

# The Impact of Treatment Compliance on Healthcare Resource Utilisation Amongst Kidney Transplant Recipients: Results From a Real-World Survey

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## INTRODUCTION

Kidney transplantation is the preferred treatment for end-stage renal disease (ESRD)<sup>1</sup>. For post transplant treatment, immunosuppressive agents are used for maintenance and reversal of established rejection<sup>2</sup>.

However, long-term attrition of graft function and side effects of immunosuppressive agents continue to be significant problems that may negatively affect patient compliance<sup>3</sup>.

Understanding the impact of non-compliance on healthcare resource utilisation (HCRU) is critical to identifying opportunities for improving patient outcomes and reducing avoidable healthcare costs.

## OBJECTIVE

To describe the impact of treatment compliance on healthcare resource utilisation (HCRU) among kidney transplant recipients in the United States.

## METHOD

Data were drawn from the Adelphi Real World Kidney Transplant Disease Specific Programme™, a cross-sectional survey of nephrologists in the United States from September 2024 – April 2025. Nephrologists reported patient demographics, post-transplant consultations, testing, hospitalisations, and treatment compliance for six consecutively consulting patients. Physician-perceived patient compliance was categorised as fully compliant (takes >80% of prescribed dose) and not fully compliant (takes <80% of prescribed dose). Negative binomial regressions were used to model the relationship between compliance and HCRU, whilst controlling for age, sex, concomitant conditions, and time since transplant.

## RESULTS

Overall, 30 physicians provided data for 186 patients; 138 were fully compliant with their current treatment regimen (74%) and 48 were not fully compliant (26%). In the past 12 months, 18% of fully compliant patients were admitted to hospital, compared to 35% of those not fully compliant; 57% of fully compliant admissions were through the emergency room (vs. 93% for not fully compliant), and 9% of fully compliant patients spent time in intensive care (vs. 21% for not fully compliant). Negative binomial regression showed that patients who were not fully compliant had 2.44 times the hospitalization rate of patients who were fully compliant ( $p=0.008$ ;  $n=171$ ). Fully compliant patients had higher HCRU – 1.4 times the rate of healthcare provider consultations ( $p=0.038$ ), 1.3 times the rate of visits to a transplant nephrologist ( $p=0.008$ ), and 2.1 times the rate of tests ( $p=0.001$ ), compared to not fully compliant patients ( $n=186$ ).

Table 1: Patient demographics

	Fully compliant	Not fully compliant
Patient age (years), mean (SD)	51.9 (12.0)	53.8 (12.9)
Sex, male, n (%)	84 (61)	28 (58)
Time since kidney transplant (years), mean (SD)	2.3 (3.7)	1.7 (2.2)

Definitions: SD, standard deviation.

Figure 1: Hospitalizations for patients who are fully compliant (n=131\*)

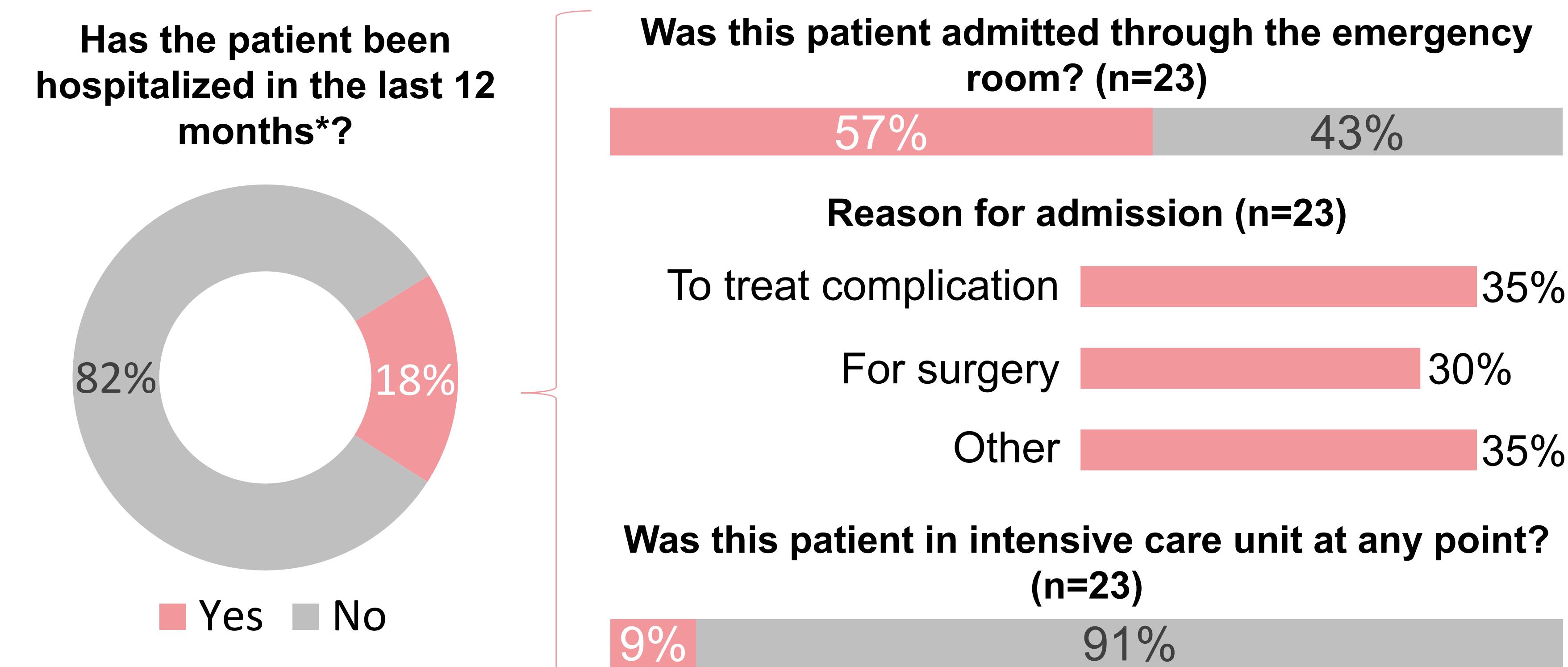
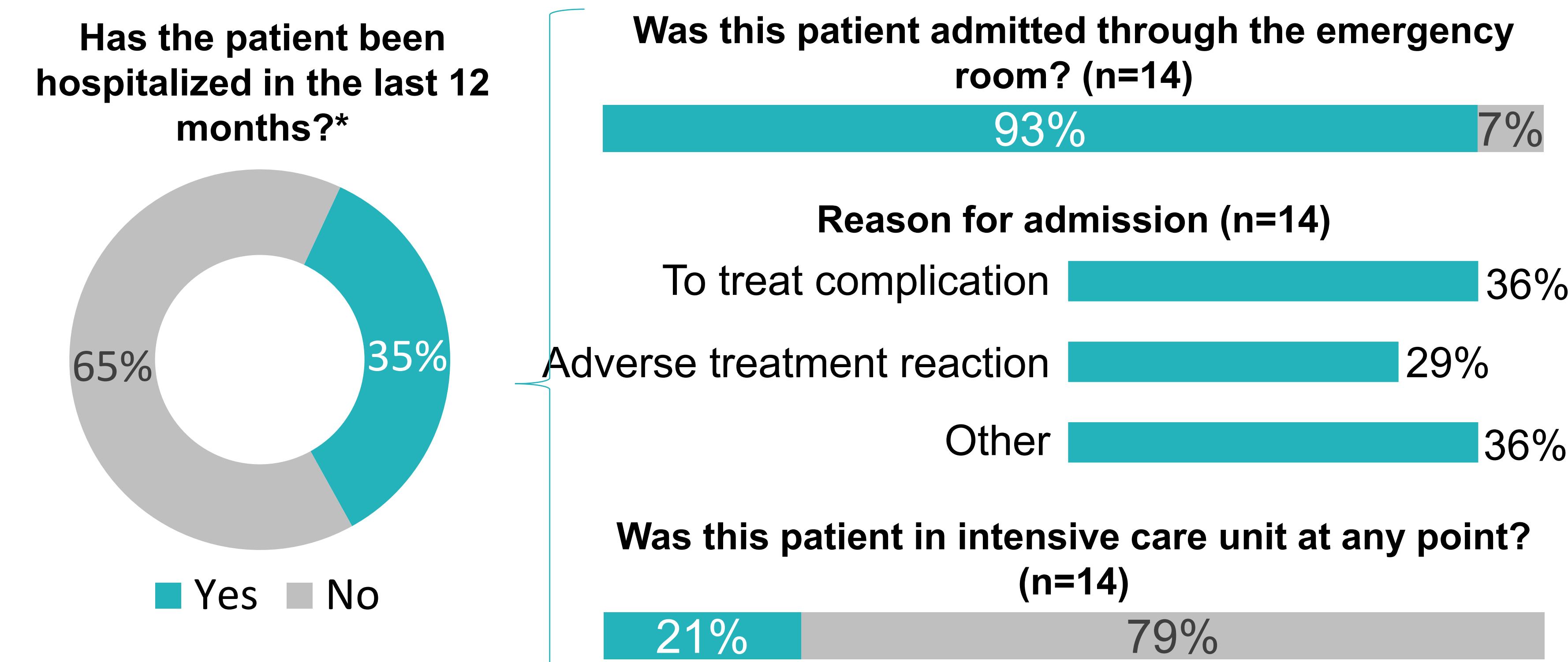


Figure 2: Hospitalizations for patients who are not fully compliant (n=40\*)



\* 'Don't know' responses have been excluded

## CONCLUSIONS

Kidney transplantation is associated with substantial HCRU. These results indicate that patients with reduced treatment compliance have fewer annual touchpoints with healthcare providers but are more likely to be hospitalised, admitted through the ER and have spent time in the ICU. Future research should clarify the root causes of reduced patient compliance to improve interventions amongst this patient population.

## REFERENCES

1. Suthanthiran M et al., NEJM. 1994;331(6):365-76.
2. Halloran PF et al., NEJM. 2004;351(26):2715-29.
3. Srinivas TR et al., CJASN. 2008;3(2):101-116.

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