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Accessibility and graft outcome according to economic inequality in South Korea: a widening gap after expansion of insurance coverage

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Objectives: Disparity in accessibility to and prognosis of kidney transplantation according to wealth inequality has been an important issue. However, there are limited nationwide evidence for this issue, particularly assessing time-trends and in Asian countries.

Methods: We performed a nationwide, population-based cohort study using the national claims database of Kea in which nationwide health insurance is provided. End-stage renal disease (ESRD) patients from 2007 to 2015 were included. As their wealth status was identifiable annually, the financial states were collected and stratified into five subgroups in each year; the aided group and the 4 groups according to their medical insurance fee percentiles [< 25 th percentile, ≥ 25 th to < 50 th percentile, ≥ 50 th to < 75 th percentile, and the highest wealth group (≥ 75 th percentile)]. Time-trends of incidence proportion of kidney transplantation among ESRD patients in each year was initially assessed. The risk of graft failure, both including death-censored graft failure and death with functioning graft, was analyzed as prognostic outcome within the transplant recipients.

Results: Significant disparity in kidney transplantation accessibility was present and it was further widening, particularly from the year 2009 in which the national health insurance service started to cover desensitized kidney transplantation. Desensitized or preemptive transplantation was less common in the poorest group who were more frequently receiving transplantation after 5 years of dialysis in the recent periods. The prognosis of kidney transplantation was significantly worse in the poorer people, and this disparity also worsened during the study periods.

Conclusions: Prominent disparity regarding accessibility to and prognosis of kidney transplantation presented in Korea according to wealth inequality and was further worsening. Worsening pressure of donor shortage was less severe in the richer people who were preferentially benefited from the recent expansion of donor pool.

Figure 1. Incidence proportion of transplantation according to wealth disparity

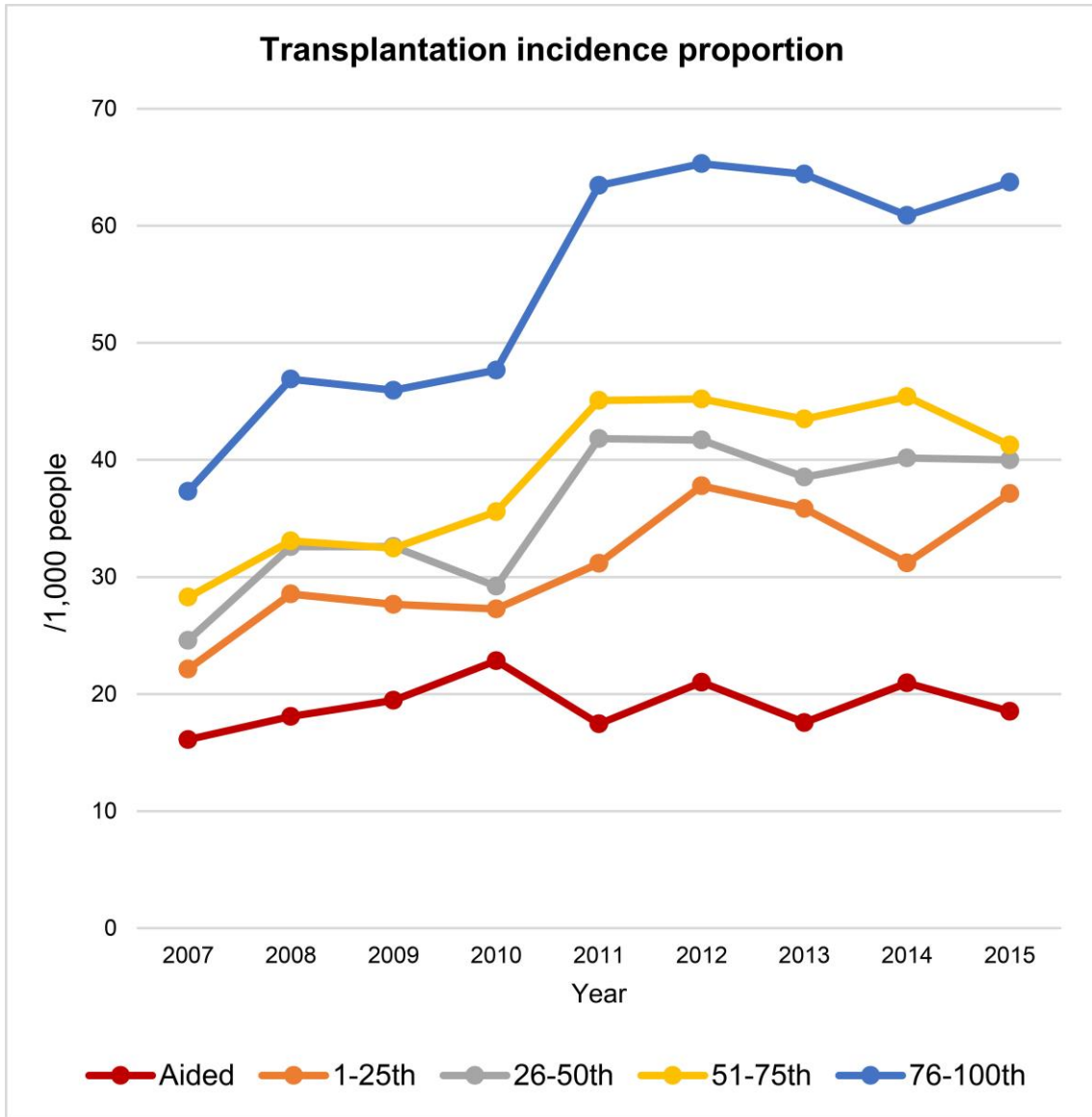
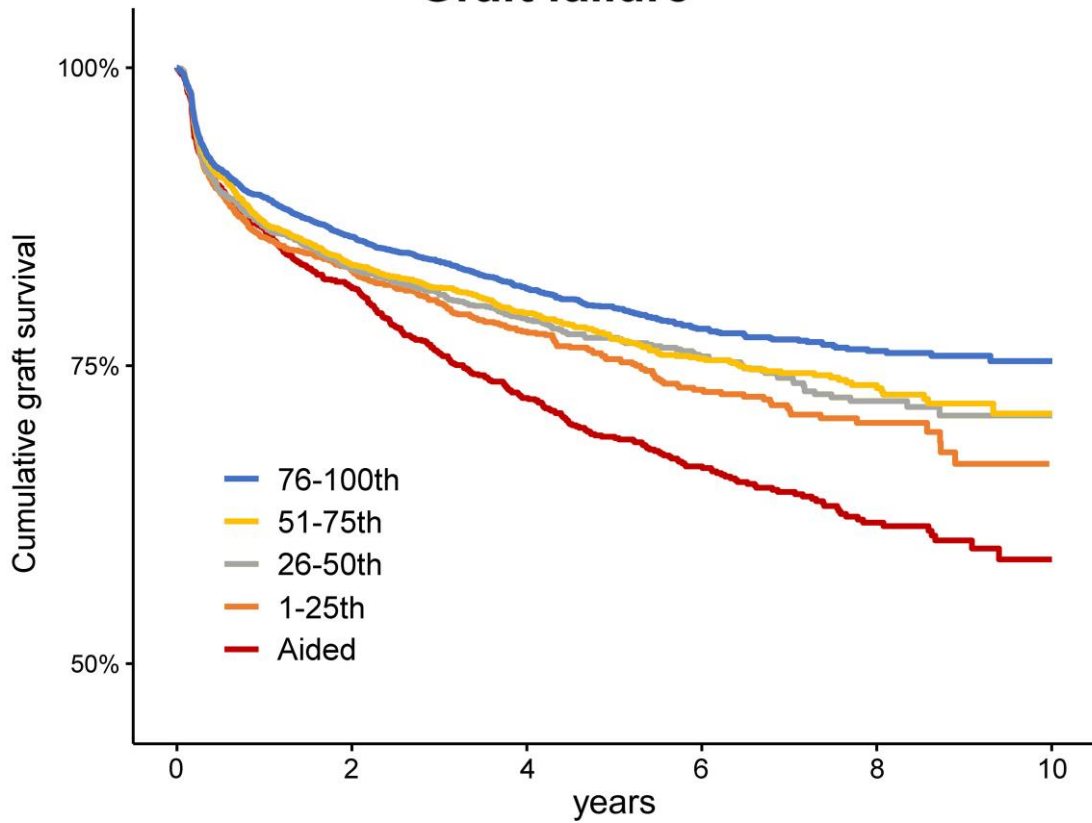


Figure 2. Risk of graft failure according to wealth disparity

Graft failure



NO.at risk

76-100th	4145	3054	2010	1074	476	5
51-75th	2819	2030	1299	664	280	2
26-50th	2053	1456	939	491	191	2
1-25th	1929	1337	819	399	146	0
Aided	1618	1167	769	480	222	1