

Observation Versus Inpatient Stay for Heart Failure: Is It Semantics?

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More than 6 million Americans have heart failure (HF), and the prevalence continues to increase.¹ In 2010, there were \approx 1 million hospitalizations for acute decompensated HF, with most in patients aged \geq 65 years.² Accordingly, the healthcare costs associated with HF hospitalizations have been increasing exponentially. Total medical expenditure for HF was \$20.9 billion in 2012 and is expected to exceed \$50 billion by 2030. Intuitively, HF hospitalizations account for a significant majority of this expenditure.¹ In an attempt to decrease the soaring medical costs, much attention has been focused on decreasing HF admissions and readmissions, including by the US Centers for Medicare and Medicaid Services.

In this context, debate continues about the implications of observation stays versus inpatient stays for HF.³ Medicare's original definition of observation status entailed activities necessary to evaluate the outpatient's condition or determine the need for hospitalization as an inpatient. Furthermore, they were to represent a well-defined set of specific clinically appropriate services, which, in most cases, were to last $<$ 24 hours and only in rare and exceptional cases $>$ 48 hours.⁴ The ultimate decision to hospitalize a patient as inpatient or observe a patient was left to the physician's judgement. In practice, there has been great variability in the use of observation status versus inpatient status across hospitals and physicians, and variability in the duration of stay. There was also variability among hospitals as to where the patients were observed or the level of services provided. For example, in some hospitals, there were separate

observation units, whereas in other hospitals, observation patient beds were located on routine inpatient units.

In August 2013, the US Centers for Medicare and Medicaid Services announced the fiscal year 2014 hospital Inpatient Prospective Payment System Final Rule. A 2-midnight benchmark was to be used to determine the status of outpatient (observation) or inpatient stay. This meant that patients who were expected by a clinical practitioner with knowledge of the case to need hospitalization spanning \geq 2 midnights should be hospitalized as inpatients, whereas those expected to span $<$ 2 midnights were to be under observation status, with few exceptions.^{3,5} More important, although the quality of care a patient receives may or may not differ much between inpatient and observation stays, the status designation significantly affects the flow of medical revenue and reimbursement. In general, services under inpatient status fall under Medicare Part A, whereas those under observation status fall under Medicare Part B, as outpatient services. For hospitals, inpatient status yields higher reimbursement compared with observation; however, inappropriate labeling of any observation status as hospitalization, determined by audit (often by US Centers for Medicare and Medicaid Services contractors), may result in loss of hospital reimbursement and has been a major issue of contention.³ Moreover, there are significant differences in the beneficiary (patient) liability between the 2 scenarios. Beneficiaries under the inpatient status usually need to pay a deductible under Medicare Part A (\$1340 in 2018) for services during the inpatient hospitalization and readmission within 60 days. On the other hand, beneficiaries under observation status are subject to Medicare Part B deductible (\$183 in 2018) in addition to a 20% copay on every service provided during the observation stay, with no cumulative limit.⁶ In addition, hospital pharmacy charges for Medicare patients hospitalized as inpatients are covered under Medicare Part A; however, for patients hospitalized as outpatients (observation), many medications are not covered by Medicare Part B. In many cases, out-of-pocket costs for patients may be much higher for observation compared with inpatient status.

Furthermore, in response to high cost and poor outcomes related to the high rate of hospital readmissions for certain conditions, including HF, the Affordable Care Act proposed

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the Hospital Readmissions Reduction Program in 2010. Beginning in October 2012, this program imposed penalties for hospitals with higher readmission rates for certain target conditions, including HF, initially up to 1% of total Medicare reimbursement, increasing up to 3% in subsequent years.⁷ Although rates of readmission have shown a steady decline during the past decade, the decline has been more marked since 2010. Observation stays have also shown a steady increase during the same time.^{8,9} Critics of the Hospital Readmissions Reduction Program have been concerned that one strategy used by hospitals to decrease readmissions is to defer such patients to observation stays instead of admitting or readmitting them, because observation stays do not count toward the penalized admissions/readmissions. On an even more serious note is the possibility that reducing appropriate readmissions could be associated with a potential for increased mortality. These concerns continue to be intensely debated.^{8–11}

In this context, the results of the interesting study by Masri et al, published in this issue of *Journal of the American Heart Association (JAHA)*, add to the debate.¹² The investigators compared outcomes of 11 355 HF admissions under observation (n=2648) with short inpatient stay (ie, <2 midnights; n=8709) from January 2008 to September 2015 within a large healthcare system of 8 hospitals. They examined differences between the 2 groups in baseline characteristics and outcomes of readmission (including both inpatient and observation stays) at 1, 3, and 12 months and mortality at 1 year after discharge. They hypothesized that observation patients would be less sick than those requiring inpatient stays. The analyses found that, although patients in the observation group were younger, they had a higher proportion of certain comorbidities, including hypertension, diabetes mellitus, and chronic obstructive pulmonary disease. More observation patients had systolic HF, but a lower percentage were taking angiotensin-converting enzyme inhibitors or angiotensin receptor blockers compared with the short inpatient stay group. Compared with observation stays, those discharged after short inpatient stays had lower rates of readmission for HF, for cardiac or any cause, at 1, 3, and 12 months after discharge, with differences widening over time from discharge, along with a 24% lower risk-adjusted hazard at 12 months. On the other hand, risk-adjusted 1-year mortality was similar between the 2 groups.

At the outset, this appears counterintuitive because one would expect the short inpatient hospitalization group to have worse clinical outcomes in terms of readmissions compared with the observation group, assuming less severity of illness in those admitted for observation. However, on the basis of baseline characteristics, this was not the case. On the other hand, because most variables were based on presence or absence of comorbidities (from *International Classification of*

Diseases ninth revision (ICD-9) codes), limited medication data, and limited clinical data, such as ejection fraction (from electronic medical records), the actual severity of illness at the time of the episode of hospital care cannot be surmised in the absence of more clinical and prognostic data at presentation, such as vital signs, renal function, natriuretic peptide levels, or even prior hospitalization status. It is also possible that sicker patients or patients with more frequent decompensations for other reasons, such as nonadherence or lack of social support, may be placed in observation status for shorter bouts of intravenous diuresis, which may be required more frequently in this group. Furthermore, some patients may have been designated to observation to avoid being counted toward 30-day readmissions, which are penalized. Despite more frequent decompensation, this group of patients may be conceived overall to have similar mortality to the inpatients. Counting both observation stays and true rehospitalizations as readmissions, as done in the current study, is a limitation. We may not be able to differentiate if patients truly have more rehospitalizations–inpatient stays or just more frequent observation stays during the follow-up. Also, the race of patients was not included in baseline characteristics presented or in the multivariable models in this article, given the potential racial/ethnic differences in frequency of readmissions.¹³ As the authors also point out, the selected study cohort for the current study is limited to one healthcare system, which may have more uniform practices and may not be representative of national practices. Despite these limitations, the results of the study by Masri and colleagues¹² do raise the question of whether discrimination between observation (outpatient stays) and short-stay hospitalization (inpatient stays) may be arbitrary or administrative, possibly without significant clinical impact on patient care, but with significant differences in financial implications for the patients, hospitals, and payers.

Of note, ≈20% of all HF hospitalizations fell in the study cohort of either observation or short stay (<2 days), and within this cohort, 23% were observation status. The proportion was not constant over the years. Concordant with the reported national trend of increase in observation stays over the years, especially for Hospital Readmissions Reduction Program–targeted conditions, including HF,⁸ in the current study the observation status formed less than ≈20% of the study group in 2008 versus ≈50% of the study group in 2015.

Although the study by Masri et al is relatively novel in comparing short inpatient admissions (<2 midnights) with observation stays for HF,¹² at least 2 similar studies evaluated this issue in patients presenting with chest pain.^{14,15} Wright et al evaluated >110 000 hospitalizations with a primary diagnosis of chest pain at Veterans Affairs hospitals.¹⁴ They examined hospital readmission and mortality rates at 30 and 90 days to compare observation setting with short inpatient

setting (<48 hours). Compared with short-stay inpatients, patients in observation status were more likely to be women, white, and from rural areas. Patients in the observation group had significantly lower 30-day readmission and mortality rates. However, at 90 days, both the readmission and mortality rates were similar between the 2 groups, suggesting that patients presenting with chest pain designated to observation status may portend a better prognosis than the short inpatient stay group, at least in the short-term. This is different from the results of the current study by Masri et al,¹² raising the question of whether it may be easier to prognosticate patients with chest pain and predetermine hospitalization status, compared with those with HF. Bellolio et al conducted a similar study, whereby the investigators compared observation status with short inpatient stay (<48 hours) in patients presenting with chest pain.¹⁵ The primary goal was to compare healthcare use between the 2 groups, by looking at number of cardiac procedures performed, but the authors also studied differences in 30-day myocardial infarction rate. In this study of >770 000 chest pain hospitalizations, the authors concluded that healthcare use was significantly lower in the observation status group. Specifically, cardiac catheterization and percutaneous intervention were performed in 11% and 2%, respectively, of the observation group compared with 24% and 8%, respectively, of the short inpatient stay group. The incidence of subsequent myocardial infarction within 30 days was similar between the 2 groups. Although a higher use of procedures in the inpatients makes intuitive sense, and may suggest a higher percentage of patients with acute cardiac disease in this group, no differences noted in the rate of recurrent myocardial infarction could be confounded by differences in rates of initial interventions as well as low overall event rates.

In conclusion, the study by Masri and colleagues¹² suggests that patients with HF under short inpatient stay did not appear to be sicker than those in the observation group. The factors driving decisions for observation versus inpatient stay and differences in actual care received in one versus the other status are not clear, but may be arbitrary in many cases. It is, however, important to remember the differences in financial implications for patients, hospitals, and insurers/Medicare, as well as in the compilation of quality metrics of readmission. Future studies with more detailed clinical data are needed to guide refinement of these designations for better patient-centric care, for better

resource use, and to guide further dialogue between payers and healthcare providers.

Disclosures

None.

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