

The Registry of the International Society for Heart and Lung Transplantation: Seventeenth Official Pediatric Lung and Heart–Lung Transplantation Report—2014; Focus Theme: Retransplantation



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From the ISHLT Registry, Dallas, Texas.

This section of the 17th Official Registry Report of the International Society for Heart and Lung Transplantation (ISHLT) for 2014 summarizes data from pediatric lung transplant recipients and their donors for transplants that occurred through June 30, 2013. This report describes donor and recipient characteristics, transplant type, and recipient outcomes data. The full Registry slide set available online (www.isHLT.org/registries) provides more detail, additional analyses, and other information not included in this printed report.

This Registry report focuses on an overall theme of retransplantation. This year's update includes new retransplantation-related analyses, figures and tables.

Data on heart–lung transplantation in children are not presented in this 2014 report, as the number of pediatric heart–lung transplant procedures remained very low. Data on pediatric heart–lung transplantation were presented in 2012.¹ All slides associated with pediatric heart–lung transplantation are available online (www.isHLT.org/registries).

Data collection and statistical methods

Data are submitted to the ISHLT Registry by national and multinational organ/data exchange organizations, or by participating individual centers. Since its inception, 416 heart transplant centers, 241 lung transplant centers and 168 heart–lung transplant centers have reported data to the Registry. In our estimation, data submission to the Registry represents approximately two thirds of the thoracic transplant activity performed worldwide.

This report used standard statistical methodology for analyses and reporting. Whenever appropriate, a more detailed explanation about the analytical methodology accompanied the website slides (in the “Notes Page” view of the website). To assess time-to-event rates (e.g., survival), this report employs the Kaplan–Meier method. Survival graphs (i.e., time-to-event graphs) underwent truncation when the number of analyzable individuals was <10. Within the era undergoing assessment, the analyses censored follow-up of the surviving recipients: (1) at the time last reported to be alive (e.g., most recent annual follow-up); or (2) at the time of retransplantation. Median time-to-event (e.g., survival) estimated the time-point at which 50% of all recipients experienced the event (e.g., death). Conditional analyses included only those patients who met the required criterion (e.g., survival past 1 year post-transplant). The log-rank test compared survival curves

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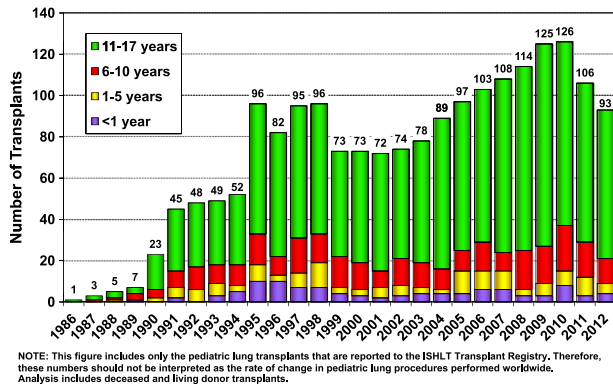


Figure 1 Pediatric lung recipients. Recipient age distribution by year of transplant.

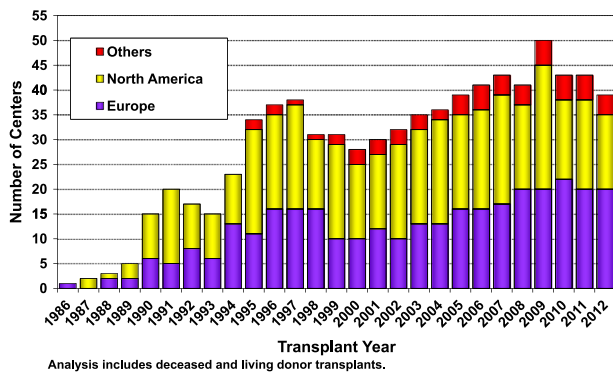


Figure 2 Pediatric lung transplants. Number of centers reporting transplants by location.

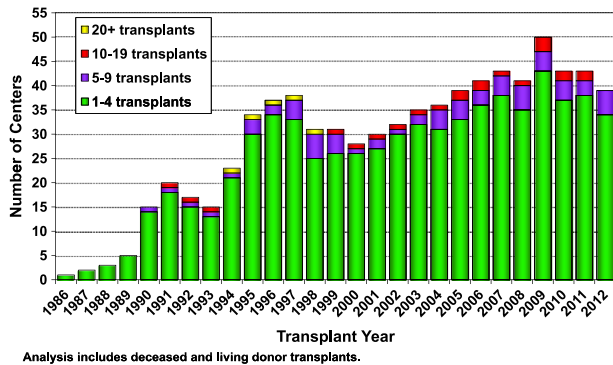


Figure 3 Pediatric lung transplants. Number of centers reporting transplants by pediatric center volume.

among groups. To prevent spuriously statistically significant findings, we adjusted all pairwise tests for multiple comparisons (Scheffé or Bonferroni).

For multivariable time-to-event analyses, this report used Cox proportional hazards regression. The analyses used the censoring approaches just described. Cox models only included transplant recipients who had data available for most of the risk factors in the final model. We used restricted cubic splines to fit continuous data variables. Model assumptions were tested and regression diagnostics were performed.

The Cox models calculated hazard ratios (HRs) and corresponding *p*-values and 95% confidence intervals (CIs). An HR of 1 suggests that the presence of the factor (e.g.,

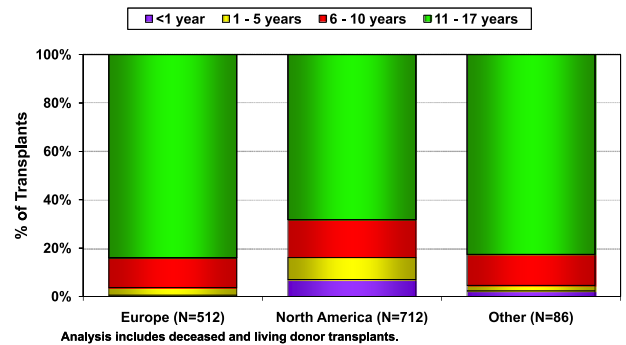


Figure 4 Pediatric lung transplants. Age distribution by location (transplants: January 2000 to June 2013).

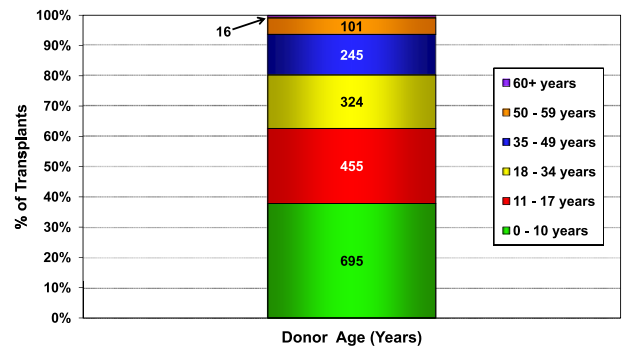


Figure 5 Pediatric lung transplants. Donor age distribution (transplants: January 1986 to June 2013).

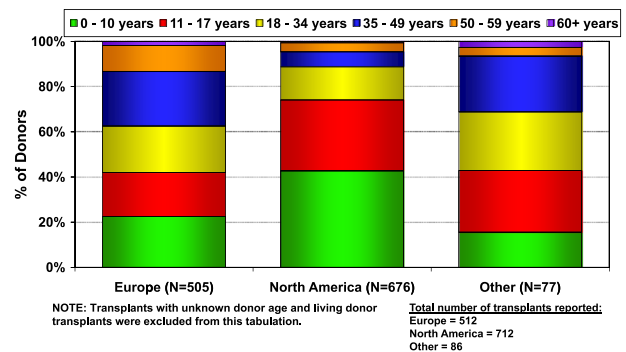


Figure 6 Pediatric lung transplants. Donor age distribution by location (transplants: January 2000 to June 2013).

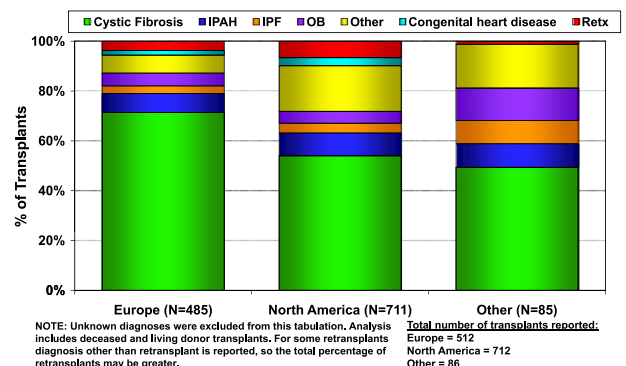


Figure 7 Pediatric lung transplants. Diagnosis distribution by location (transplants: January 2000 to June 2013).

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