	14.8
Against Medical Advice	4605	10.1	495,020	1.6
Died During Hospitalization	75	0.2	679,215	2.3
Primary Service Line				
Maternal and Neonatal	290	0.6	3,848,824	12.8
Mental Health/Substance Use	14,880	32.6	1,707,941	5.7
Injury	1285	2.8	1,579,690	5.2
Surgical	2445	5.4	6,965,337	23.1
Medical	26,745	58.6	16,070,832	53.3
Major Surgical Procedure During Admission				

Table 1 (*continued*)

	Malingering Dx		No Malingering Dx	
	n	%	n	%
No	42,900	94	20,627,452	68.4
Yes	2745	6	9,545,171	31.6
Injury Diagnoses				
None	41,330	90.5	27,367,219	90.7
Primary Diagnosis	1720	3.8	1,677,735	5.6
Secondary diagnosis	2595	5.7	1,127,670	3.7
Hospital Length of Stay, d (median, IQR)	3 (2 to 6)		3 (2 to 5)	
Total Charges (median, IQR)	$25,636 ($13,676 to $47,990)		$34,727 ($18,587 to $67,086)	

Table 2
Primary discharge diagnosis, based on CCSR categories, for hospitalizations involving a discharge diagnosis of malingering. CCSR = Clinical Classifications Software Refined.

CCSR Category	CCSR Description	N	%
MBD002	Depressive disorders	3365	7.4
MBD001	Schizophrenia spectrum and other psychotic disorders	3245	7.1
END003	Diabetes mellitus with complication	2135	4.7
MBD017	Alcohol-related disorders	1835	4
MBD003	Bipolar and related disorders	1800	3.9
INF002	Septicemia	1690	3.7
DIG020	Pancreatic disorders (excluding diabetes)	1445	3.2
BLD005	Sickle cell trait/anemia	1415	3.1
CIR008	Hypertension with complications and secondary hypertension	1405	3.1
MBD007	Trauma- and stressor-related disorders	1300	2.8
EXT014	External cause codes: poisoning by drug	935	2
RSP008	Chronic obstructive pulmonary disease and bronchiectasis	905	2
SKN001	Skin and subcutaneous tissue infections	865	1.9
CIR012	Nonspecific chest pain	820	1.8
FAC025	Other specified status	770	1.7
END011	Fluid and electrolyte disorders	710	1.6
SYM006	Abdominal pain and other digestive/abdomen signs and symptoms	710	1.6
MBD021	Stimulant-related disorders	690	1.5
GEN004	Urinary tract infections	665	1.5
INJ037	Complication of other surgical or medical care, injury, initial encounter	550	1.2
DIG021	Gastrointestinal hemorrhage	515	1.1
GEN002	Acute and unspecified renal failure	515	1.1
RSP002	Pneumonia (except that caused by tuberculosis)	455	1
DIG011	Regional enteritis and ulcerative colitis	450	1
NVS009	Epilepsy; convulsions	445	1
MUS011	Spondylopathies/spondyloarthropathy (including infective)	435	1

providers to more readily assign a diagnosis of malingering to these individuals.

"Sepsis, unspecified organism," is the most common primary diagnosis for which malingering is comorbid. One likely contributor to this observation is the high frequency of this diagnosis in general among the sample. Given that sepsis is an objective medical diagnosis that can be confirmed by signs and tests, the overlap may serve as a reminder that many patients who are suspected of engaging in malingering behavior also have genuine illness. Further interpretations, including a link between sepsis and substance use disorders, would be speculative based on the limitations of the data. Notably, a very wide variety of diagnoses were associated with malingering in the NIS. Being alert to the possibility of malingering regardless of other diagnoses can help prevent harm from unnecessary interventions and protect resource utilization.

Like sepsis, most primary non-psychiatric diagnoses that are comorbid with malingering would have laboratory or radiographic

Table 3
Primary discharge diagnosis, based on CCSR categories, for hospitalizations with and without a discharge diagnosis of malingering. Relative risk is expressed for hospitalizations with a diagnosis of malingering relative to those without a malingering diagnosis. CCSR = Clinical Classifications Software Refined.

		With Malingering Dx			Without Malingering Dx			
CCSR Category	CCSR Description	Diagnosis Rank	N	%	Diagnosis Rank	N	%	Relative Risk
MBD002	Depressive disorders	1	3365	7.4	17	414,095	1.4	5.3
MBD001	Schizophrenia spectrum and other psychotic disorders	2	3245	7.1	18	408,110	1.4	5.1
END003	Diabetes mellitus with complication	3	2135	4.7	6	573,350	1.9	2.5
MBD017	Alcohol-related disorders	4	1835	4.0	24	331,645	1.1	3.6
MBD003	Bipolar and related disorders	5	1800	3.9	32	245,285	0.8	4.9
INF002	Septicemia	6	1690	3.7	1	2,267,375	7.5	0.5
DIG020	Pancreatic disorders (excluding diabetes)	7	1445	3.2	31	295,580	1.0	3.2
BLD005	Sickle cell trait/anemia	8	1415	3.1	89	75,450	0.3	10.3
CIR008	Hypertension with complications and secondary hypertension	9	1405	3.1	2	1,591,380	5.3	0.6
ßMBD007	Trauma- and stressor-related disorders	10	1300	2.8	101	59,905	0.2	14.0
EXT014	External cause codes: poisoning by drug	11	935	2.0	36	223,195	0.7	2.9
RSP008	Chronic obstructive pulmonary disease and bronchiectasis	12	905	2.0	10	534,070	1.8	1.1
SKN001	Skin and subcutaneous tissue infections	13	865	1.9	14	462,920	1.5	1.3
CIR012	Nonspecific chest pain	14	820	1.8	47	165,750	0.5	3.6
FAC025	Other specified status	15	770	1.7	250	9520	0.0	undefined
END011	Fluid and electrolyte disorders	16	710	1.6	23	333,110	1.1	1.5
SYM006	Abdominal pain and other digestive/abdomen signs and symptoms	17	710	1.6	91	72,375	0.2	8.0
MBD021	Stimulant-related disorders	18	690	1.5	169	22,520	0.1	15.0
GEN004	Urinary tract infections	19	665	1.5	12	509,705	1.7	0.9
INJ037	Complication of other surgical or medical care, injury, initial encounter	20	550	1.2	26	322,495	1.1	1.1
DIG021	Gastrointestinal hemorrhage	21	515	1.1	28	310,420	1.0	1.1
GEN002	Acute and unspecified renal failure	22	515	1.1	9	544,035	1.8	0.6
RSP002	Pneumonia (except that caused by tuberculosis)	23	455	1.0	7	553,800	1.8	0.6
DIG011	Regional enteritis and ulcerative colitis	24	450	1.0	80	92,290	0.3	3.3
NVS009	Epilepsy; convulsions	25	445	1.0	34	228,020	0.8	1.3

findings to support the diagnosis (e.g., chronic obstructive pulmonary disease with acute exacerbation, type I diabetes mellitus with ketoacidosis without coma). An exception to the rule is “Hb-SS disease with crisis, unspecified,” which was the second most common principal discharge diagnosis. While a diagnosis of sickle cell disease relies on objective findings via hemoglobin electrophoresis, the initial phase of an uncomplicated painful vasooclusive crisis or event without end organ damage may lack objective clinical and laboratory findings [29]. Prior studies have suggested that the discrepancy between a patient's subjective distress and clear laboratory abnormalities can lead to provider mistrust and may impact the appropriate dosing of narcotic analgesics [e.g., 29].

General hospital psychiatrists are frequently relied upon for decision-making around patients who engage in deceptive behavior. Our recommended approach to addressing patients suspected of malingering is to begin by ensuring that any co-morbid medical or psychiatric illness is reasonably evaluated and treated. Avoid premature confrontation but balance against the risk that uncertain diagnoses may lead to iatrogenic harm with unnecessary testing or medication administration or delay in providing patients with appropriate resources. Attempt to discern the patient's underlying motives and address through more appropriate resources, such as requesting a social work consultation to assist with shelter placement. Prior to the use of confrontation in addressing patients engaging in serial malingering behavior [2,3], it is essential for providers to ensure that malingering behavior is being accurately identified and that bias and racism are not influencing decisions to discharge patients from the hospital.

Strengths and limitations of this study derive from the underlying administrative claims data analyzed in this study. As the NIS covers hospitalizations nationally from all payment sources and with well-established sampling methodology, it avoids pitfalls that may come from studies derived from a single payment source, state, or hospital. This allows for an accurate assessment of coding for malingering as it was practiced nationwide in community hospitals in 2019. Limitations are inherent in this study's retrospective observational cohort design. Specific to the NIS data set, we only have information about the *diagnosis of* malingering and are not able to comment on the true *incidence.* As a result, if malingering were diagnosed within a hospitalization (e.g., in a progress note written by a consultant) but not coded for upon discharge, that hospitalization would be erroneously classified as not involving a malingering diagnosis for this study. Because the NIS samples hospitalizations and not individuals, an individual patient may be captured by this dataset more than once for separate episodes of care, which may bias demographic information.

There have not been validation studies assessing the accuracy of coding for malingering compared to clinical documentation suggesting its presence, which will be an important area of validation for future studies. Speculatively, we believe malingering may be under-documented as a formal discharge diagnosis for several reasons, including the stigma associated with the label. Many physicians may not provide a discharge code of malingering, even in the face of clear evidence. At the same time, a small subset may be likely to label malingering behavior even without confirmation. Moreover, there may be systematic coding effects, such as structural variability in the types of hospitalizations that receive a billing code for malingering as opposed to true variability in the occurrence of malingering, which would confound the associations observed here. Furthermore, a diagnosis of malingering is itself a heterogeneous outcome, meaning that both individuals whose entire reason for hospitalization was falsified, and those individuals with significant medical illness necessitating hospitalization but who also have some malingered behavior would produce the same coded outcome despite differences in clinical picture. Finally, although malingering and factitious disorder are related, we chose not to analyze factitious disorder due to its relative infrequency as a coded diagnosis in the sample and an effort to maintain a specific focus on malingering. We believe that examining factitious disorder in the NIS would be a complementary area for further study.

5. Conclusion

To the best of our knowledge, this is the first study to explore socio-demographic and comorbid medical and psychiatric diagnoses in

patients diagnosed with malingering in a large national sample. This analysis reveals the relative rarity of a malingering diagnosis among the general hospital patient population, with just 0.15% of overall hospitalizations carrying a malingering diagnosis. Black patients and patients of lower socioeconomic status are highly represented in the malingering sample, suggesting the likelihood of bias and racism influencing the labeling of such behavior. Malingering behavior is also highly comorbid with psychiatric illness and substance use disorders. Accurate description of this patient population with reliable data from large samples can lead to improved understanding, detection, and ultimately better care for these patients. Future directions should include validation studies assessing the accuracy of coding for malingering compared to clinical documentation and evaluating race-based biases in suspicion of malingering behavior.

Disclosures

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Data availability

The authors do not have permission to share data.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.genhosppsych.2023.10.005.

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