

# History of the organizations

## UNOS, OPTN and SRTR interrelationships in the world of solid organ transplantation



### United Network for Organ Sharing (UNOS)

- In 1968, the Southeast Organ Procurement Foundation (SEOPF) formed as a membership and scientific organization for transplant professionals. The SEOPF implemented the first computer-based organ-matching system called “United Network for Organ Sharing” (UNOS) in 1977.
- In 1984, UNOS separated from the SEOPF and incorporated as a not-for-profit member organization. Two years later, UNOS received the federal contract to operate the Organ & Procurement Transplantation Network.
- The first report on patient survival rates for all active transplant centers in the United States was published in 1992.
- In 1999, UNOS launched “UNET,” a secure internet-based database system for transplant centers and organ procurement organizations to register transplant patients and to house and manage all organ-matching and transplant data.

(Source: UNOS.org)

### Organ Procurement & Transplantation Network (OPTN)

UNOS was awarded the first OPTN contract in September 1986 and continues to administer the OPTN under contract with the Health Resources and Services Administration (HRSA) of the U.S. Department of Health

and Human Services. The OPTN ensures the success and efficiency of the organ transplant system in the United States by:

- Facilitating the organ-matching and placement process 24 hours per day via a sophisticated computer system and a fully staffed organ center.
- Developing policies and procedures for organ recovery, allocation and transplantation.
- Collecting and managing scientific data about organ donation and allocation.
- Providing data to the government, the public, students, researchers and the Scientific Registry of Transplant Recipients for use in the ongoing quest for improvement in the field of solid organ allocation and transplantation.
- Developing and maintaining the secure web-based computer system that maintains the nation’s largest organ transplant waiting list, and recipient and donor organ characteristics.
- Providing professional and public education about donation and transplantation, the activities of the OPTN and the critical need for donation. All transplant centers in the United States must be members of the OPTN to receive funds through Medicare.

(Source: OPTN.Transplant.HRSA.gov)

## Scientific Registry of Transplant Recipients (SRTR)

SRTR is administered by the Chronic Disease Research Group of The Hennepin Healthcare Research Institute, with oversight and funding from HRSA. SRTR program-specific reports include statistics about organ donation and recovery, waitlist activity and post-transplant outcomes such as graft successes/ failures and patient survival. These reports are published every six months with revised data about each organ procurement organization and transplant program operating in the United States. The SRTR database was created for the OPTN to identify programs with demonstrated outcomes that indicated quality improvement actions were necessary.

### Private insurers' use of information for performance measurement

The transplant team at HRSA understands that many audiences utilize SRTR information to assess the operation and outcomes of the transplant system.

Private insurers use this data to evaluate transplant programs for preferred provider plans and identify transplant programs with less-than-optimal outcomes in an effort to protect the interests of their membership.

## Understanding the SRTR data

- Data is presented for all transplants performed within a given time period – usually 30 months.
- Expected results are based on multivariate models (i.e., patient mix) developed from the national experience. The results are risk-adjusted to account for the variety in the severity of patient-mix characteristics.
- The failure rates are standardized as the ratio of observed to expected (O/E) failures, either graft failures or deaths at a specific time interval after transplant. An O/E less than 1.0 means fewer failures occurred than expected, and an O/E greater than 1.0 means more failures occurred than expected.
- Statistical analysis of the O/E hazard ratio uses risk-adjusted models to determine if the value is statistically different than expected.
- A transplant center with an O/E hazard ratio of deaths greater or less than 1 would be classified as significantly different (that is, statistically lower or higher) from predicted only if the p-value was less than 0.05.

(Source: SRTR.org)

Patient survival by time since first transplant			
Transplants	One month 46	One year 46	Three years 40
Percentage of patients surviving at end of the follow-up period			
Observed at this center	95.65	76.09	80.00
Expected, based on national experience	96.21	90.10	81.65
Deaths during follow-up period			
Observed at this center	2	11	8
Expected, based on national experience	1.78	4.44	7.41
Estimated hazard ratio	1.13	2.48	1.08
95% credible interval for the hazard ratio	(0.14–4.07)	(1.24–4.43)	(0.47–2.13)

Source: SRTR program-specific reports Program-Specific Reports (srtr.org)

Above is an example of a table from the SRTR database. It outlines the observed patient survival as compared to their expected performance.

## One-month data provides survival outcome data for all members one month after each transplant.

- The one-month data shows that 46 transplants occurred in the time period.
- The observed deaths were two, but the expected number of deaths, as calculated from the multivariate modeling of risk factors, was 1.78, a hazard ratio of 1.13.
- Essentially, the number of deaths observed was almost equal to those expected for the patients served by this center, given the characteristic mix of the recipients and donors (age, disease, blood type, etc.).

## One-year data provides survival outcome data for all members one year after each transplant.

- The one-year data shows that 46 transplants occurred in the time period.
- The observed number of deaths were 11, but the expected number based on national experience was 4.44.
- The number of deaths observed was more than expected for the patients served by this center, given the characteristic mix of the recipients and donors (age, disease, blood type, etc.) compared to the experience of similar patients in the nation by a ratio of 2.48 (that is, 148% more deaths than expected).

## Three-year data provides survival outcome data for all members three years after each transplant.

- The three-year data shows that 40 transplants occurred in the time period.
- If the time period is only two and a half years, how is three years of data collected? SRTR reports the outcomes based on statistical modeling for all transplants performed within that two-and-half-year time frame. SRTR follows all those transplants for three years and reports what happened within that three-year follow-up time.

