

One Year Mortality in End Stage Renal Disease: Documenting PEAK Progress and Recent Trends

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BACKGROUND

Mortality Rates in End Stage Renal Disease (ESRD) are high — roughly 1 in 4 incident, ESRD patients die within the first year. The Performance Excellence in Kidney Care (PEAK) Campaign (www.kidneycarequality.org), along with other quality improvement initiatives was instituted to reduce this rate.

OBJECTIVES

To examine trends in ESRD mortality (1-year) and to characterize ESRD Network-level differences in mortality after adjusting for Network-level differences in the characteristics of incident patients

METHODS

Data Sources

- We used data from the Renal Information Management System (REMISS) that provides information on the characteristics (demographic and clinical) of ALL incident ESRD patients each year
- Data is received in real time and updated each quarter
- We merged REMISS data with data on dates of death from the Social Security Master Death File

Outcome Measures

- 1-year and 90-day mortality

Analytic Approach

- All patients who started dialysis in the first quarter of the year were followed for 90 days or 1 year from their first day of dialysis.
- Plot 1-year survival curve
- 1-year mortality per person-year
- Calculate Network-level differences in mortality after adjusting for differences in the following patient characteristics: at the time of initiating dialysis
 - Age (polynomial), race, gender, albumin>3.5, hemoglobin>10, creatinine, previous care by a nephrologist, whether a maturing fistula present, and whether diabetes is listed as primary cause

RESULTS

Table 1. 1-year mortality rate

Incident period	1-year rate (per person year)
January-December 2007	0.267
January-December 2008	0.259
January-December 2009	0.250
April 2009-March 2010	0.246

Figure 1. 90-day survival curve

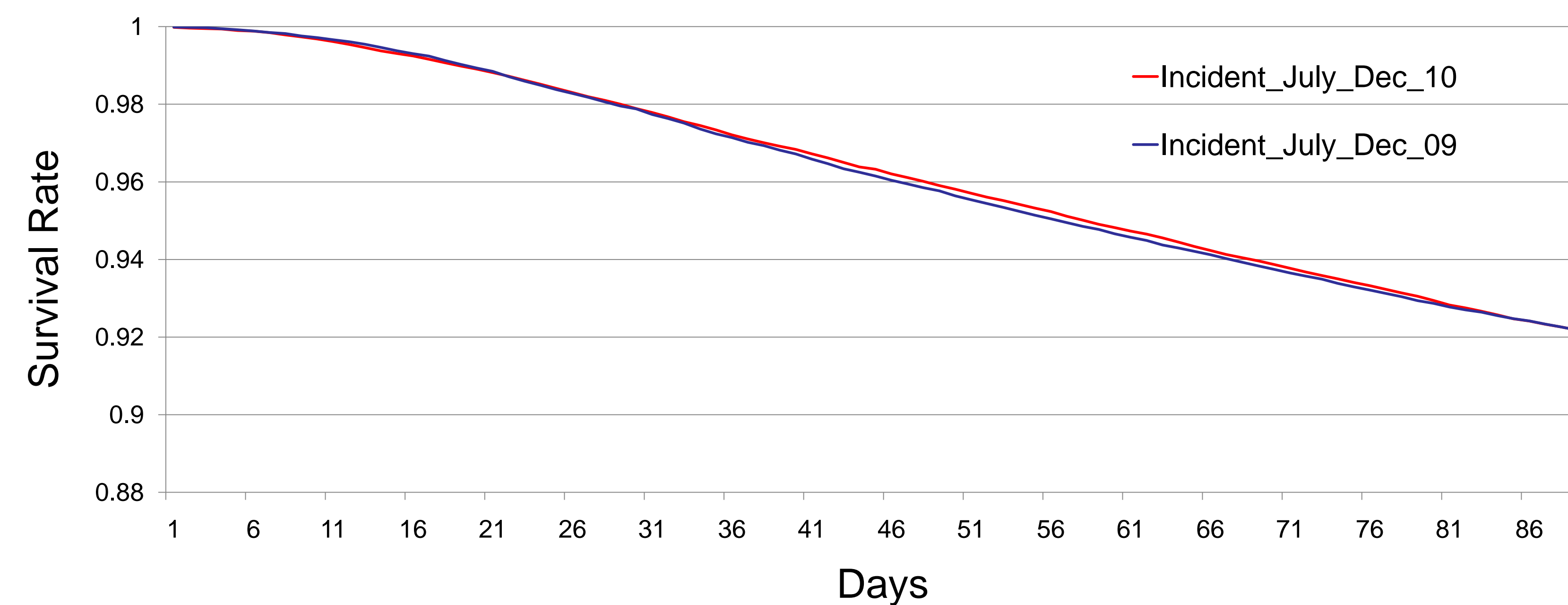
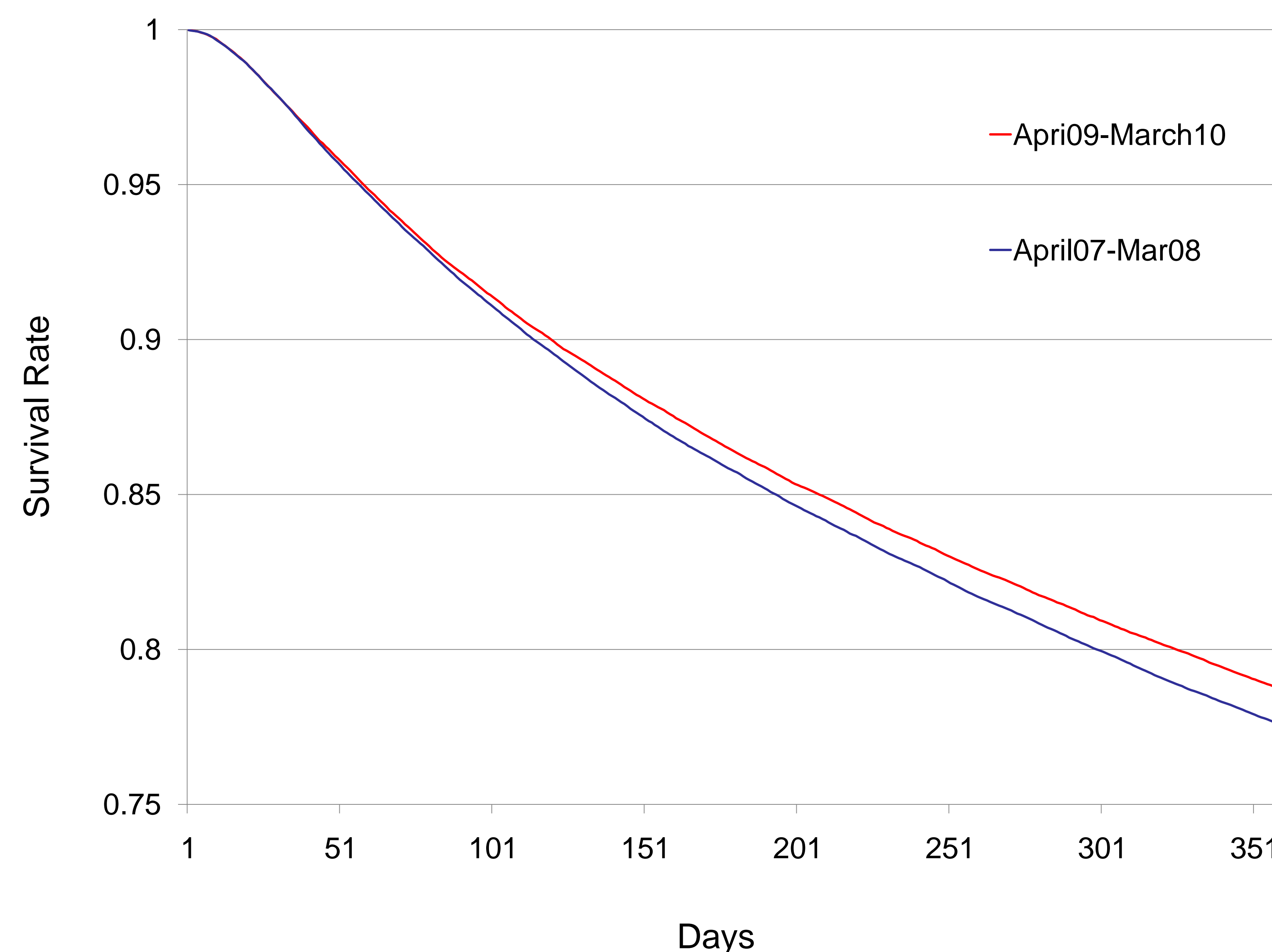
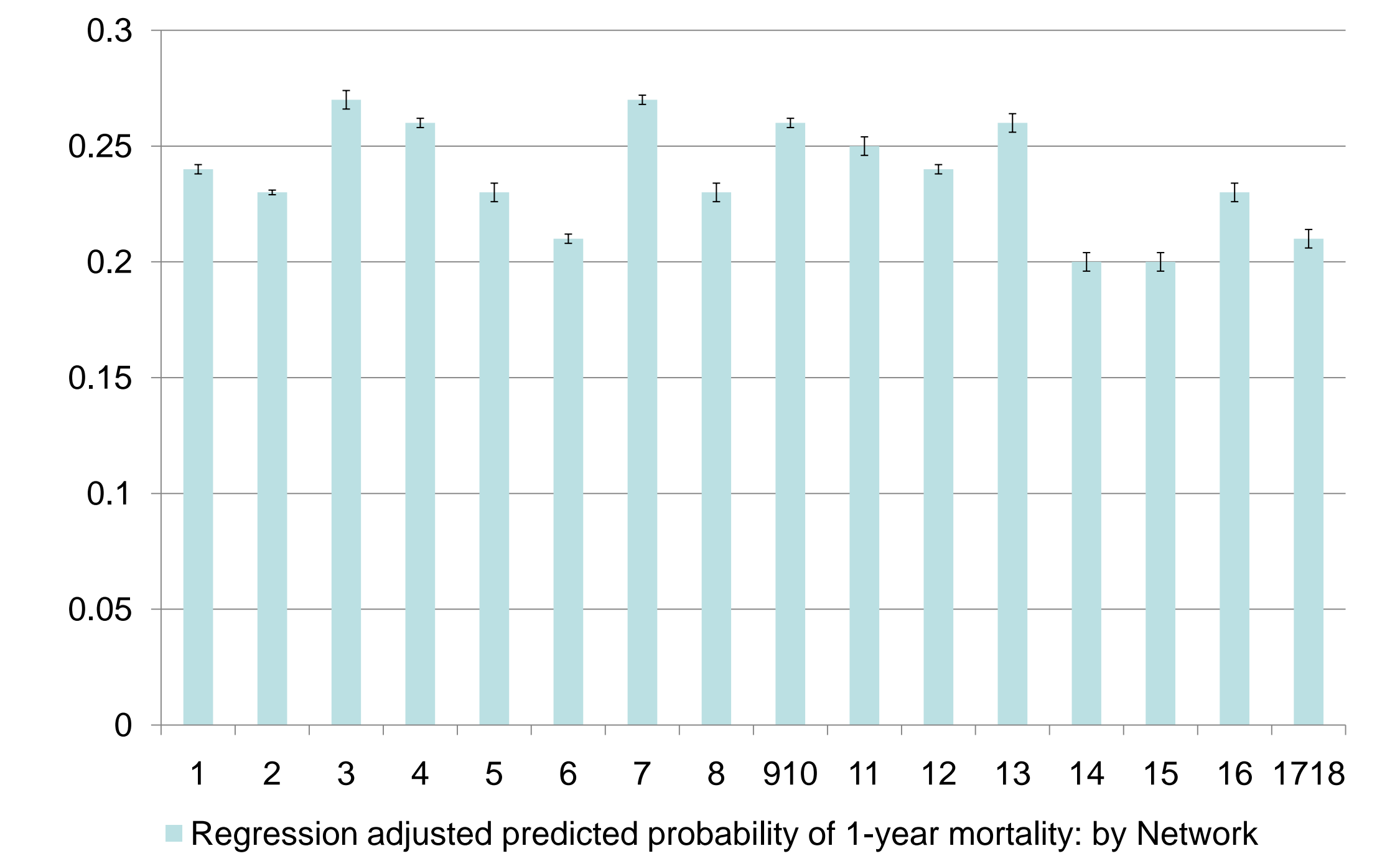


Figure 2. 1-year survival curve



RESULTS

Regression adjusted predicted probability of 1-year mortality: by Network



SUMMARY

- Fall in 1-year mortality rate
- Most of this decline driven by declines in mortality after 90-days
- More than 20% differences in Network-level 1-year mortality rates exist even after adjusting for selected patient characteristics

IMPLICATIONS

- Little variation in 90-days survival over time and across Networks, after adjusting for patient characteristics
- Substantial Network variation in 1 year survival may be attributable to treatment variation
- Likely that real Network-level differences in treatment practices exist **and/or**
- Unmeasured factors contribute to Network-level differences in mortality, and more research needed to understand these factors

FUNDING & CONTACT



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Further information can be found at www.kidneycarepartners.org.

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