



Commission for Nursing Reimbursement

Adjust Hospital Billing and Price Transparency to Include Nursing Care

Public Comment in response to: CMS Hospital Price Transparency Accuracy and Completeness Request for Information

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EXECUTIVE SUMMARY

Over a quarter of a trillion dollars is unaccounted for in the hospital payment system. These costs are hidden from the Centers for Medicare and Medicaid Services (CMS) price transparency requirements¹ although they are directly linked to each patient and associated with quality of care, clinical outcomes, and patient satisfaction of all hospitalized patients. This is the care and associated costs provided by registered nurses (RN) in hospitals across the country.

For nearly 100 years, hospital nursing care has been billed as room and board.² This hides the natural variability in nursing care hours and costs delivered to individual patients. Current hospital price transparency efforts do not recognize care delivered by RNs.^{3,4} This lack of transparency creates incentives for hospitals to decrease nurse staffing in order to reduce overall costs of care and improve profit margins.⁵ This can lead to a reduction in quality of care for hospitalized patients and less than optimum clinical outcomes and higher patient care costs.⁶

This policy brief addresses these issues in detail and provides remedies to modernize the hospital payment system to identify the price and reimburse hospitals for the actual nursing care provided to each patient and to include this care in emerging federal hospital price transparency and value-based purchasing models.

Key Points

- Without a price, nursing care is not represented in the hospital pricing requirements
- Without a price, nursing care cannot be measured within the current and proposed value-based and bundled payment models
- Nursing care is one of the largest cost leaders in healthcare, especially in acute inpatient care settings
- Nursing care varies differently than medical care, therefore the current payment models do not adequately account for the variability, intensity, cost, or impact of nursing care on clinical outcomes of patient care or overall quality and performance of RN staff

POLICY ISSUE

In 2024, an estimated 1,749,320 registered nurses (RN) worked in US hospitals accounting for 29.6% of all hospital employees (Table 1).⁷ Of the \$890 billion dollars expended for hospital labor in 2024 (56% of hospital operating expenditures), nurses made up 29.9% of total hospital labor expenses or **\$266 billion dollars expended annually**.^{8,9} These significant costs are not included in the hospital chargemasters or in hospital pricing transparency requirement.^{10,11}

The traditional method for accounting for hospital nursing care is to subsume total nursing costs and care hours within a daily room charge as a fixed cost despite nursing direct care hours and costs being highly variable.^{2,12} Nursing care, despite being one of the largest costs of care, has no price. However, ancillary billing for treatments, pharmaceuticals, lab tests, radiology, etc. are charged in detail for each patient.^{13,14}

Key Points

- The payment to hospitals and other providers does not accurately reflect the actual nursing care provided to each patient.^{15,16}
- Considering the current regulations for hospital price transparency, 45 CFR Part 180 § 180.50 (a) (1) *A hospital must establish, update, and make public a list of all standard charges **for all items and services** online in the form and manner specified in this section,*¹⁷ are hospitals out of compliance with regard to lack of nursing care pricing data?
- Since nursing care is one of the largest operating costs in hospitals, there is a **strong economic incentive for hospitals to reduce the amount of nursing care each patient receives**. Hospitals do this by having nurses care for more patients during a shift, known as nurse-to-patient assignment. As nurses care for more patients direct nursing care hours decrease which lowers the marginal cost of nursing care, often measured as nursing hours and costs per patient day.¹⁸ **When hospitals increase nurse to patient assignments – lowering direct nursing care hours, hospitals do not decrease the daily room charge.**
- High nurse-to-patient assignments increase nurse workloads that can:
 - Increase the risk of hospital deaths, hospital length of stay and overall costs of care.¹⁹⁻²¹
 - Decrease the quality of care where patients are at increased risk of hospital acquired infections, falls, and skin breakdown.²²⁻²⁴
 - Lower nurse clinical performance as nurses do not have enough time to carry out all the needed care in a high acuity environment.²⁵⁻²⁷
 - Increase nurse dissatisfaction with the work environment, creating high levels of nurse turnover increasing costs of hospital care.^{5,6,28-31}

POLICY REMEDIES

To address the concerns above, and to provide a policy strategy to modernize hospital payment and price transparency to reflect the actual nursing care delivered to each patient,³²⁻³⁴ the following strategies should be considered:

- Separate nursing care hours and costs from the daily room charge and bill as a separate chargeable item based on actual direct care nursing hours and associated cost
- Align hospital payment for the actual nursing care provided to patients

- Collect all submitted daily hospital nursing charges and direct care hours to create a national database of nursing data across all participating hospitals and across all patient diagnosis and Diagnosis Related Groups (DRG).

These strategies address two separate issues for hospital billing and price transparency. The first is to create a charge capture method that identifies the direct care hours provided by RNs for each patient. The second is to adopt the nursing charge and direct care hours into the Inpatient Prospective Payment System (IPPS) separate from the current DRG cost weight.^{35,36}

Separate Billing for Nursing Care per Patient

The core argument to separate out nursing from a daily room charge is that nursing care varies across multiple patients and even across time for the same patient.³⁷ The daily room charge is a set fee that does not vary by patient or day of stay.³⁸ All patients within an inpatient room charge are billed as receiving the same (or average) nursing care. This logic is inherently flawed as nursing care could vary by several hours across multiple patients admitted to an inpatient unit.³⁹ This leads to charge compression where some patients receive less nursing care than average, other receive more nursing care than average based on the room charge.⁴⁰ Removing nursing care out of the daily room rate as a separate charge would improve payment accuracy and minimize charge compression.¹³

In the current Inpatient Prospective Payment System (IPPS), each patient is assigned a DRG on discharge for all care provided during hospitalization.³⁶ A DRG cost weight is assigned for each DRG which includes all costs and resources expended for patients. Each DRG weight represents the average resources required to care for cases in that DRG, relative to the average resources used to treat cases in all DRGs.³⁵ With nursing direct care costs representing a large percentage of hospital expenditures, small differences in direct nursing care hours per patient will have a disproportionate effect on total cost of care that is not reflected in the existing DRG cost weight.

For hospitals and other inpatient settings that use the IPPS, a potential remedy to recognize nursing care in the billing system is to separate out nursing care from the daily room charge using an existing National Uniform Billing Code (NUBC)⁴¹ 023x as the primary means allocate nursing care hours and charges per day for each patient (Figure 1).^{42,43} This is consistent with the original model of the DRG based IPPS (Figure 2).⁴⁴ The original DRG design created a separate nursing cost center and independent nursing cost weight within each DRG. To be consistent with the original DRG model, a separate nursing cost center and an independent nursing cost weight for each DRG and for each hospital would increase accuracy of the reimbursement and provide important information about the differences in nursing care per patient and across hospitals. In a modernized DRG IPPS model, nursing time and costs are separate from the existing DRG cost weight to create a Nursing Case Mix Index (NCMI) representing the variable costs and hours of nursing care allocated per patient and expressed within each DRG.

A key question is how to collect patient level nursing time and costs without adding additional burden on the nurses for data collection or introduce more complexity into the hospital finance system.⁴⁵ One available method to minimize this burden is to use readily available unit level average nursing cost data and use these as the primary metric for direct nursing care. Hospitals typically collect these summary data either monthly or quarterly measuring nursing hours per patient day (NHPPD) and nursing costs per patient day (NCPD).⁴⁶ The NHPPD can be used as the unit level mean for patients in the respective room cost center linked to the nursing care billing code. The NCPD can be used as the basis for pricing nursing

care. The availability of existing patient level nursing hours and costs will aid the national implementation of an inpatient nurse billing model as well as achieve a goal of pricing transparency and accuracy.

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There is an issue regarding adding other items to the current hospital billing process. With the large number of existing items in the hospital chargemaster, a single or small addition of new billing charges would likely be insignificant. For example, University of North Carolina Hospital is a 1000+ bed academic medical center located in Chapel Hill, NC. In the publicly available price transparency data, there are 158,475 individual line items of which there are no inpatient nursing chargeable items and only one outpatient relevant nursing charge: Outpatient Nurse Visit, available charge [CPT Code 99211: HC].⁴⁷ Adding a small number of nursing related codes to the chargemaster would add little administrative burden and improve overall price transparency of nursing care in our nation's hospitals.

Aligning Hospital Payment for Actual Nursing Care Provided

One of the core policy goals of modernizing hospital billing and reimbursement using unique nurse billing methods is to create incentives for hospitals to achieve optimum levels of nursing care based on the patient's needs.⁴⁸ In the existing model, nursing care represents one of the single largest expenditures for care. Therefore, there is a strong bias towards cutting nursing care through higher nurse-to-patient assignments. This lowers the cost of nursing care per patient (NCPPD) but also decreases the amount of direct care hours per patient (NHPPD).^{12,49} This billing strategy may increase economic efficiency, but decreases care effectiveness and nurse clinical performance and decreasing the overall value of acute care.⁵⁰ For example, in Case Study 1 (Appendix), in a typical hospital intensive care unit (ICU) nurse-to-patient assignments are 1:2, that provides 6 hours of care in a 12 hour shift for each patient. If staffing levels do not permit this, some hospitals will require nurses to care for more than 2 patients. An ICU nurse caring for 3 patients would provide only 4 hours of care per patient (2 hours less per shift or 4 hours less per patient day). At a wage of \$50/hr. that reduces the direct nursing cost of care by \$200 per patient day not including benefits, shift differentials, and other indirect costs. This could lead to thousands of dollars decrease in costs per inpatient unit per day and if decreased nurse staffing is implemented across a hospital, it could potentially result in millions of dollars in nursing labor cost savings to the hospital.²⁸ *As noted, hospitals do not decrease the daily room rate when less nursing care is provided. Payers, in particular CMS, may be paying more for nursing care with it embedded in the daily room charge than if it were billed separately for the actual care delivered.*²⁸

Removing nursing care from the daily room charge and billing it separately based on the actual direct care hours and costs (price) will provide a policy mechanism to adjust payment based on the actual nursing care delivered.⁵¹ This will change the dynamic between payer and provider in **that hospitals that give less nursing care will receive less payment** creating an incentive to improve nurse staffing and direct care hours to achieve better patient outcomes of hospitalization.⁵²⁻⁵⁵

Collecting Patient Level Nursing Data to Create National Database

The last component for modernizing hospital price transparency and hospital payment is to use the new nurse billing data to create a separate Nursing Case Mix Index. Adding a charge for direct nursing care hours and prices linked to the DRG would allow a wide range of previously unavailable analysis and comparisons.

- Improved and more accurate cost finding for nursing care⁵⁶

- Ability to link patient level nursing time and cost to each MS-DRG⁵⁷
- Ability to analyze patient level nursing care with quality and clinical outcomes of care⁶
- Inclusion of nursing care in value-based payment and bundled payment models⁵⁸
- More robust financial analysis of nursing care.⁵⁶

Other Issues Related to Direct Nurse Billing Models

The focus of this policy brief is directed toward hospital price transparency and inpatient billing and reimbursement models. However, nursing care occurs in all healthcare settings. For inpatient settings such as acute care, psychiatric hospitals, long term acute care, inpatient rehab and hospice settings, and skilled nursing facilities, nursing care is provided continuously from admission to discharge. Use of nursing direct care hours works well in capturing nursing care time and costs for each patient. In other settings nursing care is provided in an episodic manner such as ambulatory and primary care, home health care. Occupational health, and various other settings where patients are seen over a short period of time.

From a hospital transparency standpoint, capturing the direct nursing care hours per patient and identifying the price based on nursing costs is a new and significant improvement in hospital pricing policy. Direct care nursing time identifies how much nursing care was delivered but does not capture the actual activities and interventions provided to each patient during hospitalization. A more robust approach is to use existing and new codes for such nursing activities.

Current Procedural Terminology (CPT) codes^{59,60} are widely used throughout all healthcare settings. Advanced Practice Registered Nurses (APRN) and Certified Registered Nurse Anesthetists (CRNA).⁶¹ Could an adaptation or creation of new CPT codes or Healthcare Common Procedure Coding System (HCPCS) codes⁶² be used for RN care?

CPT or HCPCS codes work well when nursing care is episodic for example, emergency department, ambulatory care, primary care, etc.⁴² These codes can be used to identify discrete activities, actions, interventions, or procedures provided to patients by RNs or licensed practical nurses (LPN).⁶³ Oregon has instituted RN billing for Medicaid patients.⁶⁴ The North Carolina Institute of Medicine recommends using CPT code for RN billing in NC care setting.⁶⁵ These nascent efforts illustrate the ability to use these code sets to identify the contribution of nurses to patient care in many settings and improve overall payment accuracy.

The use of CPT or HCPCS codes for nursing in hospitals would be similar to the existing codes for physical and occupational therapy.⁶⁶ Such an approach would add a robust accounting of the activities, procedures, and interventions provided to each patient during hospitalization. However, adding new RN specific codes would likely be complex and time consuming to develop and maintain. There is also an administrative burden to collect these codes for including in the hospital billing cycle.⁴⁵ Using CPT/HCPCS codes to document and price nursing care would produce a more accurate bill. It would be more difficult to determine the actual price for each nursing related code or estimate a time reference to calculate nursing intensity that could be linked to staffing patterns or quality and outcomes of nursing care. The benefits of using CPT/HCPCS codes for nursing are that they could be used in all healthcare settings and the collected data would provide greater insights on patient level nursing costs and resources that could be used in value-based purchasing and bundled payment models.

SUMMARY POINTS

- Hospital nursing care represents one of the largest expenditure of professional healthcare

resources, estimated at approximately a quarter trillion dollars per year. These costs and resources are not recognized in the payment system or hospital price transparency requirements.

- Nursing care is currently subsumed within the hospital daily room charge. This treats all patients as having the same level of nursing care. This is a false assumption and the lack of a price for nursing care makes the current hospital pricing transparency requirement inaccurate. Lack of

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pricing or patient level nursing care costing data hides important and clinically meaningful information needed to design value-based purchasing models.

- The modernization of the current hospital payment system can be accomplished by collecting patient level nursing care time (nursing intensity) and price data to be included in the hospital pricing transparency policy.
- Paying hospitals for the actual nursing care delivered will have additional benefits of decreasing costs to payers and improving overall quality and outcomes of care through optimization of nursing care.

The takeaway message is there are significant deficits in the current healthcare finance system by not accounting for nursing care – the single most utilized resource provided to patients in hospitals. This results in an imbalance whereby ancillary services are the primary driver of healthcare payments, and the professional nursing labor associated with care is ignored. This is a fundamental issue in the payment system that can and should be addressed by policy makers and payers.

REFERENCES

1. Centers for Medicare & Medicaid Services. Hospital Price Transparency. Accessed June 5, 2025, <https://www.cms.gov/priorities/key-initiatives/hospital-price-transparency>
2. Welton JM. Billing for Nursing Care: A 100-Year-Old Problem. *J Nurs Adm.* 2024;54(9):447-48. https://journals.lww.com/ionajournal/fulltext/2024/09000/billing_for_nursing_care_a_100_year_old_problem.1.aspx?context=latestarticles&casa_token=QI5HyUTbLFEAAAAA:uUCLiQrauhv9uCIFXtTnHkAEyOaFQITykGzuve4QVv5qAxxdZjYPIyO_iNk7KKK_63H5m3xLfd1eOxFKRYG2OQ
3. Lin JC, Gillette JS, Zhu AS, et al. Outcomes of Price Transparency Policies for Healthcare Services in the United States: A Systematic Review. *Health Policy and Technology.* 2025:100973. https://www.sciencedirect.com/science/article/pii/S221188372500012?casa_token=tdR3Vc8sOf4AAAAA:oCJ-e7TGhVmO8cV_L4zxGBvPWTMh28yhUyrKayWW7DcCYnBaF0hipCZsHkQ0CWvwJpLRxFkPv44
4. Wang Y, Whaley CM, Bai G. Healthcare Price Transparency: Research Findings and Implications for Policy and Practice. *J Gen Intern Med.* 2025;40(5):1175-1177. <https://link.springer.com/content/pdf/10.1007/s11606-024-09295-4.pdf>
5. Yakusheva O, Rambur B. How The Hospital Reimbursement Model Harms Nursing Quality And What To Do About It. *Health Affairs Forefront.* Health Affairs Forefront; May 30, 2023. <https://www.healthaffairs.org/content/forefront/hospital-reimbursement-model-harms-nursing>

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6. Yakusheva O, Longyear R. Center For Medicare And Medicaid Innovation Should Test An Alternative Payment Model For Hospital Nursing. *Health Affairs Forefront*; May 20, 2024. <https://www.healthaffairs.org/content/forefront/center-medicare-and-medicare-innovation-should-test-alternative-payment-model-hospital>
7. United States Bureau of Labor Statistics. Occupational Employment and Wage Statistics Industry: Hospitals Period: May 2024. 2025. Accessed June 5, 2025. <https://data.bls.gov/oes/#/industry/622000>
8. American Hospital Association. The Financial Stability of America's Hospitals and Health Systems Is at Risk as the Costs of Caring Continue to Rise. Accessed June 5, 2025. <https://www.aha.org/system/files/media/file/2023/04/Cost-of-Caring-2023-The-Financial-Stability-of-Americas-Hospitals-and-Health-Systems-Is-at-Risk.pdf>
9. American Hospital Association. The Cost of Caring: Challenges Facing America's Hospitals in 2025. Accessed June 5, 2025. <https://www.aha.org/system/files/media/file/2025/04/The-Cost-of-Caring-April-2025.pdf>
10. The White House. Improving Price and Quality Transparency in American Healthcare To Put Patients First. *Fed Regist*. 2019. Accessed June 5, 2025. <https://www.govinfo.gov/content/pkg/FR-2019-06-27/pdf/2019-13945.pdf>
11. The White House. Making America Healthy Again by Empowering Patients with Clear, Accurate, and Actionable Healthcare Pricing Information. 2025. Accessed June 5, 2025. <https://www.whitehouse.gov/presidential-actions/2025/02/making-america-healthy-again-by-empowering-patients-with-clear-accurate-and-actionable-healthcare-pricing-information/>
12. Welton JM, Perrailon MC. Measuring Nursing Care Value. Agency for Healthcare Research and Quality Grant R03HS025495; 2021:21. https://www.researchgate.net/publication/392710601_AHRQ_Grant_Final_Progress_Report_R03HS_25495_J#fullTextFileContent
13. Watson CA. Using nursing intensity for Medicare billing and value-based purchasing. *J Nurs Adm*. 2009;39(4):149-51. https://journals.lww.com/ionajournal/_layouts/15/oaks.journals/downloadpdf.aspx?trckng_src_pg=ArticleViewer&an=00005110-200904000-00002
14. Bai G, Anderson GF. US Hospitals Are Still Using Chargemaster Markups To Maximize Revenues. *Health Aff (Millwood)*. 2016;35(9):1658-64. https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2016.0093?casa_token=wM6_bXKdq64AAA_A%3A6_0tWhn26h1pQZ-NRAbSNxuGWJaDJ8rfDJ_NKGCTDoLc_y_oWG_5QdFcOdCEcGo8B0pzjNp2OepI
15. Pappas S, Brosius W, Hayes R, et al. Maximizing the potential value of the nursing workforce. *Nurs Outlook*. 2024;72(1).

https://www.sciencedirect.com/science/article/pii/S0029655423001215?casa_token=uuA_bjfRT3kA AAAA:QzyO7O4SikAO1ABPBoGp6jJ6kVKjw-CRdSv-Sv_kMMo5g8wZWGxg8KPrL1ZtsAioA5h58pY_

16. Saville C, Monks T, Griffiths P, Ball JE. Costs and consequences of using average demand to plan baseline nurse staffing levels: a computer simulation study. *BMJ Qual Saf.* 2021;30(1):7-16. <https://qualitysafety.bmj.com/content/qhc/30/1/7.full.pdf>
17. Code of Federal Regulations. 45 CFR Part 180 Hospital Price Transparency <https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-E/part-180>
18. Welton JM, Zone-Smith L, Bandyopadhyay D. Estimating nursing intensity and direct cost using the nurse-patient assignment. *J Nurs Adm.* 2009;39(6):276-84. https://journals.lww.com/jonajournal/fulltext/2009/06000/Hospital_Billing_and_Reimbursement_Charging_for.00007.aspx?casa_token=QGm7ToTZEWIAAAAA:7IlvShlrqFYnG-CNUtFCe9FJ9ZILj6M1Sq8F_vxiZW1sgLTm3iJoeJNzby4NcoXSBUAZciPLsv8-OOIAG8H8Q
19. Lasater KB, Aiken LH, Sloane D, et al. Patient outcomes and cost savings associated with hospital safe nurse staffing legislation: an observational study. *BMJ Open.* 2021;11(12):e052899. <https://bmjopen.bmj.com/content/bmjopen/11/12/e052899.full.pdf>
20. Li Y, Aiken LH, Becker ER, et al. The effect of registered nurse staffing and skill mix on length of stay and hospital costs. *Nurs Outlook.* 2025;73(2):102356. https://www.sciencedirect.com/science/article/pii/S0029655425000090?casa_token=ryxWqF7udsQ AAAA:-y3Bg8Ks_mTXxksQyqsbqzHrhAyFB6IKuRLKBgz-4WqMDE45ghSzfDSCM7IXDU4pvplaNZuf
21. Kane RL, Shamliyan TA, Mueller C, Duval S, Wilt TJ. The association of registered nurse staffing levels and patient outcomes: systematic review and meta-analysis. *Med Care.* 2007;45(12):1195-204. https://journals.lww.com/lww/medicalcare/_layouts/15/oaks.journals/downloadpdf.aspx?an=00005650-200712000-00011&casa_token=6NFZMCwSkYEAAAAA:zpHdWDrhJDNFwSpRI5agHSPt_vyb4YtR49Dnrs8Pof2yFMIgK7nel3XclYXSgzmCUH4PNWml9r32WEAAEF0B4g
22. Pappas SH. Describing costs related to nursing. *J Nurs Adm.* 2007;37(1):32-40. https://journals.lww.com/jonajournal/fulltext/2007/01000/Describing_Costs_Related_to_Nursing.00006.aspx?casa_token=NYgV7QvabtKAAAAA:wCse3PRop-Y1O50xsCWt7jjZL7jdAoFu9s7OttEZ8t6JG1SF-3R93tDOJRW-HJ5w0Wwtp-B1gNeTteTRPH19Q
23. Pappas SH. The cost of nurse-sensitive adverse events. *J Nurs Adm.* 2008;38(5):230-6. https://journals.lww.com/jonajournal/_layouts/15/oaks.journals/downloadpdf.aspx?an=00005110-200805000-00007&casa_token=JKXNIQd5HVcAAAAA:EnFMA6ayd9mgdB3Zt5sMu1uFvElggpmSjScXygnnTAhplG1-XB1lfk3KfuqRwOWW_v0r-afCCnQfNr332M5Vg
24. McEvoy NL, Kalvas LB, Walsh K, Curley MAQ. The identification and characterization of nurse sensitive outcomes in acute and critical care: A systematic review. *Nurs Outlook.* 2025;73(2):102379. <https://www.sciencedirect.com/science/article/pii/S0029655425000326>

25. Chaboyer W, Harbeck E, Lee BO, Grealish L. Missed nursing care: An overview of reviews. *The Kaohsiung Journal of Medical Sciences*. 2021;37(2):82-91.
<https://onlinelibrary.wiley.com/doi/pdf/10.1002/kjm2.12308>
26. Kalisch BJ, Xie B. Errors of Omission: Missed Nursing Care. *West J Nurs Res*. 2014;36(7):875-890.
<https://onlinelibrary.wiley.com/doi/pdf/10.1002/kjm2.12308>
27. Sermeus W, Aiken LH, Van den Heede K, et al. Nurse forecasting in Europe (RN4CAST): Rationale, design and methodology. *BMC Nurs*. 2011;10(6):1-9.
<https://link.springer.com/content/pdf/10.1186/1472-6955-10-6.pdf>
28. Hall MA. *Lessons Learned from HCA's Purchase of Mission Hospital in Asheville, North Carolina*. 2025.
https://sourceonhealth.wpenginepowered.com/wp-content/uploads/2025/02/FULL-Final-Linked_2.pdf
29. Azzellino G, Dante A, Petrucci C, et al. Intention to leave and missed nursing care: A scoping review. *Int J Nurs Stud Adv*. 2025;8(June).
<https://www.sciencedirect.com/science/article/pii/S2666142X25000220>
30. Needleman J. Hospital Understaffing and Sick Leave Among Nurses—Absence Begets Absence. *JAMA Network Open*. 2025;8(4):e255951-e255951.
https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2833134/needleman_2025_ic_250066_1744746621.57976.pdf
31. Dall’Ora C, Meredith P, Saville C, Jones J, Griffiths P. Nurse staffing configurations and nurse absence due to sickness. *JAMA Network Open*. 2025;8(4):e255946-e255946.
https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2833133/dallora_2025_oi_250243_1744746619.64687.pdf
32. Di Nitto M, Napolitano F, Calzolari M, et al. Billing models for measuring nursing care in inpatient and outpatient settings: a scoping review. *BMC Health Serv Res*. 2025;25(1):95.
<https://link.springer.com/content/pdf/10.1186/s12913-024-12116-3.pdf>
33. Laport N, Sermeus W, Vanden Boer G, Van Herck P. Adjusting for nursing care case mix in hospital reimbursement: a review of international practice. *Policy Polit Nurs Pract*. 2008;9(2):94-102.
<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=77efabfb847b16846246a6017482472f420f09c0>
34. Sermeus W, Gillet P, Tambreur W, et al. Financing of hospital nursing care. Centre fédéral d’expertise des soins de santé (KCE); 2007.
<https://orbi.uliege.be/bitstream/2268/192744/2/d20071027307.pdf>
35. Centers for Medicare & Medicaid Services. MS-DRG Classifications and Software. Accessed June 5, 2025, <https://www.cms.gov/medicare/medicare-fee-for-service-payment/acuteinpatientpps/ms-drg-classifications-and-software>

36. Centers for Medicare & Medicaid Services. Inpatient Prospective Payment System (IPPS). Accessed June 5, 2025, <https://www.cms.gov/cms-guide-medical-technology-companies-and-other-interested-parties/payment/ipps>
37. Perrailon M, Jenkins P, Baird J, Welton J, Iben P, Blake N. Estimating patient-level direct hours and costs of nursing care in a pediatric inpatient setting. *Nurs Econ*. 2020;38(1):16-25. <https://escholarship.org/content/qt7dx0m70k/qt7dx0m70k.pdf>
38. Dobson A, DaVanzo J, Doherty J, Tanamor M. A Study of hospital charge setting practices. *Medicare Payment Advisory Commission*. 2005. https://www.healthwatchusa.org/downloads/Dec05_Charge_setting.pdf
39. Welton JM, Fischer MH, DeGrace S, Zone-Smith L. Hospital nursing costs, billing, and reimbursement. *Nurs Econ*. 2006;24(5):239-45, 262, 227. https://www.researchgate.net/profile/John_Welton/publication/6666212_Hospital_nursing_costs_billing_and_reimbursement/links/57582e3108ae5c65490777c1/Hospital-nursing-costs-billing-and-reimbursement.pdf
40. Welton JM, Dismuke CE. Testing an inpatient nursing intensity billing model. *Policy Polit Nurs Pract*. 2008;9(2):103-11. https://journals.sagepub.com/doi/pdf/10.1177/1527154408320045?casa_token=pBnL3chH8pwAA:AA:CaHydDQwd5Rv_LoRfX3Tr7cOsUOUD8uoF4e9KF4mODpH9XYBROdBwzXdhZpclfOddDoFgjDGbKKjQ
41. American Hospital Association. National Uniform Billing Committee (NUBC). Accessed June 5, 2025, <https://www.nubc.org/about-nubc>
42. Welton JM, Longyear R. Emerging nurse billing and reimbursement models. *J Nurs Adm*. 2024;54(8):465-72. https://journals.lww.com/ionajournal/fulltext/2024/09000/emerging_nurse_billing_and_reimbursement_models.6.aspx?context=latestarticles&casa_token=f0GHe5usiQcAAAAA:0NxIXZOSoQ89VXIIAEVHVZAY2KU6kuLnlo0sMJUCQhkE32lxwWSdjMe7i0Q6rSZRg4DB5nsWcueTX5Ez5fNcQ
43. Welton JM, Zone-Smith L, Fischer MH. Adjustment of inpatient care reimbursement for nursing intensity. *Policy Polit Nurs Pract*. 2006;7(4):270-80. https://journals.sagepub.com/doi/pdf/10.1177/1527154406297510?casa_token=ML1XXcoI98sAAA:AA:UsaNyvHhqAt3ci-2igxM9MnUtWjDzi8X90QZ_KW4erTfld4W6cls95wfGhAUW8E7cK3Xxe3uxw8
44. Thompson JD, Averill RF, Fetter RB. Planning, budgeting, and controlling--one look at the future: case-mix cost accounting. *Health Serv Res*. 1979:111-125. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1072108/pdf/hsresearch00539-0018.pdf>
45. Finkler SA. Measuring and accounting for the intensity of nursing care: is it worthwhile? *Policy Polit Nurs Pract*. 2008;9(2):112-117. https://journals.sagepub.com/doi/pdf/10.1177/1527154408319452?casa_token=9k2pgk2Z2ogAAA:A:GEuRXWmcAO-pf4v_MG-zlZliQxstY40Ro4TunaSLxD9bD4tVKKk4HEXdNnpjy_UHUHWXYjgKne9_IQ

46. Min A, Scott LD. Evaluating nursing hours per patient day as a nurse staffing measure. *J Nurs Manag.* 2016;24(4):439-448. https://www.researchgate.net/profile/Ari-Min/2/publication/284172575_Evaluating_nursing_hours_per_patient_day_as_a_nurse_staffing_measure/links/636df93554eb5f547cc21dc2/Evaluating-nursing-hours-per-patient-day-as-a-nurse-staffing-measure.pdf
47. UNC Health. Standard Charges & Shoppable Services Information. Accessed June 5, 2025, <https://www.unchealth.org/records-insurance/standard-charges>
48. Needleman J. Is What's Good for the Patient Good for the Hospital? Aligning Incentives and the Business Case for Nursing. *Policy, Politics, & Nursing Practice.* 2008;9(2):80-87. https://journals.sagepub.com/doi/pdf/10.1177/1527154408320047?casa_token=5u5psHmPPXoAA:AA:lg4RafFWnR7LSGhYOZT579DbeU2kaj18STsYs0-loEKycNd6ORSkNGKBYUp8JJFii0oYtoOoPAIB0Q
49. Welton JM, Harper EM. Measuring Nursing Value from the Electronic Health Record. *Stud Health Technol Inform.* 2016;225:63-7. <https://ebooks.iospress.nl/pdf/doi/10.3233/978-1-61499-658-3-63>
50. Pittman P, Rambur B, Birch S, et al. Value-based payment: What does it mean for nurses? *Nurs Adm Q.* 2021;45(3):179-186. https://journals.lww.com/naqjournal/_layouts/15/oaks.journals/downloadpdf.aspx?an=00006216-202107000-00003&casa_token=U_xrbINp-FAAAAAA:E3JiVpVnYLYUbdhdYICBCWC9W9BF9rNo4DB61qTeh-tjAcBd6wckKpJRxKN5qall9oBprTa2gAS342AC_p8Dw
51. Welton JM, Harris K. Hospital billing and reimbursement: charging for inpatient nursing care. *J Nurs Adm.* 2007;37(4):164-6. https://journals.lww.com/ionajournal/fulltext/2007/04000/Nursing_Intensity_Billing.3.aspx?casa_token=mPX0GoKsgxQAAAAA:k8WAS8A6mWXzswjeBFHDK3UansrgzF8ge2j90uAdKDbG2dXpGnljMf6nLV7QdWoow7m1r5Tk9BxV338E-31ZKTVf
52. Needleman J, Liu J, Shang J, Larson EL, Stone PW. Association of registered nurse and nursing support staffing with inpatient hospital mortality. *BMJ Qual Saf.* 2020;29(1):10-18. <https://qualitysafety.bmj.com/content/qhc/29/1/10.full.pdf>
53. Shang J, Needleman J, Liu J, Larson E, Stone PW. Nurse Staffing and Healthcare-Associated Infection, Unit-Level Analysis. *J Nurs Adm.* 2019;49(5):260-265. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6478399/pdf/nihms-1522221.pdf>
54. Taylor WM, Pelletier J, Heneghan JA, et al. Pediatric Intensive Care Nurse Staffing Measures and Patient Outcomes During the COVID-19 Pandemic. *JAMA Netw Open.* 2025;8(6):e2515376. https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2835225/taylor_2025_oi_250495_1749071620.64799.pdf
55. Maffeo M, Parente E, Ciofi D. Identifying missed care in pediatric nursing: A scoping review. *J Pediatr Nurs.* 2025;80:115-120. https://www.sciencedirect.com/science/article/pii/S0882596324004354?casa_token=ptwtzNy5TKEA

[AAAA:hm-1aXAFLO5VTh_CHZjBiDmfUDQtVsfxEcwLL981jnc4doRXOWOtOltBAUjpNV56VOHjrQdPCVI](#)

56. Welton JM, Harper EM. Nursing Care Value-Based Financial Models. *Nurs Econ*. 2015;33(1):14-9, 25. https://www.researchgate.net/publication/391244924_Welton_JM_Harper_EM_Nursing_Care_Val_u_e-Based_Financial_Models_Nurs_Econ_Internet_2015_33114-9_25_pp
 57. Thompson JD. The measurement of nursing intensity. *Health Care Financ Rev*. 1984;Suppl:47-55. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4195104/pdf/hcfr-84-suppl-047.pdf>
 58. American Nurses Association. Re-Imagining the Economic Value of Nursing Summit. Accessed June 5, 2025, <https://surveygizmolibrary.s3.amazonaws.com/library/694982/0805ReportOpenComment.pdf>
 59. American Medical Association. CPT - Current Procedural Terminology. American Medical Association. Accessed June 5, 2025, <https://www.ama-assn.org/practice-management/cpt/ama-cpt-licensing-overview>
- 11
60. Leslie-Mazwi TM, Bello JA, Tu R, et al. Current Procedural Terminology: History, Structure, and Relationship to Valuation for the Neuroradiologist. *AJNR Am J Neuroradiol*. 2016;37(11):1972-1976. <https://www.ajnr.org/content/ajnr/37/11/1972.full-text.pdf>
 61. Veenema TG, Zare H, Lavin RP, Schneider-Firestone S. Analysis of trends in nurse practitioner billing for emergency medical services: 2015-2018. *Am J Emerg Med*. 2022;62:78-88. https://www.sciencedirect.com/science/article/pii/S073567572200612X?casa_token=kcj0Z2GRiGM_AAAAA:EOYfzD5da6uKQeJljQbJm_OFUTqHpqnZE3JNSBmOZK1CoBsx662FNRISAQqnVewRLHPmY5XbXY
 62. Centers for Medicare & Medicaid Services. Overview of Coding and Classification Systems. Accessed June 5, 2025. <https://www.cms.gov/cms-guide-medical-technology-companies-and-other-interested-parties/coding/overview-coding-classification-systems>
 63. Witwer SG, Mattson A, Jessie AT. Registered Nurse Billing in Primary Care. *Nurs Econ*. 2023;41(4):200-207. <https://www.aaacn.org/sites/default/files/documents/RNBilling.pdf>
 64. Kennedy JM, Leitch J, Ross J, Truong T. Innovative Billing Practices for RNs and Social Work Under the Oregon Medicaid Structure: Billing for Services Without a Provider. *Nurse Leader*. 2022;20(5):485-489. https://www.sciencedirect.com/science/article/pii/S1541461222001367?casa_token=BRmlyPXUpF_o_AAAAA:0Bn9LdVthu-l-TsWHpGPBVI_verh35O3BEt_Sculy9SAddHoCGaID815XQCNvJFHyPXO_uNpXLA
 65. North Carolina Institute of Medicine. Time for Action: Securing A Strong Nursing Workforce for North Carolina. . North Carolina Institute of Medicine; 2024:chap four, page 123-124. https://nciom.org/wp-content/uploads/2023/09/NCIOM-Nursing-Task-Force_Time-For-Action.pdf

66. Centers for Medicare & Medicaid Services. CY 2025 Therapy Services Updates. Accessed June 5, 2025, <https://www.cms.gov/medicare/coding-billing/therapy-services>

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Table 1 Calculation of US Hospital Nursing Costs

American Hospital Association Data 2024.^{8,9}

Total hospital Labor Costs (billion) \$890B

Labor as a percentage of hospital expenditures 56%

US Bureau of Labor Statistics data 2024⁷

Total hospital labor personnel[‡] 6,538,060

Total hospital healthcare practitioners 3,693,210

Total hospital registered nurses (RN)[†] 1,749,320

RN as a % of all hospital personnel 29.9%

RN as a % of all hospital healthcare practitioners 47.4%

RN component of hospital costs (billion) [§] \$266B

Footnotes:

‡ The US Bureau of Labor Statistics reports labor personnel as a Full Time Equivalent (FTE) not as separate full-time and part-time employees.

† RNs working in hospitals provide 24 hour staffing every day of the year.

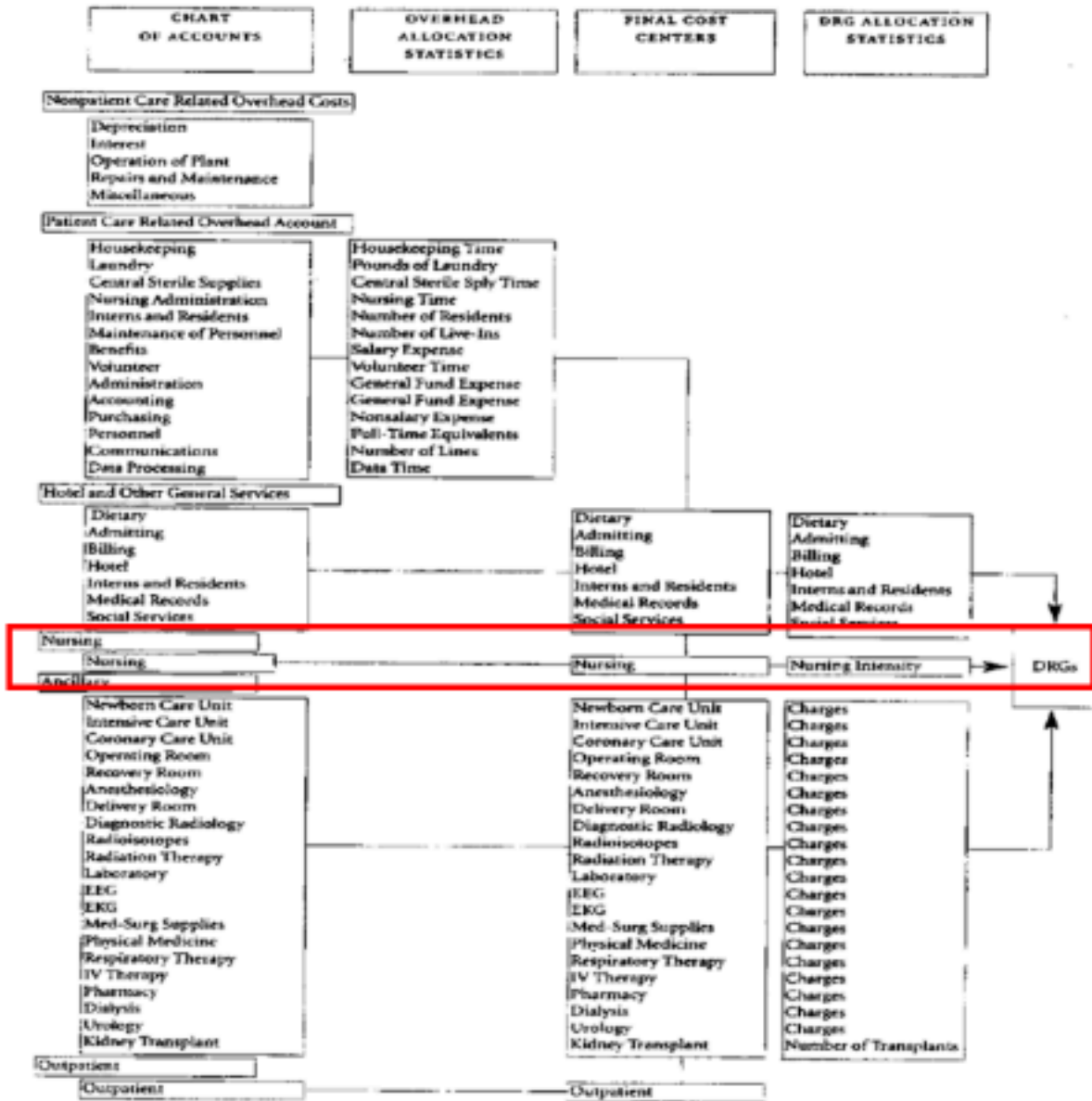
§ % of RN total hospital employees x total hospital labor costs

Figure 1 Selected Sample of National Uniform Billing Codes for Hospital Room Charges⁴²

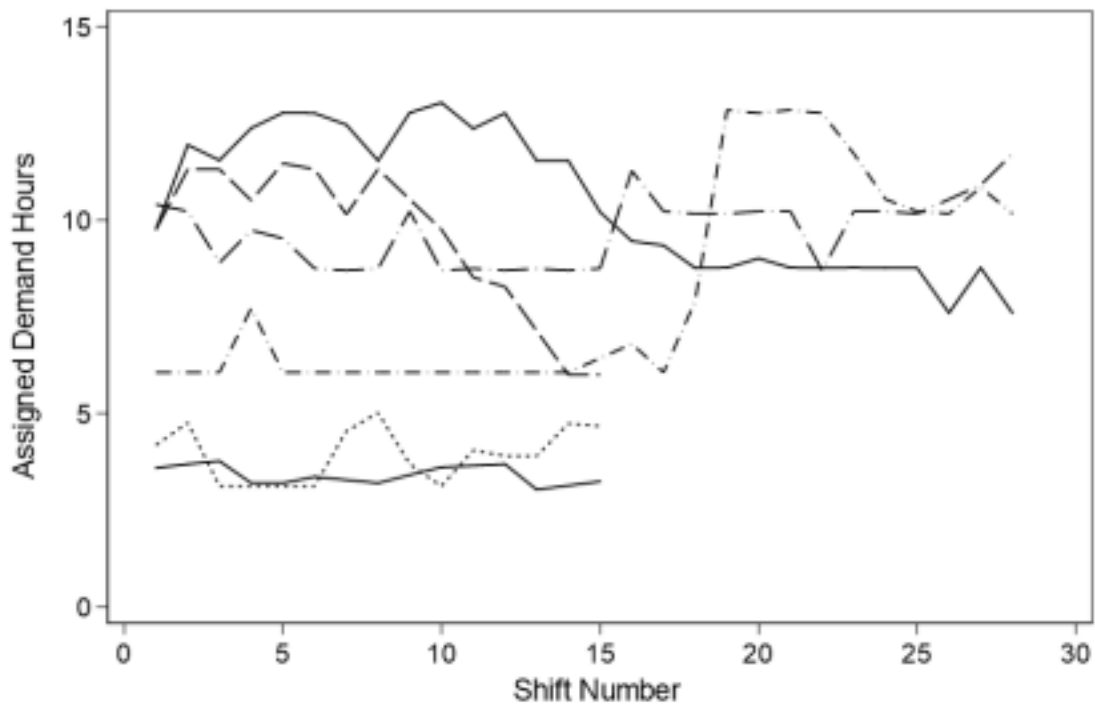
Revenue	
Code	Description
113	Room & Board - Private (One Bed) - Pediatric
114	Room & Board - Private (One Bed) - Psychiatric
115	Room & Board - Private (One Bed) - Hospice
116	Room & Board - Private (One Bed) - Detoxification
117	Room & Board - Private (One Bed) - Oncology
118	Room & Board - Private (One Bed) - Rehabilitation
119	Room & Board - Private (One Bed) - Other
120	Room & Board - Semi-private (Two Beds)
130	Room & Board - Semi-private - Three and Four Beds
140	Room & Board - Deluxe Private
150	Room & Board - Ward
160	Room & Board - Other
170	Nursery
190	Subacute Care
200	Intensive Care Unit
210	Coronary Care Unit
230	Incremental Nursing Charge

Figure 2 Nursing Case Mix Adjustment of the Original DRG Model⁴⁴

Figure 2:
 Typical Hospital Chart of Accounts with Examples
 of the Overhead and DRG Allocation Statistics



15
 Figure 1 Nurse Direct Care Hours by Hospital Day of Stay³⁷



This figure shows direct care hours provided by registered nurses (assigned demand hours) from 6 randomly selected patients at an academic medical center. Each line represents the direct nursing care hours for one patient over the length of stay measure at the shift level for either 15 or 30 shifts. The high degree of variability of direct nursing care hours indicates unique patient nursing care needs by day of stay. This provides evidence that traditional means of estimating direct nursing care hours using average hours per patient day, hide important and highly variable differences and changes in patient needs for nursing care.

Hospital A, a regional medical center and trauma center, has struggled to maintain adequate experienced nurses in their critical care unit. The normal staffing assignments are 2 patients assigned to each nurse during a 12-hour shift. This is equivalent to 6 hours of nursing care on average for each patient or 12 hours of nursing care per 24-hour day. To keep up with cardiovascular procedures, rather than close beds due to staffing, the unit manager has direct care nurses take 3 and sometimes on night shift, 4 critically ill patients. This staffing pattern in the ICU has the following effects:

- Patients: receive only 4 hours of care at a 1:3 nurse staffing assignment, and only 3 hours of care (half of the expected care) with a 1:4 assignment. This means a reduction in the direct care hours which can impact clinical effectiveness, such as late medication administration of antibiotics, less assessments of each patient, delayed pain management, delayed vital signs and blood draws for labs, just to name a few critical care treatments.
- Nurse: Much higher patient workload leading to burnout, emotional exhaustion, anxiety, which leads to overall higher nurse turnover rates and difficulty recruiting new nursing staff.
- Hospital/Facility: Increased economic efficiency as the cost of direct nursing care decreases, e.g. nursing hours and costs per patient day. This improves hospital margins as the billed hospital room rate is not adjusted for lower nursing care hours and costs. Money saved: 4-6 hours per day per patient is several hundred dollars per patient day, several thousand dollars per day for a typical ICU, hundreds of thousands of dollars per year in critical care services alone and several millions of dollars less in nursing salaries across the hospital
- Payers: are reimbursing care that is not delivered when hospitals reduce nursing staff without reducing the daily room rate.