Solid-Organ Transplants in Upstate New York

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Transplants</th>
<th>Estimated Charges Billed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstate 2007:</td>
<td>390</td>
<td>$131,667,500</td>
</tr>
<tr>
<td>Central New York donor service area 2007:</td>
<td>204</td>
<td>$84,080,600</td>
</tr>
<tr>
<td>Eastern New York donor service area 2007:</td>
<td>59</td>
<td>$15,897,000</td>
</tr>
<tr>
<td>Western New York donor service area 2007:</td>
<td>127</td>
<td>$31,689,900</td>
</tr>
</tbody>
</table>

United States 2007:
- Number of Transplants: 28,358
- Estimated Charges Billed: $10.2 billion

- Each of the regions shown above comprises the counties in New York state that are designated by the federal government as the donor service area for the Organ Procurement Organization (OPO) in that region. (Please see page 10 for detailed information about OPOs.)

- Solid-organ transplants in upstate New York are handled by the nationwide Organ Procurement and Transplantation Network (OPTN), which was established by the U.S. Congress in 1984. The United Network for Organ Sharing (UNOS), a nonprofit, scientific and educational organization, administers the OPTN under contract with the Department of Health and Human Services.

- 390 solid-organ transplants (kidney, pancreas, heart, liver or kidney-pancreas) were performed in upstate New York in 2007.

- The 390 transplants performed in upstate New York had estimated billed charges of nearly $132 million.
Growth in solid-organ transplants

Since transplant tracking began nationally in 1988, the number of transplants has risen in upstate New York, in New York state as a whole, and in the United States.¹

**Upstate total number of transplants 1988-2007: +125%**

**New York state total number of transplants 1988-2007: +238%**

**United States total number of transplants 1988-2007: +125%**
The graphs below show upstate New York, New York state and U.S. trends since January 1, 2001:

**Upstate transplants by organ 2001 – 2007**

**New York state transplants by organ 2001 – 2007**

**United States transplants by organ 2001 – 2007**
Examples of organ transplant wait times
(For patients registered on the waitlist between July 1, 2002, and Dec. 31, 2007)

Median time to transplant: KIDNEY

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<table>
<thead>
<tr>
<th>Facility</th>
<th>Median Time (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany Med</td>
<td>19.6</td>
</tr>
<tr>
<td>Erie Co. Med. Ctr.</td>
<td>38.4</td>
</tr>
<tr>
<td>Strong Memorial</td>
<td>41.1</td>
</tr>
<tr>
<td>SUNY Upstate</td>
<td>41.8</td>
</tr>
<tr>
<td>Buffalo General/Childrens</td>
<td>41.9</td>
</tr>
<tr>
<td>United States</td>
<td>41.6</td>
</tr>
</tbody>
</table>
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Median time to transplant: KIDNEY-PANCREAS

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<table>
<thead>
<tr>
<th>Facility</th>
<th>Median Time (Months)</th>
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</thead>
<tbody>
<tr>
<td>Erie Co. Med. Ctr.</td>
<td>10.8</td>
</tr>
<tr>
<td>Albany Med</td>
<td>16.0</td>
</tr>
<tr>
<td>Strong Memorial</td>
<td>25.0</td>
</tr>
<tr>
<td>SUNY Upstate</td>
<td>29.8</td>
</tr>
<tr>
<td>Buffalo General/Childrens</td>
<td>38.1</td>
</tr>
<tr>
<td>United States</td>
<td>14.1</td>
</tr>
</tbody>
</table>
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“Median time to transplant” is the time it takes for half of wait-listed patients at a given facility to receive a transplant. The other half of the patients either still were waiting when the median time was reached, or were removed from the waiting list for reasons including death.*

In 2002, a nationwide change was implemented in the allocation system for prioritizing candidates waiting for liver transplants. UNOS described the new system as “based on statistical formulas that are very accurate for predicting who needs a liver transplant most urgently.”*

The 2007 annual report of OPTN/SRTR noted that “it is likely that the implementation of the MELD/PELD system for deceased donor liver allocation in 2002 precipitated the end of steady annual increases in the size of the waiting list with a one-time decrease from 14,893 in 2001 to 13,036 in 2002.” (The 2008 annual report, analyzing 2007 data, is not expected to be available until the second quarter of 2009.)**

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*Questions and Answers for Patients and Families about MELD and PELD, page 2, published by the United Network for Organ Sharing, Richmond, VA. http://www.unos.org/SharedContentDocuments/MELD_PELD.pdf

The U.S. system of allocating organs: ‘Local patients first’*

The United States has a complex and technologically advanced organ-allocation system that links patients with organs. In 1984, as organ transplantation started its third decade, Congress passed the National Organ Transplant Act, establishing the Organ Procurement and Transplant Network (OPTN) to assure fairness in allocation of organs. The nonprofit United Network for Organ Sharing (UNOS, based in Richmond, VA) operates OPTN under contract with the Division of Transplantation in the Department of Health and Human Services.

UNOS maintains a computer network containing the names of all patients waiting for kidney, heart, liver, lung, intestine, pancreas and multiple-organ transplants. The UNOS Organ Center is staffed 24 hours a day to respond to requests to list patients, change status of patients and help coordinate placement of organs.

Patients on waiting lists are in end-stage organ failure and have been evaluated by a transplant physician at hospitals where organ transplants are performed. Organ-allocation policies are created and revised through a process involving UNOS committees and a board of directors comprising transplant physicians, government officials, immunology specialists, organ-donation experts, donor families, transplant recipients and members of the general public.

Specifics of waiting list rules (which can be seen at the OPTN Web site) vary by organ. General principles guiding distribution of organs include a patient’s medical urgency; blood, tissue and size match with the donor; time on waiting list; and proximity to the donor.

The other major guiding principle is: “Local patients first.” The U.S. Centers for Medicare & Medicaid Services (CMS) divides the nation into clusters of counties called “donor service areas” (DSAs). For each DSA, CMS designates an OPO that’s responsible for the procurement of organs for transplantation and the promotion of organ donation. With the exception of perfectly matched kidneys and the most urgent liver patients:

- First priority goes to patients at transplant hospitals located in the region served by the OPO.
- Next in priority are patients in areas served by nearby OPOs.
- If no patients in these communities can use the organ, it is offered to patients elsewhere.

About 80 percent of all organs are donated and used in the same geographical area. Locally oriented allocation makes medical sense because less time between donor and recipient usually means more chance of a successful transplant and fewer logistical complications that could threaten viability of the organ. Experience also has shown that people are more likely to donate organs if they know that other people in their own community will benefit.

While some special allowances are made for children, factors such as a patient’s income, celebrity status, race or ethnic background play no role in allocating organs. Waiting for a transplant is not like taking a number at the deli counter and waiting your turn. In some respects, even the word “list” is misleading; the list is really a giant pool of patients. There is no ranking or patient order until there is a donor, because each donor’s blood type, size and genetic characteristics are different. When a donor is entered into the national computer system, the list of patients that match that donor is different each time.

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Increased organ donation could save lives in upstate New York

Deaths while awaiting transplant, upstate New York, 2007*  

According to a Gallup survey for the Health Resources and Services Administration (ftp://ftp.hrsa.gov/organdonor/survey2005.pdf), 95 percent of people strongly support the concept of organ donation. However, national data suggest that nearly half of Americans have not signed a donor card.

For additional information about organ donation, or to obtain a donor card, contact the organ procurement organization serving your region (see list on page 10).

*Totals are less than sums due to candidates included in multiple categories.
The costs of solid-organ transplants’

In its discussion of financing a transplant, UNOS relies on data provided by Milliman, among the world’s largest independent actuarial and consulting firms (http://www.milliman.com/home/). The following information is posted on the UNOS and Milliman Web sites:

<table>
<thead>
<tr>
<th>Estimated U.S. average 2007 first-year billed charges per transplant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement</strong></td>
</tr>
<tr>
<td>Heart</td>
</tr>
<tr>
<td>Liver</td>
</tr>
<tr>
<td>Kidney</td>
</tr>
<tr>
<td>Pancreas</td>
</tr>
<tr>
<td>Kid/Panc</td>
</tr>
</tbody>
</table>

UNOS cautions that “the cost of a transplant, including preliminary testing, the surgery itself and post-operative recovery costs vary across the country and depend on the hospital and organ type.” Milliman qualifies its estimates as follows: “Charges’ refers to the amount billed. The amount billed may not be the actual amount paid for the transplant services [emphasis added] due to the presence of case rates, discounts, or other negotiated reimbursement arrangements. Significant reductions from billed charge levels may be obtained and the chances for successful treatment may be maximized by directing patients to specific centers. Actual charges will likely vary for private insurers, Medicare, or Medicaid.”


**Procurement:** Donated organ or tissue recovery services, which may include retrieval, preservation, transportation, and other acquisition costs.

**Hospital:** Facility charges only, with any re-admissions not involving re-transplantation classified under “follow-up.” Hospital services include re-admissions and re-transplantation services, and may include room and board and ancillary services such as use of surgical and intensive care facilities, inpatient nursing care, pathology and radiology procedures, drugs, supplies, and other facility-based services. Hospital services may also include use of immunosuppressive anti-rejection injections of corticosteroids and antibodies.

**Physician:** Professional non-facility services while the recipient is hospitalized, including surgery procedures and other services.

**Evaluation:** Detailed history of the candidate, noting indications and contraindications for the transplant. The recipient may receive comprehensive physical, psychological, and laboratory evaluations, including blood and tissue typing and serum and cell compatibility matching. Living donor evaluation costs are also included and may cover blood testing, blood and tissue typing, cross-matching for donor compatibility, hepatitis and HIV screening, antibody screening, medical and psychological testing, lab tests, and X-rays.

**Follow-up:** Post-discharge facility and professional non-facility services, including any hospital re-admissions not including re-transplantation. Services may also include regular lab tests, regular outpatient visits, and evaluation and treatment of complications.

**Maintenance therapy outpatient immuno-suppressants:** Post-discharge drugs used in maintenance therapy to reduce the immune system’s ability to reject transplanted organs or tissue.
Average cost per transplant

Heart transplant average cost: $658,800

- Procurement: 14%
- Follow-up: 14%
- Evaluation: 3%
- Physician: 6%
- Maintenance: 4%
- Hospital: 59%

Heart transplant average cost:

Liver transplant average cost: $519,600

- Procurement: 11%
- Follow-up: 17%
- Evaluation: 5%
- Physician: 13%
- Maintenance: 6%
- Hospital: 48%

Liver transplant average cost:

Pancreas transplant average cost: $297,300

- Procurement: 22%
- Follow-up: 16%
- Physician: 13%
- Maintenance: 12%
- Evaluation: 8%
- Hospital: 37%

Pancreas transplant average cost:

Kidney transplant average cost: $246,400

- Procurement: 24%
- Follow-up: 19%
- Evaluation: 6%
- Physician: 9%
- Maintenance: 12%
- Hospital: 30%

Kidney transplant average cost:

Kidney-pancreas transplant average cost: $368,600

- Procurement: 33%
- Maintenance: 10%
- Follow-up: 13%
- Evaluation: 4%
- Physician: 7%
- Hospital: 33%

Kidney-pancreas transplant average cost:

2007 Upstate New York solid-organ transplants estimate of billed charges: $131,667,500

- Kidney estimate: $64,310,400
- Liver estimate: $50,920,800
- Heart estimate: $11,858,400
- Pancreas estimate: $891,900
- Kidney-pancreas estimate: $3,686,000
## Organ Procurement Organizations (OPOs)*

<table>
<thead>
<tr>
<th>OPO</th>
<th>Transplant centers retrieving organs for this OPO</th>
<th>Counties in donor service area</th>
</tr>
</thead>
</table>
| **Finger Lakes Donor Recovery Network**  | Strong Memorial Hospital (Rochester) handles heart, liver, kidney, pancreas and kidney-pancreas transplants  
SUNY Upstate Medical University Hospital (Syracuse) handles kidney, pancreas and kidney-pancreas transplants | NEW YORK: Cayuga, Chemung, Chenango, Cortland, Jefferson, Lewis, Livingston, Madison, Monroe, Oneida, Onondaga, Ontario, Oswego, St. Lawrence, Schuyler, Seneca, Steuben, Tompkins, Wayne, Yates |
| **Center for Donation & Transplant**      | Albany Medical Center handles heart, kidney, pancreas and kidney-pancreas transplants (Albany Medical Center announced on Jan. 30, 2009, that it will deactivate its heart transplant program for one year, beginning March 6, 2009, to evaluate a decline in the number of transplants it performs and whether to re-open the heart transplant service at the end of the year. It continues to perform kidney and pancreas transplants.)  
| **Upstate New York Transplant Services**  | Buffalo General Hospital / Women & Children’s Hospital of Buffalo and Erie County Medical Center (Buffalo) both handle kidney, pancreas and kidney-pancreas transplants | NEW YORK: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming |
| **New York Organ Donor Network**          | NY Presbyterian-Columbia Downstate Medical Center  
Montefiore Medical Center  
Mount Sinai Medical Center  
NY Presbyterian-Cornell University Hospital of SUNY (Stony Brook, L.I.)  
St. Luke’s Roosevelt  
New York Univ. Medical Ctr.  
Westchester Medical Center | NEW YORK: Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester PENNSYLVANIA: Pike |


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Excellus®  
A nonprofit independent licensee of the BlueCross BlueShield Association  
Winter 2009
The nonprofit OPOs offer information about a broad range of transplant-related issues, including:

- How to register to be a donor,
- Additional overviews of organ and tissue donation,
- Transplantation myths and frequently asked questions,
- Religious viewpoints,
- The donation process,
- How to talk to your family about donation,
- Gift-of-life stories,
- Informational materials and expert speakers, and
- How to get involved as a volunteer.

Additional information is available from the OPO Web sites or at www.organdonor.gov, the organ donation information site of the Department of Health and Human Services.


For more information

These Web sites offer substantial additional information about organ donation and related issues:

- The Department of Health and Human Services informational site, www.organdonor.gov/
- University of Minnesota Center for Bioethics, www.ahc.umn.edu/bioethics/
- Donate Life America, www.donatelifeny.net/

End Notes

1 Data source for number of transplants and number who died while on waiting list: Organ Procurement and Transplantation Network (OPTN), http://www.optn.org/latestData/stateData.asp?Type=center, then click “State Data;” click on map of New York state; choose category “Transplant”; choose organ: “All;” click “transplants by donor type;” and from dropdown “add field” menu, select “transplant center (321 items).” Tabulate results for upstate New York’s five active transplant centers: Buffalo General / Children’s, Erie County Medical Center, Strong Memorial Hospital, SUNY Upstate, and Albany Medical Center.


3 Data source for number of patients on waiting lists: Scientific Registry of Transplant Recipients (SRTR), a national database of transplantation statistics. Data in the registry are collected by the Organ Procurement and Transplantation Network from hospitals and organ procurement organizations. The SRTR is administered by the Arbcor Research Collaborative for Health with the University of Michigan, with oversight and funding from the Health Resources and Services Administration. http://www.ustransplant.org/annual_Reports/current/Chapter_I_AR_ED.htm??p=2#TDC. See table 1-3.
