I like to find what’s not found at once, but lies within something of another nature in repose, distinct.

Denise Levertov, Pleasures
Data on kidney transplant donors and recipients show frequent differences among races and genders. Donation rates, for example, particularly of cadaveric kidneys, are lower among Native Americans and Asians than among whites and blacks, and while rates have increased dramatically in the Asian population they have generally decreased among Native Americans (figs 7.1–2). Cadaveric donation rates are lower for women of all races than for men; the opposite is true, however, for living donations, in which the rate is consistently higher for women. The highest rates of cadaveric donation occur in the eastern states, while high rates of donations from living donors occur in pockets in the east, the upper Midwest, and the western states (figs 7.3–4). Donation rates can be influenced by social factors and by death rates in the general population.

All data underlying the figures in this chapter, as well as additional related data, may be viewed & downloaded at www.usrds.org.

While the number of cadaveric transplants has remained stable since 1994, living-related donor transplants have increased 26%, and transplants from living unrelated donors have quadrupled (fig 7.5). The median number of transplants per center has also increased, with growing in living donor transplants four times as high as that in cadaveric transplants (fig 7.8). Transplantation rates, however, show contrasting trends. While rates of living donor transplants per 100 patient years on dialysis have remained relatively constant for all groups since 1990, rates of both first and repeat cadaveric transplants have decreased for patients younger than 65 and for patients of all races (figs 7.11–12), showing that, while the number of transplants may be increasing, the actual rate of transplantation is not keeping pace with growth in the ESRD population.

Across age and racial groups and for both cadaveric and living donor transplants, the transplantation rate is higher in men than in women (figs 7.7 & 7.10). The highest rates are seen in the pediatric population which, unique among the age and racial groups, receives kidneys from living donors more frequently than from cadavers. The lowest rates of both types of transplants occur in patients 65 and older, most likely due to selection bias, and in blacks and Native Americans, which may reflect selection bias and/or organ availability.

The survival of both transplanted organs and patients themselves is improving, due in part to improved immunosuppressive therapy. The annual rate of graft loss has decreased more than 50% in patients with transplants from cadaveric donors, and almost 40% in patients with living donor transplants (fig 7.13), while the projected half-life of grafts is now at its highest for both types of transplant (figs 7.14–15). Better graft and patient survival for living donor transplants, compared to cadaveric transplants, occurs in patients of all races, and survival rates are generally comparable among the races (figs 7.16 & 7.18).

The steepest increase in the number of patients awaiting transplant is in the 45–64 age group (fig 7.20). The number of men awaiting transplant has increased more sharply than the number of women, while the rates of increase are steepest for white and black patients (figs 7.21–22).
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Figure 7.2
Living donor donations by gender & race
patients aged <65
Rates do not include discarded organs.

Figure 7.3
Cadaveric donations
per million population, patients aged <65, 1997–1998 combined, by HSA
Rates do not include discarded organs.

Figure 7.4
Living donor donations
per million population, patients aged <65, 1997–1998 combined, by HSA
Rates do not include discarded organs.
Figure 7.5
Renal transplants by donor source

total transplants

The number of transplants in 1994, and the percent change in value between 1994 and 1998, are shown in the legend. Data are taken from the HCFA Facility Survey, which includes information on both living related and living unrelated donors.

Reference: Table F.1.

Figure 7.6
First transplant counts by age group & gender 1998

Figure 7.7
First transplant rates by age group & gender 1998
**Figure 7.8**
Median yearly transplants per center

The percent change from the baseline number of transplants per center in 1990 (cadaver 22, living donor 6) is shown under the lines.

**Figure 7.9**
First transplant counts by race & gender

**1998**

**Figure 7.10**
First transplant rates by race & gender

transplants per 100 dialysis patient years, 1998
Figure 7.11  
Trends in transplant rates by age group & gender
Because of the higher transplant rates, a different scale has been used for the pediatric patients.

Figure 7.12  
Trends in transplant rates by race & gender
Figure 7.13
Annual rate of graft loss
adjusted for age, gender, race, &
primary diagnosis

The rate of graft loss in 1988, and
the percent change in values
between 1988 and 1997, are
shown in the legend. Graph in-
cludes first transplantations only,
and does not include data on pa-
tients not eligible for Medicare
enrollment.

Figure 7.14
Projected graft half-life
first cadaveric transplant,
adjusted for age, gender, race, &
primary diagnosis

The dashed segment of each line
shows projected survival. Graph
includes first transplantations
only, and does not include data
on patients not eligible for Med-
icare enrollment.

Figure 7.15
Projected graft half-life
first living donor transplant,
adjusted for age, gender, race, &
primary diagnosis

The dashed segment of each line
shows projected survival. Graph
includes first transplantations
only, and does not include data
on patients not eligible for Med-
icare enrollment.
Figure 7.16
Trends in graft survival rates
by race, adjusted for age, gender, & primary diagnosis, standardized to 1996

Note that each year of survival (first, second, fifth, tenth) corresponds to a different time period on the x-axis. Variable rates for Native Americans and Asians can be attributed to the small patient populations. Graphs include first transplantations only, and do not include data on patients not eligible for Medicare enrollment.
Figure 7.17
Graft survival rates (%) 
first, second & fifth year, by state, unadjusted

Maps include first transplantations only, and do not include data on patients not eligible for Medicare enrollment. Further analyses of geographic variations in graft survival rates should include adjustments for age, gender, race, renal diagnosis, comorbidity, and treatment of cardiovascular disease prior to and following renal transplantation, and should consider the experience and size of the individual transplant programs.
Figure 7.18
Trends in patient survival rates
by race, adjusted for age, gender, & primary diagnosis, standardized to 1996

Note that each year of survival (first, second, fifth, tenth) corresponds to a different time period on the x-axis. Variable rates for Native Americans and Asians can be attributed to the small patient populations. Graphs do not include data on patients not eligible for Medicare enrollment.
Maps do not include data on patients not eligible for Medicare enrollment. Further analyses of geographic variations in patient survival rates should include adjustments for age, gender, race, renal diagnosis, comorbidity, and treatment of cardiovascular disease prior to and following renal transplantation, and should consider the experience and size of the individual transplant programs.
Figure 7.20
Wait-listed patients by age
The number of patients in 1989, and the percent increase in the number of patients from 1989 to 1998, are shown in the legend.

Figure 7.21
Wait-listed patients by gender
The number of patients in 1989, and the percent increase in the number of patients from 1989 to 1998, are shown in the legend.

Figure 7.22
Wait-listed patients by race
The number of patients in 1989, and the percent increase in the number of patients from 1989 to 1998, are shown in the legend.