

Improving Outcomes for ICU Patients on Prolonged Mechanical Ventilation Through Early Transfer to Kindred Hospitals

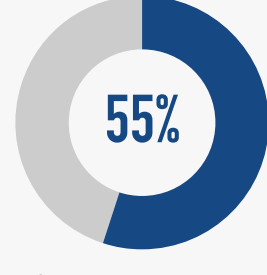
Lengthy stays in the ICU, often caused by prolonged mechanical ventilation (PMV), are associated with a number of adverse outcomes. One way to mitigate these outcomes is to transfer stable patients needing mechanical ventilation to a specialized Kindred Hospital that aggressively weans patients from the ventilator.

PROLONGED STAYS IN THE ICU RELATED TO MECHANICAL VENTILATION
Diagnosis-related groups (DRGs) requiring mechanical ventilation for greater than 96 hours have some of the longest inpatient lengths of stay (LOS), which have serious clinical and financial consequences.¹

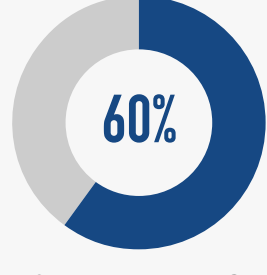
DRG	DESCRIPTION	INPATIENT ALOS
207	Respiratory system diagnosis with ventilator support >96 hours	14
003	ECMO or tracheostomy with MV >96 hours or principal diagnosis except face, mouth and neck with major O.R. procedures	31
004	Tracheostomy with MV >96 hours or principal diagnosis except face, mouth and neck without major O.R. procedures	26

Clinical Risks

Lengthy stays in the ICU are associated with serious consequences for the patient, including higher mortality and readmission risk, particularly when the ventilator dependence is related to acute respiratory failure.^{2,3} An extended ICU stay is also a risk factor for post-intensive care syndrome, which includes symptoms such as ICU-acquired weakness (ICUAW), cognitive deficits, and PTSD-like recurrence of frightening memories.⁴

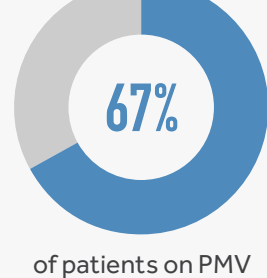


of patients remaining in the ICU for 7-10 days develop ICUAW⁵

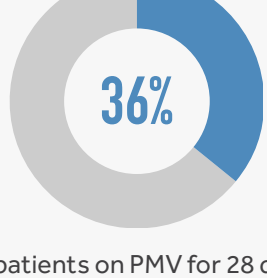


of patients in the ICU with acute respiratory distress syndrome develop ICUAW⁵

Studies also show that PMV leads to higher rates of ICUAW and readmission.^{6,7}



of patients on PMV develop ICUAW⁸



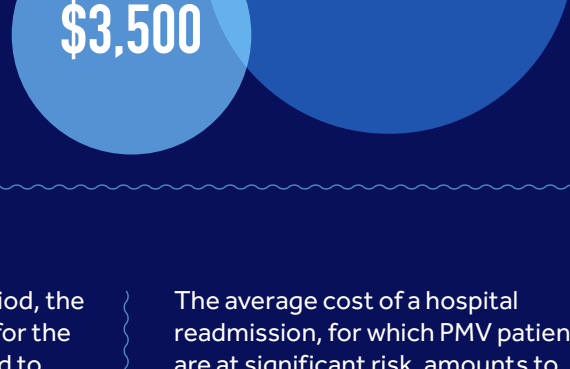
of patients on PMV for 28 days or more readmit to the ICU⁹

Researchers attempting to address this dilemma have found that transferring PMV patients to specialized settings that focus on ventilator weaning could be beneficial for those whose conditions are otherwise stable.^{10,11}

Financial Considerations

In addition to clinical consequences of prolonged ICU stays for PMV, there are significant financial considerations.

The average Medicare payments per day for the above DRGs range from around \$3,500 to over \$6,000.¹²



During a one-year period, the total Medicare spend for the above DRGs amounted to **\$3.4 billion.**

The average cost of a hospital readmission, for which PMV patients are at significant risk, amounts to **\$17,700.**¹³

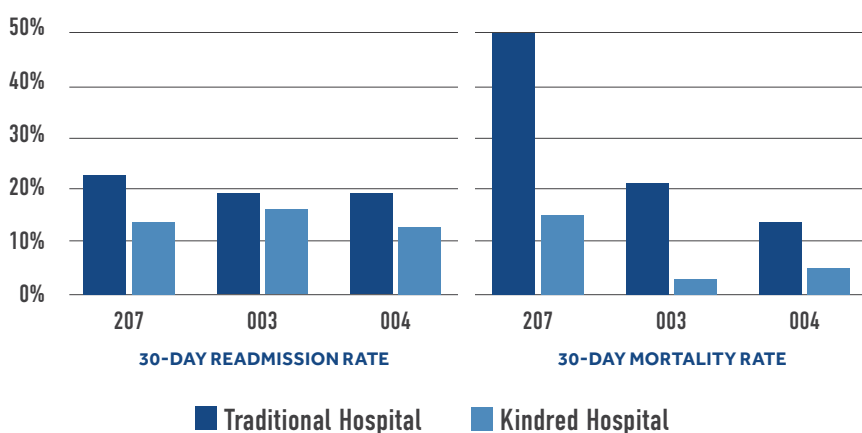
These figures further support the need for timely transfer of patients out of the ICU to care settings that specialize in ventilator liberation.

Clinical and Financial Outcomes at Kindred Hospitals

Kindred Hospitals provide specialized acute care and rehabilitation for medically complex patients, including those on mechanical ventilation. Our focused treatment of such patients allows us to efficiently help them recover and regain their independence.

Data show that the average 30-day readmission and mortality rates are significantly lower for DRGs 003, 004, and 207 at Kindred than in a traditional inpatient hospital.¹⁴ Not represented in this graph are the levels of patient complexity with these DRGs, which are far greater at Kindred.¹⁵

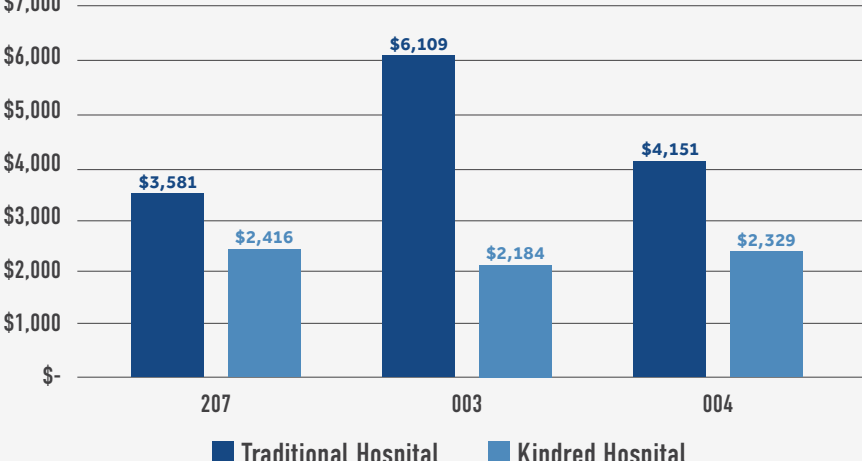
Outcomes by DRG



Beyond these outcomes, 86% of Kindred's ventilated patients are able to reach a high level of mobility, based on the Johns Hopkins Highest Level of Mobility Scale.¹⁶

Additionally, Medicare spend per day is significantly lower at Kindred Hospitals than at traditional hospitals.¹⁷

Average Medicare Spend Per Day by DRG



Kindred Hospitals' specialized caregivers and highly targeted programs allow them to achieve these exceptional outcomes.

Kindred Hospitals' Specialized Care

Founded in 1985 as a hospital company dedicated to the care of ventilator patients, Kindred Hospitals has been treating serious pulmonary conditions for almost 40 years.

Our high-level staffing allows us to accept critically ill patients on mechanical ventilation once they have reached a stable condition. Pulmonary patients benefit from:

- ✓ Physician-led interdisciplinary care
- ✓ Pulmonologist consultations
- ✓ 24/7 access to respiratory therapy
- ✓ ACLS-certified nurses in the ICU
- ✓ Low nurse-to-patient ratios in the ICU
- ✓ Physical, occupational, and speech therapists.

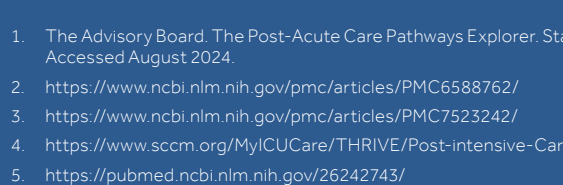
We have also established care initiatives that promote recovery, including:

- The Move Early Program through which we incorporate movement into our patients' care plans as soon as is safe, even for those on mechanical ventilation.
- Disease-Specific Care Certifications in Respiratory Failure from The Joint Commission, ensuring a standardized, evidence-based approach to care and to performance improvement.

At a Kindred Hospital, medically complex patients, including those on mechanical ventilation, benefit from highly specialized and efficient care in a facility focused specifically on their needs. With the significant clinical risks and financial considerations associated with prolonged stays in the ICU for mechanical ventilation, transferring these patients to a Kindred Hospital once they are stable is an important strategy in improving patient outcomes, and reducing readmissions and cost.

NEXT LEVEL CARE. NEXT LEVEL RECOVERY.

To learn more about our care or to make a referral, visit refertokindred.com.



1. The Advisory Board. The Post-Acute Care Pathways Explorer. State Average Outcomes by MS-DRG. Accessed August 2024.
 2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6588762/>
 3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7523242/>
 4. <https://www.sccm.org/MyICUCare/THRIVE/Post-intensive-Care-Syndrome>
 5. <https://pubmed.ncbi.nlm.nih.gov/26242743/>
 6. <https://pubmed.ncbi.nlm.nih.gov/26242743/>
 7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7515670/>
 8. <https://pubmed.ncbi.nlm.nih.gov/26242743/>
 9. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7515670/>
 10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6852505/>
 11. <https://pubmed.ncbi.nlm.nih.gov/28403404/>
 12. As measured by Medicare payment per encounter divided by ALOS for each DRG. Source: The Advisory Board. The Post-Acute Care Pathways Explorer. State Average Outcomes by MS-DRG. Accessed August 2024.
 13. <https://hcup-us.ahrq.gov/reports/statbriefs/sb307-readmissions-2020.jsp>
 14. The Advisory Board. The Post-Acute Care Pathways Explorer. State Average Outcomes by MS-DRG. Accessed August 2024. Systems Outcomes Report, MS-DRG, Kindred Hospital Medicare IDs, Q4 2022-Q1 2023.
 15. As measured by HCC Scores. Average HCC scores for Kindred patients with DRGs 207, 003, and 004 are 9.1, 9.4, and 9.6, respectively, compared with 6.2, 6.7, and 7.7 at traditional inpatient hospitals. Source: see endnote 14.
 16. Kindred Internal Data, 2023 Average. https://www.hopkinsmedicine.org/physical_medicine_rehabilitation/education_training/amp/toolkit.html, "high level of mobility" defined as a score of 4 or better.
 17. As measured by Medicare payment per encounter divided by ALOS for each DRG. Source: see endnote 14.