Reduction of Readmission Rates Rapid Evidence Review

Clinical Question:

To answer the clinical question, "In adult patients, what is the best available evidence for nursing practices and processes to reduce readmission rates compared to current practice within the acute care hospital setting?" PubMed, Clinical Key, CINAHL, Cochrane Library, and Google Scholar databases were searched in addition to having a Librarian confirm search strategy methodology. There was a considerable number of articles which revolved around social determinants of health, use of multidisciplinary team i.e., (physician, pharmacist, outpatient, and community resources), predictors i.e., (race, ethnicity, risk calculator models, characteristics) comorbidities specific to Liver transplant, heart failure, Diabetes, stroke, however after two rounds of reviewing the articles and full-text and removal of duplication resulted in **8 final articles** that met the inclusion criteria for this rapid review. According to the Centers for Medicare and Medicaid Services (CMS), the hospital readmissions reduction program (HRRP) 30-day risk standardized unplanned readmission measures: 1) unplanned readmission that happen within 30 days of discharge from the index (i.e., initial) admission, 2) includes patients who are readmitted to the same hospital, or another applicable acute care hospital, no matter the principal diagnosis. The measures exclude some planned readmissions (CMS.gov, 2024). Additionally, the CMS Guide for Reducing Disparities in Readmissions Guide for Reducing Disparities in Readmissions, provides recommended strategies and key areas for reducing readmissions see pages 16-19. Thus, the summary of the evidence suggests that discharge processes utilizing a transitional care model. Specifics to the discharge process include a checklist, teaching processes specifically on medications (efficacy, safety, toxicity to improve medication adherence), patient education alone is not enough (requires coaching, assessment of patient's attitudes and skills to manage, education that is meaningful), nurse care coordinators and nurse practitioners to assist specific at-risk diagnosis i.e., heart failure, and coronary artery bypass graft (CABG).

Note: the additional reference list of the articles that did not meet the inclusion criteria but revolved on multidisciplinary, predictors, and comorbidities is provided on pages 13-18.

Discharge Process	Key Summary
Becker C, Zumbrunn S, Beck K, et al. (2021). Interventions to Improve Communication at Hospital Discharge and Rates of Readmission: A Systematic Review and Meta-analysis. *JAMA Netw Open*;4(8):e2119346. doi:10.1001/jamanetworkopen.2021.19346	Becker et al. (2021) systematic review suggest communication interventions at discharge are important to facilitate at transition of care. The systematic review revealed communication interventions at discharge were significantly associated with lower readmission rates in intervention groups, had higher adherence to treatment regimen, higher patient satisfaction than control groups. Communication interventions at hospital discharge included: medication counseling, reminder handouts,

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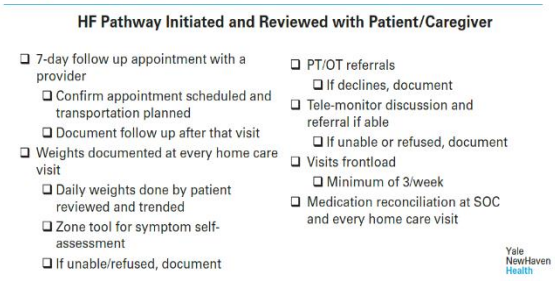
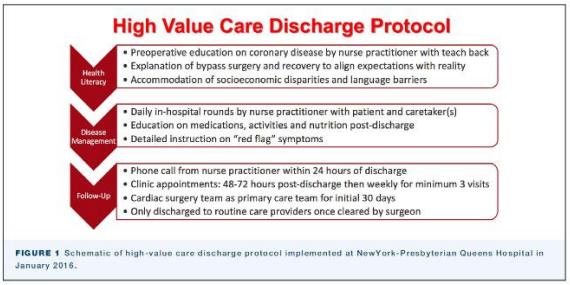
	face-to-face counseling or videos to educate about various aspects of disease.
Fraser, M., Barnes, S.G., Barsness, C., Beavers, C., Bither, C.J., Boettger, S., Hallman, C., Keleman, A., Leckliter, L., McIlvennan, C.K., Ozemek, C, Patel, A., Pierson, N.W., Shakowski, C., Thomas, S.C., Whitmire, T., & Anderson, K.M. (2024). Nursing care of the patient hospitalized with heart failure: A scientific statement from the American Association of Heart Failure Nurses. *Heart & Lung, 64*, e1-e16. https://doi.org/10.1016/j.hrtlng.2024.01.007	Fraser et al. (2024) summarized the state of the science for the care of hospitalized heart failure (HF) patients with the central role of the nurses and summarizes the American Association of Heart Failure Nurses position statement. In the multidisciplinary team nurses are central to providing essential care of heart failure patients which include prevention, phases of early diagnosis, acute decompensation, recovery, and end-stage disease. Nurse care coordinator (NCC) utilizes transitional model of care, discharge checklist i.e., medicine adherence, monitoring, recognizing, and responding to early signs and symptoms of worsening HF, provides education to patient/caregiver dyad. NCC (advocate for patients by facilitating communication between patient and treatment team, serves as a link between ambulatory and acute care settings, identifies patients at risk or rapid readmission). Fraser et al. (2024) recommends encouraging nurses to pursue board specialty certification to enhance expertise and proficiency in providing care for heart failure patients.
Patient Education	**Key Summary**
Dalleur, Olivia MPharm, PhD∗,†,‡,§; Beeler, Patrick E. MD∗,†,‖; Schnipper, Jeffrey L. MD, MPH∗,†; Donzé, Jacques MD, MSc∗,†,¶. 30-Day Potentially Avoidable Readmissions Due to Adverse Drug Events.(2021). *Journal of Patient Safety* 17(5):p e379-e386, DOI: 10.1097/PTS.0000000000000346	Dalleur et al. (2021) observational cohort study analyzed patterns of potentially avoidable readmissions due to adverse drug events (ADEs) to identify the most appropriate risk reduction interventions. 92.9% of the ADEs could have been preventable. Adverse drug events accounted 13% of 30-day preventable readmissions. Patient education at discharge specifically preventing misunderstanding regarding treatment and to set up an optimal follow up. Patient education include medications.
Heart Failure	**Key Summary**
Hagan C, Cygan H, Rockwell L, Naccarato K, Bowers T, Katz B. (2023). A Supportive Heart Failure Care Program to Reduce Hospital Readmissions. *Home Health Now.(6),*321-329.	Hagan et al. (2023) quality improvement project developed a review of chart audits, and the project team evaluated evidence-based practices to develop and support heart

doi: 10.1097/NHH.0000000000001207. PMID: 37922135	failure (HF) care program to decrease HF patient hospital readmission during the first 30 days of care with the agency. Hagan et al. (2023) highlight that education alone is not enough. An educational intervention for this organization, one-on-one meetings with each program manager with each nurse, engagement of nurse audits may increase awareness, opportunities, and barriers to improve practice and documentation. Patients and caregivers need to be a part of education process and nurses need to understand and engage in self-care management. Home health nurses would be ideal to evaluate educational needs, identify barriers to learning, and lead educational efforts of this population. See Figure 1 on Best Practices- Heart Failure (HP Pathway Initiated and Reviewed with Patient/Caregiver) Figure 1. Best Practices- Heart Failure 
Marra, K.K., & Laramee, A.S. (2021). American Association of Heart Failure Nurses position paper on the Hospital Readmissions Reduction Program (HRRP). *Heart & Lung*, 50, A2-A3. https://doi.org/10.1016/j.hrtlng.2021.04.001	Marra et al. (2021) recommended position of American Association of Heart Failure Nurses Position Paper needs further study and reporting of interventions that demonstrate improved outcomes. Transitional management may help decrease readmission rates. Results to the program did show a decrease in readmission rates for targeted diagnoses for heart failure.
Ingles, A. (2020). Heart failure nurse navigator program interventions based on LACE scores reduction inpatient heart failure readmission rates. Heart & Lung, *49*, 209-223.	Ingles (2020) conducted a quality improvement project on the implementation of a heart failure (HF) standard work discharge checklist with 7 interventions. A

	pre/post design on acute heart failure patients admitted to the hospital resulted in decrease of HF readmission rate from 21.1% to 12.94%. Interventions include: HF teach back education, HF clinic referral, outpatient pharmacy prescription delivery to bedside, discharge medication list education done by the pharmacist, follow up appointments made prior to discharge, transitional medical clinic appointment with 5 days of discharge, home health nurse HF medical management. HF nurse navigator program resulted in a decreased 21.1% to 12.94%, thus implementation of the HF program for 30-day all cause readmission rate decreased by 39%.
Coronary Artery Bypass Graft (CABG)	
Chudgar, N. P., Zhu, R., Gray, K. D., Chiu, R., Carrera, A., Lang, S. J., Avgerinos, D. V., & Mack, C. A. (2022). Implementing a high-value care discharge protocol in patients undergoing CABG reduces readmission. The Annals of Thoracic Surgery, 113(4), 1112–1118. https://doi.org/10.1016/j.athoracsur.2021.07.036	Chudgar et al. (2022) conducted a retrospective review to evaluate the impact of a high-value care discharge protocol on readmission, length of stay (LOS), and discharge destination in patients undergoing isolated CABG. Results from the implementation of the new discharge protocol was significantly associated with reduced readmission and LOS (14.4% to 6.8%), LOS reduced from 6 days to 4-6 days post implementation $p<.001$. Aside from principles of patient education, cardiac surgeon as the primary care provider for immediate postoperative period, and early/ often follow up. Nurse practitioners (NP) in cardiac surgery are primary point persons for interventions i.e. early and frequent follow up during initial and post-operative period. Discharge protocol included the NP which focused on preoperative patient health literacy, inpatient disease management education, and rigorous follow up after discharge with both inpatient visits and telephone calls. See Figure 1 “High Value Car Discharge Protocol.”

	 **FIGURE 1** Schematic of high-value care discharge protocol implemented at NewYork-Presbyterian Queens Hospital in January 2016.
Mary, A., Mzayek, F., Lefler, L.L., Jiang, Y.J., Taylor, M.M. (2025). Case management in prevention of 30-day readmission in post-coronary artery bypass graft surgery. *Prof Case Management.* Jan-Feb 01;30(1):21-27. doi: 10.1097/NCM.0000000000000718. Epub 2024 Nov 19. PMID: 38421737.	Mary et al. (2025) retrospective case control study examined how interventions such as case management and follow up care may reduce 30-day readmission. The results revealed that patients readmitted within 30 days had a significantly length of stay (LOS) (6 days) versus 10 days p<.0001. By identifying and addressing modifiable risk factors, case managers can contribute to the development and implementation of tailored interventions aimed at preventing readmissions. LOS can be addressed through case management along with other modifiable risk factors i.e., mobility, functional status, daily living activities, and medication management are essential components of comprehensive patient evaluations that helps in preventing the 30-day readmission for CABG patients. Transition to care plans should include i.e., postoperative education, rehabilitation programs, coordination of follow up care, comorbidities i.e., diabetes or respiratory issues

Evidence Search Strategies: A rapid review was conducted in February 2025 to find the latest evidence on the reduction of readmission rates. The aim of the search was to examine the best available evidence for nursing practices and/or programs in the reduction of readmission rates in the adult population within the acute care setting.

Search terms were broad and included: patient readmission AND 30-day readmission AND preventing readmission rehospitalization, patient readmission AND 30-day readmission AND preventing readmission rehospitalization AND nurs*, Readmit “readmission” AND “prevention” AND “nurse” AND “intervention”, best practices to reduce hospital readmission rates OR nursing processes to reduce readmission rates OR (reduced readmission rates or

rehospitalizations), patient*, readmission* or hospitalization* OR readmission OR "30-day readmission" OR 30-day readmission OR 30-day AND (prevent*), hospital readmission, nurse*, preventing readmission, nursing prevention readmission. Filters included: last 5 years, English, Humans, Adult 19-80+ years, Full text, United States, and inpatients. The electronic databases included PubMed, Clinical Key, CINAHL, Cochrane Libraries, and Google Scholar. Searches were individualized for each database and reviewed search methodology by the clinical library . Additionally, references from Professional Organization websites were also included in the search. After evaluation for inclusion and exclusion criteria, and relevance to the question, there were 8 articles that answered the clinical PICOT question.

Respectfully submitted,

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Clinical Question				
Population and/or Patient(s)	**Intervention/Interest Area**	**Comparison Intervention (Often current practice)**	**Outcome**	**Time Period (If Applicable; Optional)**
P: Adults (18 years and above) in acute hospital setting	I: best practices + nursing processes to reduce readmission rates	C: current practice	O: reduced readmission rate	T: Hospital setting
Final Clinical Question: What are the best practices and nursing processes to reduce adult readmission rates within the acute care hospital setting? "In adult patients, what is the best available evidence for nursing practices and processes to reduce readmission rates compared to current practice within the acute care hospital setting?"				

Searchable Question
Key Search Terms: patient readmission, readmission, preventing readmission, 30-day readmission, rehospitalization
Inclusion Criteria: Adults (18 years and above), hospital setting, nursing practice/program intervention
Exclusion Criteria: Intensive/critical unit, metanalysis and systematic reviews unless it is U.S. only
Limiters (Open year or year ranges, age ranges, and language, etc.): 5 years 2020-2025, English only, United States studies only
Databases: Cochrane Library, PubMed, Clinical Key, CINAHL, and Google Scholar
Professional Organizations: CMS Guide for Reducing Disparities in Readmissions, AHRQ, IHI, and The Joint Commission

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Search Date(s): Limiters 2020-2025 of review
Literature search topic/clinical question:

Database	Key Word(s) and/or Controlled Vocabulary Terms #	Total References Identified (hits)	No. of Relevant References	No. of Total Duplicate Articles	No. of Articles Selected for Review	No. of Articles Excluded	Final Total Relevant References
Name: PubMed **Years: 2020-2025**	Patient readmission AND 30-day readmission AND preventing readmission rehospitalization Filters: last 5 years	2,003					
Name: PubMed **Years: 2020-2025**	Patient readmission AND 30-day readmission AND preventing readmission rehospitalization AND nurs* Filters: last 5 years, English, Humans, Adult: 19+ years, young adult:19-24 years, Adult: 19-44 years, Middle Aged + Aged: 45 years, Middle	192	108	1* Mary et al. (2025)	2	106	1

	Aged: 45-64 years, Aged: 65+ years, 80 and over: 80 + years						
Name: Clinical key **Years: 2020-2025**	Readmit ("readmission" AND "prevention" AND "nurse" AND intervention") Last 5 year, English , Full Text	30	12	0	12	30	0
	Nurse Readmit January 30, 2025 ("readmission" AND "prevention" AND "nurse" AND intervention") Last 5 year, English , Full Text	13	5	1	5	2	3
Name: CINAHL	best practices to reduce hospital readmission rates **OR** nursing processes to reduce readmission rates **OR** (reduced	26	23	1 * Mary et al. (2025)	3	1	2

Years: 2020-2025	readmission rates or rehospitalizations) filter-panel-padlock-dropdown-label ☐ Human ☐ Inpatients ☐ Past 5 years ☐ USA ☐ United States ☐ All Adult ☐ English						
Name: Cochrane Library **Years: 2020-2025**	patient* NEXT (readmission* or hospitalization*) OR readmission OR "30 day readmission" OR "30-day readmission"):ti,ab,kw AND (prevent*):ti,ab,kw" with Cochrane Library publication date Between Jan 2020 and Jan 2025, in Cochrane Reviews (Word variations have been searched)	18	2	0	1	18	0

Name: Cochrane Library **Years: 2020-2025**	"hospital readmission" in Title Abstract Keyword AND nurs* in Title Abstract Keyword - with Cochrane Library publication date Between Jan 2020 and Jan 2025, in Cochrane Reviews (Word variations have been searched)	2	1	0	1	2	0
Name: Google Scholar **Years: 2020-2025**	preventing readmission	17,200	30	5	25	30	0
	nursing preventing readmission	17,400	19	10	9	17	2
TOTAL ARTICLES for Review =							**8**

*Reference/Contextual Links	*Reference/Contextual Links
Citation 1: CMS Guide for Reducing Disparities in Readmissions Hosp. Readmission Reduction | CMS Citation 2: AHRQ Transition Coaches® Reduce Readmissions for Medicare Patients With Complex Postdischarge Needs | PSNet	Citation 3: IHI Citation 4: The Joint Commission

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Additional Reference List of non-nursing related articles specific to these categories

Comorbidities:

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2. Ellis, D. E., Zaoutis, T., Thibault, D. P., Crispo, J. A. G., Abraham, D. S., & Willis, A. W. (2020). Readmissions after hospital care for meningitis in the United States. American journal of infection control, 48(7), 798–804. https://doi.org/10.1016/j.ajic.2019.10.025
3. Fields, M. W., Lee, N. J., Hong, D. Y., Para, A., Boddapati, V., Mathew, J., Kim, J. S., Lombardi, J., Lehman, R. A., & Riew, K. D. (2021). Cervical Spinal Fusion in Adult Patients With Rheumatoid Arthritis: A National Analysis of Complications and 90-day Readmissions. Spine, 46(1), E23–E30. https://doi.org/10.1097/BRS.0000000000003753
4. Son, Y. J., & Won, M. H. (2020). Gender differences in the impact of health literacy on hospital readmission among older heart failure patients: A prospective cohort study. *Journal of advanced nursing*, *76*(6), 1345–1354. https://doi.org/10.1111/jan.14328
5. Nair R, Lak H, Hasan S, Gunasekaran D, Babar A, Gopalakrishna KV. Reducing All-cause 30-day Hospital Readmissions for Patients Presenting with Acute Heart Failure Exacerbations: A Quality Improvement Initiative. Cureus. 2020 Mar 25;12(3):e7420. doi: 10.7759/cureus.7420. PMID: 32351805; PMCID: PMC7186095.
6. Rizzuto, N, Charles, G., & Knobb, M. (2020). Decreasing 30-Day Readmission Rates in Patients with Heart Failure. *Crit Care Nurse* (2022) 42 (4): 13–19. https://doi.org/10.4037/ccn2022417
7. Rubin, D.J., Shah, A.A. Predicting and Preventing Acute Care Re-Utilization by Patients with Diabetes. *Curr Diab Rep* **21**, 34 (2021). https://doi.org/10.1007/s11892-021-01402-7
8. Jan Gryczynski, Courtney D. Nordeck, Christopher Welsh, et al. Preventing Hospital Readmission for Patients With Comorbid Substance Use Disorder: A Randomized Trial. *Ann Intern Med*.2021;174:899-909. [Epub 6 April 2021]. doi:10.7326/M20-5475
9. Liebzeit, D., Haske-Palomino, M., Gatley, L., and Boltz, B. (2021). Nurses' experiences with an inpatient geriatric consulting service at a Midwestern Veterans' hospital: The elder veteran program**.** *Geriatric Nursing*, 42 (2). Pp 317-324, Copyright © 2021 Elsevier Inc.

Predictors (race, ethnicity, risk calculator models, etc.):

1. Daus M, McHugh MD, Kutney-Lee A, Brooks Carthon MJ. Effect of the Nurse Work Environment on Older Hispanic Surgical Patient Readmissions. Nurs Res. 2024 Jan-Feb 01;73(1):E1-E10. doi: 10.1097/NNR.0000000000000698. Epub 2023 Sep 26. PMID: 37768958; PMCID: PMC10840851. * *specific predictive models to Hispanic patients*

2. Gallagher, D., Zhao, C., Brucker, A., Massengill, J., Kramer, P., Poon, E. G., & Goldstein, B. A. (2020). Implementation and Continuous Monitoring of an Electronic Health Record Embedded Readmissions Clinical Decision Support Tool. *Journal of Personalized Medicine*, *10*(3), 103. https://doi.org/10.3390/jpm10030103
3. Guo, A., Pasque, M., Loh, F. *et al.* Heart Failure Diagnosis, Readmission, and Mortality Prediction Using Machine Learning and Artificial Intelligence Models. *Curr Epidemiol Rep* **7**, 212–219 (2020). https://doi.org/10.1007/s40471-020-00259-w
4. Flaks-Manov N, Shadmi E, Yahalom R, Perry-Mezre H, Balicer RD, Srulovici E. Identification of elderly patients at risk for 30-day readmission: Clinical insight beyond big data prediction. J Nurs Manag. 2022 Nov;30(8):3743-3753. doi: 10.1111/jonm.13495. Epub 2021 Nov 7. PMID: 34661943.
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9. Wassel, C. L. , Delhougne, G. , Gayle, J. A. , Dreyfus, J. & Larson, B. (2020). Risk of readmissions, mortality, and hospital-acquired conditions across hospital-acquired pressure injury (HAPI) stages in a US National Hospital Discharge database. *International Wound Journal, 17* (6), 1924-1934. doi: 10.1111/iwj.13482.
10. Ni, J., Lin, Z., Wu, Q., Wu, G., Chen, C., Pan, B., Zhao, B., Han, H., & Wang, Q. (2023). Discharge Against Medical Advice After Hospitalization for Sepsis: Predictors, 30-Day Readmissions, and Outcomes. *The Journal of emergency medicine*, *65*(5), e383–e392. https://doi.org/10.1016/j.jemermed.2023.05.014
11. Ossai, C. I., & Wickramasinghe, N. (2022). A hybrid approach for risk stratification and predictive modelling of 30-days unplanned readmission of comorbid patients with diabetes. *Journal of diabetes and its complications*, *36*(6), 108200. https://doi.org/10.1016/j.jdiacomp.2022.108200

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14. Doshi, R., Pisipati, S., Taha, M., Dave, M., Shah, J., Adalja, D., & Gullapalli, N. (2020). Incidence, 30-day readmission rates and predictors of readmission after new onset atrial fibrillation who underwent transcatheter aortic valve replacement. *Heart & lung : the journal of critical care*, *49*(2), 186–192. https://doi.org/10.1016/j.hrtlng.2019.10.011
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Multidisciplinary:

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PMC8288197. **Multi-disciplinary team specific to Acute Myocardial Infarction See Figures 1 and 2 that specifies the digital health intervention using a smartphone application. Outcome measures was unplanned all-cause readmission within 30 days post-discharge. Unplanned all-cause readmission was chosen as the primary outcome to be consistent with the value-based measure defined by the Center for Medicare and Medicaid Services Hospital Readmission Reduction Program of 30-day unplanned readmissions.*

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