

Distinct Inpatient and Post-Discharge Risk States Defined by AKI and Acute Dialysis in Multiple Myeloma Hospitalizations

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BACKGROUND

- Kidney injury is common in MM** and drives early morbidity.
- National data separating AKI without dialysis from AKI requiring acute RRT remain limited.
- Clinical question:** do these phenotypes define different inpatient and post-discharge risks?

OBJECTIVE

728,280 weighted NIS hospitalizations
641,073 weighted NRD index admissions
AKI burden: 33.0% in 2016; 37.1% in 2022
AKI-RRT: 1.5%-2.1% annually

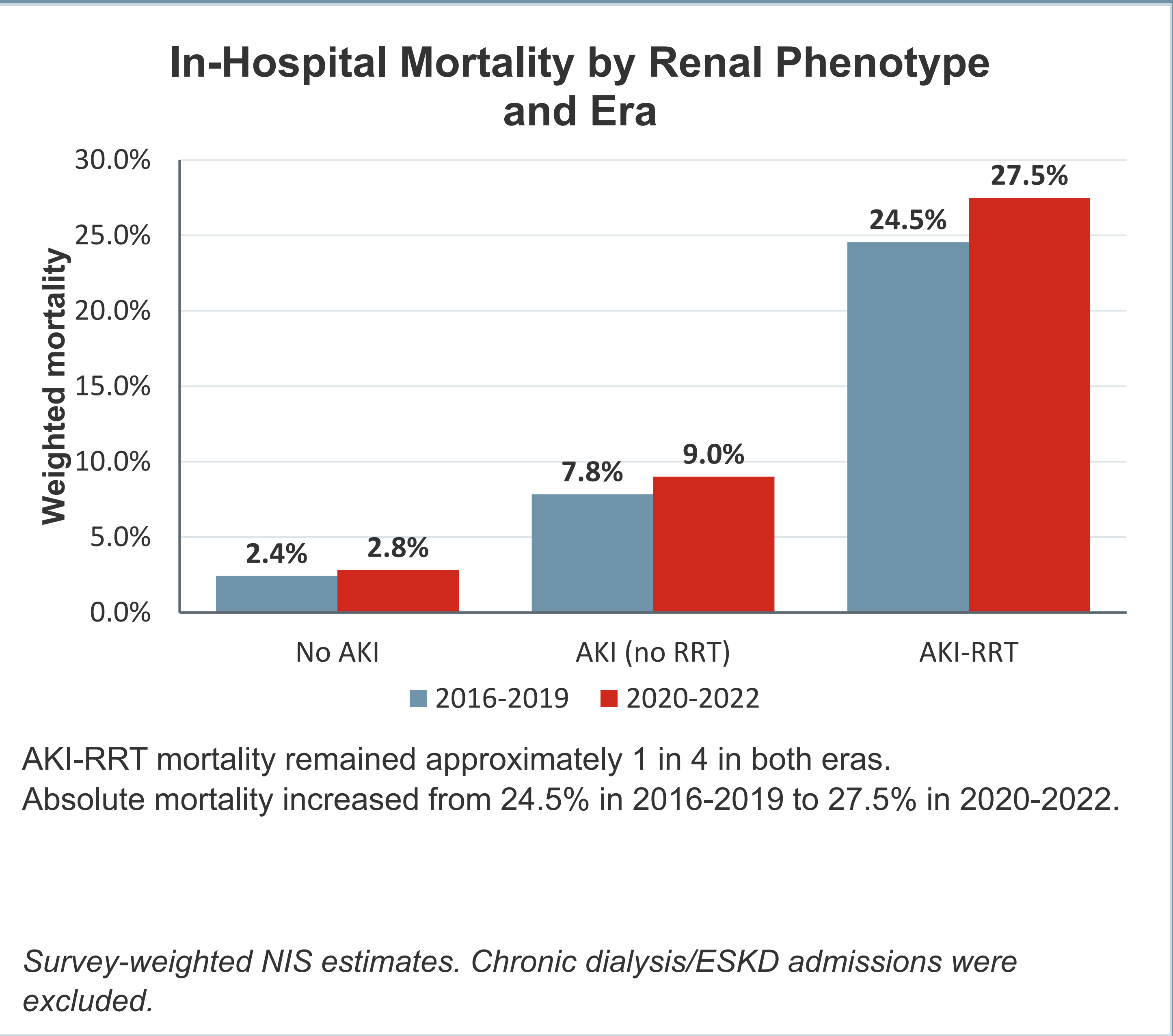
METHODS

- HCUP NIS + NRD, 2016-2022;** adults with MM.
- Excluded ESKD, chronic dialysis, and RRT without an AKI code.
- Phenotypes: no AKI/no RRT; AKI without RRT; AKI-RRT.
- Survey-weighted regression for mortality, LOS, cost, and 30-day readmission.
- Exact principal-diagnosis CCSR mapping; public cells with n<=10 suppressed.

CONCLUSION

- AKI-RRT** marks extreme inpatient acuity: mortality aOR 5.50 and cost ratio 2.51.
- AKI without RRT** shows the clearest post-discharge signal: readmission aOR 1.17.
- Implication:** combine kidney-protective inpatient care with structured transition planning.

RESULTS: ADJUSTED EFFECTS AND ABSOLUTE RISKS

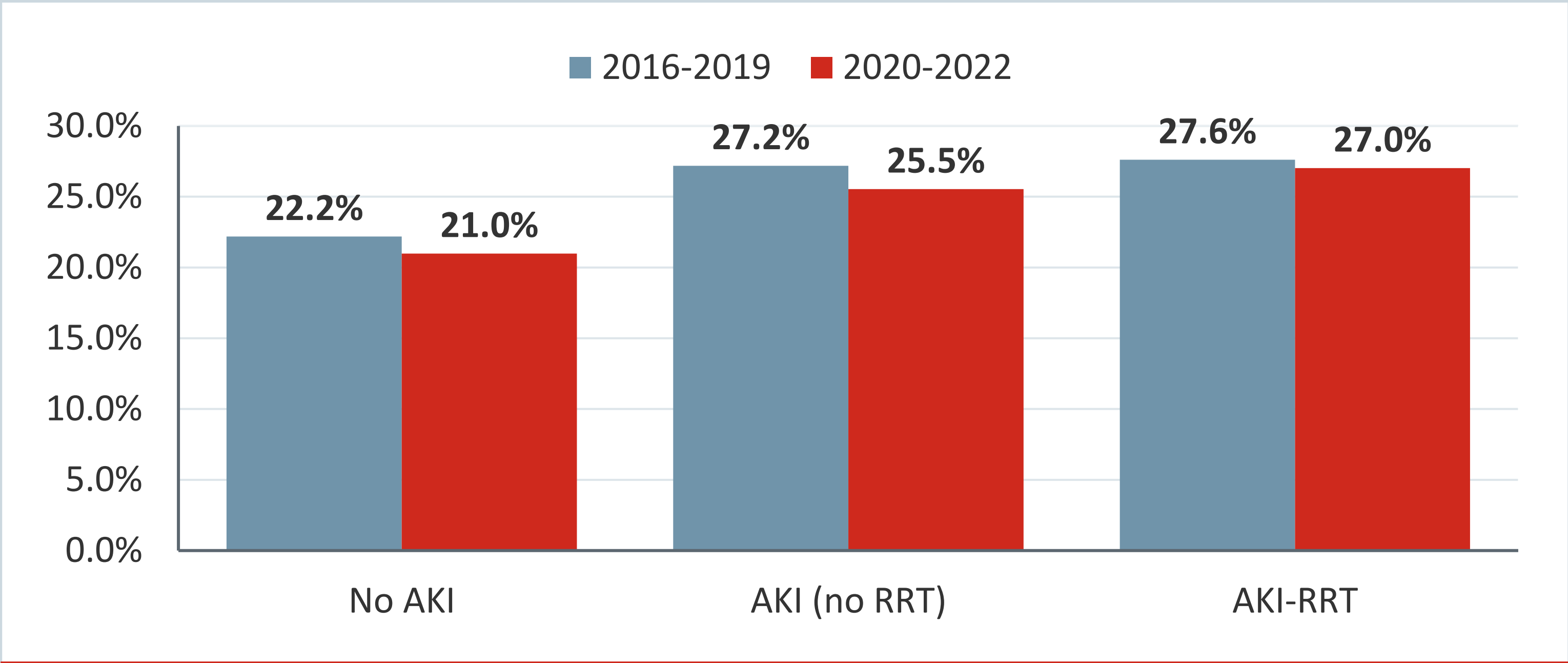


Outcome	AKI without RRT Estimate (95% CI)	AKI-RRT Estimate (95% CI)
Mortality (aOR)	1.95 (1.83-2.07)	5.50 (4.92-6.15)
Length of stay (ratio)	1.16 (1.15-1.18)	1.92 (1.85-1.98)
Hospital cost (ratio)	1.13 (1.12-1.14)	2.51 (2.43-2.58)
30-day readmission (aOR)	1.17 (1.14-1.19)	1.13 (1.04-1.23)
Absolute risks by era		
Mortality, 2016-2019	7.8%	24.5%
Mortality, 2020-2022	9.0%	27.5%
Readmission, 2016-2019	27.2%	27.6%
Readmission, 2020-2022	25.5%	27.0%

MODEL NOTES

- Adjusted estimates compare each phenotype with no AKI/no acute RRT.
- Absolute risks are validated survey-weighted era summaries.
- Era-interaction sensitivity estimates are not displayed.

30-DAY READMISSION



WHY PATIENTS RETURN

