The 2009 Annual Report of the OPTN and SRTR

Kidney and Pancreas Transplantation in the U.S., 1999-2008

Overview

- The waiting list for kidney transplantation continued to grow between 1999 and 2008, from 41,177 to 76,089 candidates. However, active candidates represented the minority of this increase (36,951 to 50,624, a 37 percent change), while inactive candidates increased over 500 percent (4,226 to 25,465). There were 5,966 living donor (LD) and 10,551 deceased donor (DD) kidney transplants performed in 2008.

- The total number of pancreas transplants peaked at 1,484 in 2004 and has declined to 1,273.

- Although the number of LD transplants increased by 26 percent from 1999-2008, the total number peaked in 2004 at 6,647 before declining 10 percent by 2008. The rate of LD transplantation continues to vary significantly as a function of demographic and geographic factors, including waiting time for DD transplant. Posttransplant survival remains excellent, and there appears to be greater use of induction agents and reduced use of corticosteroids in LD recipients.

- Significant changes occurred in the pediatric population, with a dramatic reduction in the use of LD organs after passage of the Share 35 rule.

- Many strategies have been adopted to reverse the decline in LD transplant rates for all age groups, including expansion of kidney paired donation, adoption of laparoscopic donor nephrectomy, and use of incompatible LD.

Summary Figures

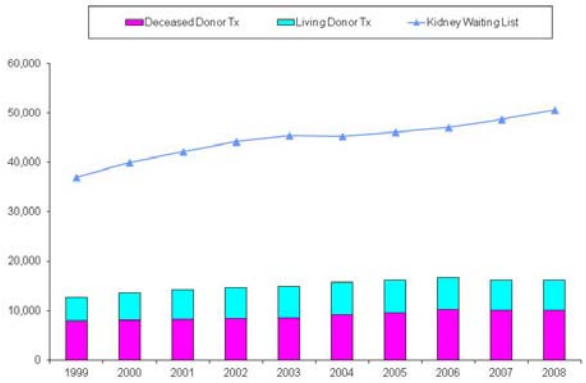
The figures on the following page are “dashboard” views of the state of kidney, pancreas, and kidney-pancreas transplantation. Details on the implications of these figures, and explanations of the methods used in creating them, are included in Chapter III of this year’s report.

The 2009 OPTN/SRTR Annual Report

The data and analyses reported in the 2009 Annual Report of the U.S. Organ Procurement and Transplantation Network and the Scientific Registry of Transplant Recipients have been supplied by the United Network for Organ Sharing and the Arbor Research Collaborative for Health under contract with the U.S. Department of Health and Human Services. The authors alone are responsible for reporting and interpreting these data; the views expressed herein are those of the authors and not necessarily those of the U.S. Government.

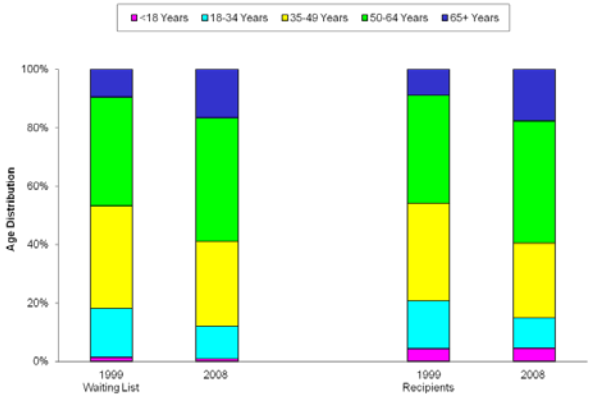
This Annual Report is a publication of the Department of Health and Human Services. It was developed by contract for the Health Resources and Services Administration, Healthcare Systems Bureau, Division of Transplantation. Suggested citation: 2009 OPTN/SRTR Annual Report 1999-2008. HHS/HRSA/HSB/DOT; UNOS; Arbor Research Collaborative for Health.

Kidney Transplantation at a Glance



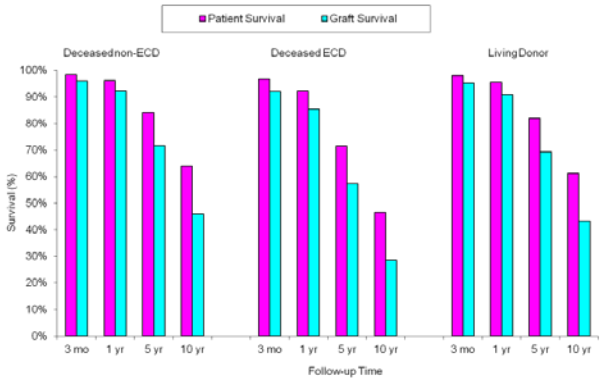
Number of Transplants and Size of Active Waiting List.

There was a very large gap between the number of patients waiting for a transplant and the number receiving a transplant. This gap widened over the decade, meaning that the waiting times from listing to transplant continued to increase. The number of living donor transplants grew until 2004, while the number of deceased donor transplants continued to rise gradually until 2006. Source: *2009 OPTN/SRTR Annual Report*, Tables 1.7, 5.1a.



Age Distribution of Recipients and Active Waiting List.

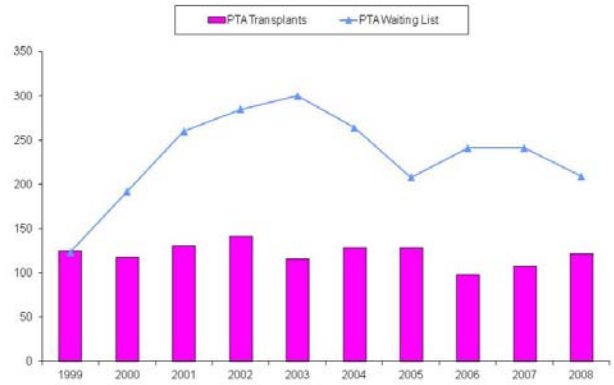
In 2008, older candidates (age >50 years) made up a much larger fraction of patients actively awaiting an organ than a decade earlier. The same pattern was observed for transplant recipients. Source: *2009 OPTN/SRTR Annual Report*, Tables 5.1a, 5.4a, 5.4b, 5.4c.



Unadjusted Patient and Graft Survival.

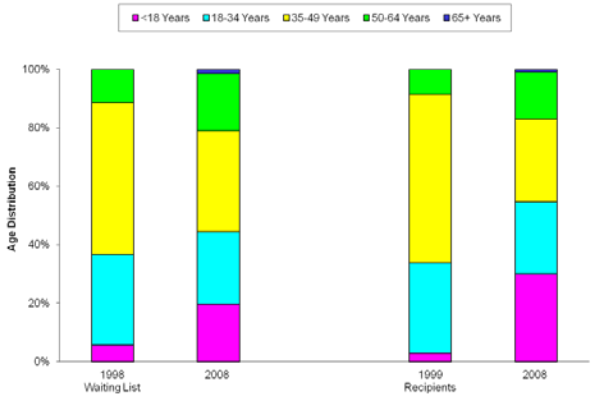
Five-year patient survival percentages (based on transplants during 2002-2007) and 10-year patient survival (based on transplants during 1997-2007) were clearly higher for recipients of living donor organs than for those of deceased donor organs. Similarly, living donor organs had the highest 5- and 10-year graft survival. Source: *2009 OPTN/SRTR Annual Report*, Tables 5.10a, 5.10b, 5.10d, 5.14a, 5.14b, 5.14d.

Pancreas Transplantation Alone (PTA) at a Glance



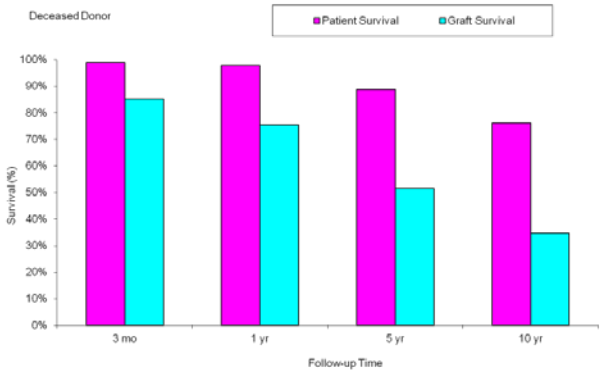
Number of Transplants and Size of Active Waiting List.

The number of patients on the waiting list for a pancreas transplant alone decreased after 2003 and has remained at pre-2001 levels. The number of PTA transplants per year was relatively stable. Source: *2009 OPTN/SRTR Annual Report*, Tables 1.7, 6.1a.



Age Distribution of Recipients and Active Waiting List.

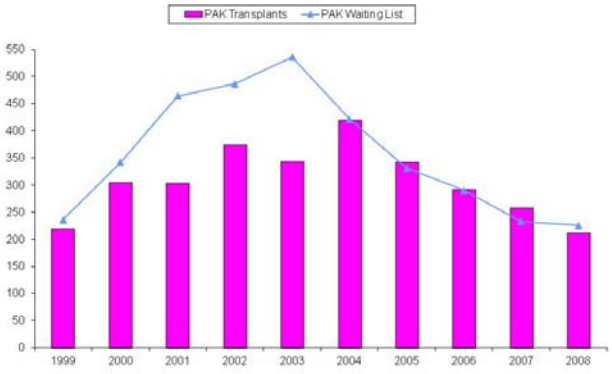
For PTA, more pediatric candidates were wait-listed and more received a transplant in 2008 than in 1999, although the absolute numbers are small. At the same time, the fraction of recipients over age 50 years grew. Pediatric diabetic patients rarely have kidney failure before age 18 years, but they are candidates for PTA. Source: *2009 OPTN/SRTR Annual Report*, Tables 6.1a, 6.4.



Unadjusted Patient and Graft Survival.

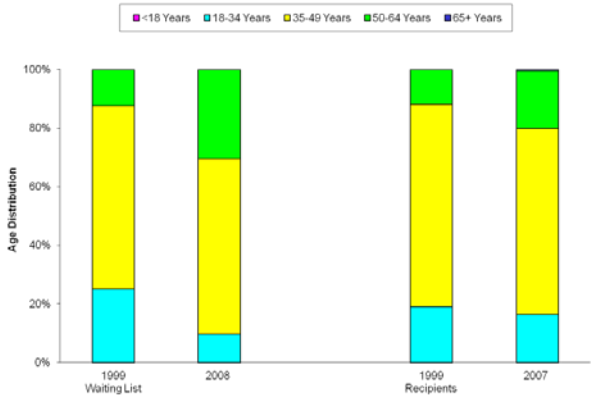
The 5-year patient survival rate for PTA transplants was 89%. Graft survival was considerably lower, especially at 5 and 10 years posttransplant. Source: *2009 OPTN/SRTR Annual Report*, Tables 6.10, 6.14.

Pancreas After Kidney (PAK) Transplantation at a Glance



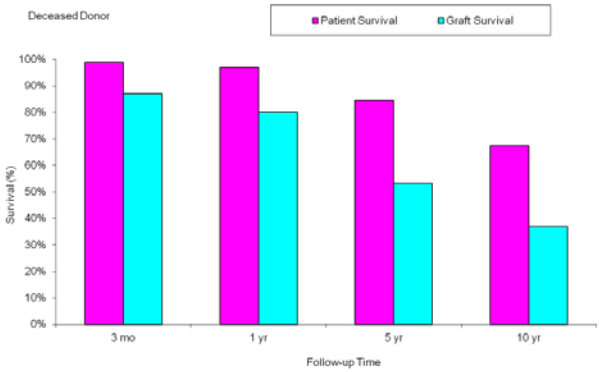
Number of Transplants and Size of Active Waiting List.

The number of patients on the waiting list for a PAK transplant has decreased since 2003. The number who received a transplant has matched the number of candidates each year since 2004. The number of PAK transplants has decreased from its highest level of the decade in 2004. Source: *2009 OPTN/SRTR Annual Report*, Tables 1.7, 7.1a.



Age Distribution of Recipients and Active Waiting List.

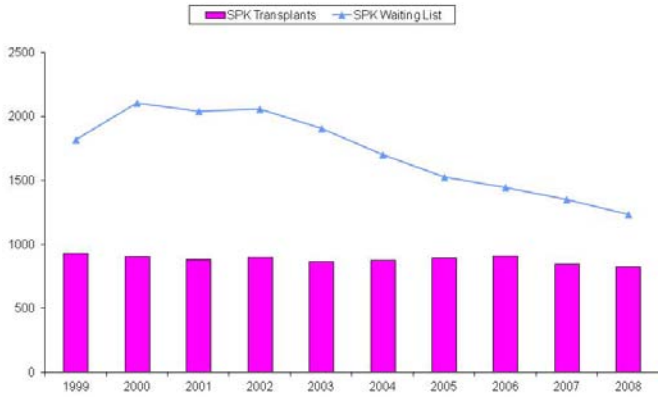
For PAK, a higher proportion of wait-listed and transplanted patients were over 50 years old in 2008 than in 1999. At the same, time, a smaller proportion of candidates and recipients were in the 18-34 year age group. (Since recipients were mostly type 1 diabetics, the ages below 18 and above 65 years were virtually unrepresented.) Source: *2009 OPTN/SRTR Annual Report*, Tables 7.1a, 7.4.



Unadjusted Patient and Graft Survival.

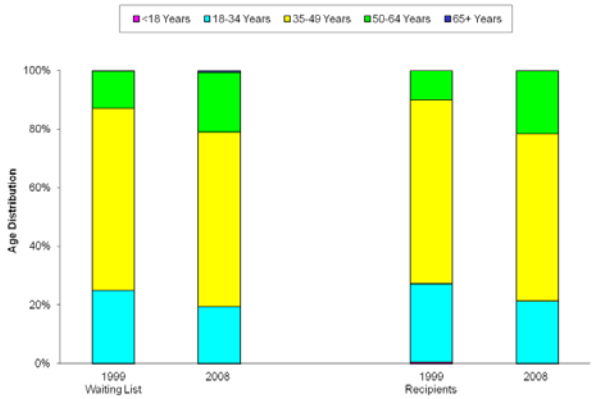
For PAK transplants, patient survival was similar to that seen for simultaneous kidney-pancreas transplant recipients. Five-year patient survival was 85%. Pancreas graft survival after PAK was considerably lower. Source: *2009 OPTN/SRTR Annual Report*, Tables 7.10, 7.14.

Simultaneous Pancreas-Kidney (SPK) Transplantation at a Glance



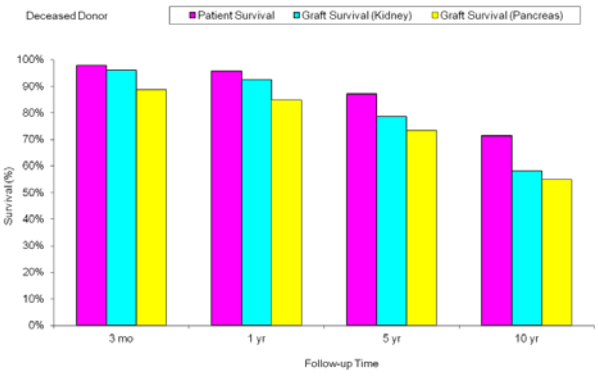
Number of Transplants and Size of Active Waiting List.

SPK accounts for the majority of all pancreas transplants. Numbers of this procedure were stable over the decade. The gap between the number of patients waiting for a transplant and the number receiving a transplant has dropped substantially since 2000. Source: *2009 OPTN/SRTR Annual Report*, Tables 1.7, 8.1a.



Age Distribution of Recipients and Active Waiting List.

For SPK transplantation, patients over age 50 years made up greater fractions of both candidates and recipients in 2007 than in 1998. At the same time, smaller proportions of candidates and recipients were in the 18-34 year age group. (Since recipients were mostly type 1 diabetics, the ages below 18 and above 65 years were virtually unrepresented.) Source: *2009 OPTN/SRTR Annual Report*, Tables 8.1a, 8.4.



Unadjusted Patient and Graft Survival.

Patient survival has improved for SPK recipients in recent years. Five- and 10-year patient survival was 87% and 71%, respectively. Graft survival is shown separately for the pancreas graft and the kidney graft of each SPK transplant. Source: *2009 OPTN/SRTR Annual Report*, Tables 8.10, 8.14.