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## PROFESSION



David A. Axelrod, MD, kidney recipient Kathy Niedzwiecki and donor Catherine Richard at the Dartmouth-Hitchcock Medical Center. Richard's fiancé also got a donated kidney.  
[Photo by AP/Wide World Photos]

### Kidney exchange program makes 1st matches

The United Network for Organ Sharing brings together incompatible donor-recipient pairs through a national pool.

By KEVIN B. O'REILLY, amednews Staff. Posted Jan. 10, 2011.

Kathy Niedzwiecki of Pelham, N.H., and Ken Crowder of St. Louis needed new kidneys and had loved ones willing to donate them -- but those donors were medically incompatible.

Thanks to a United Network for Organ Sharing pilot program launched in 2010 that matches incompatible donor-recipient pairs through a nationwide pool, Niedzwiecki and Crowder got the kidney transplants they needed.

In the paired exchange, Niedzwiecki's sister-in-law wound up donating her kidney to Crowder, and Crowder's fiancée donated her kidney to Niedzwiecki. The kidney exchange, also called a paired donation, took place in early December 2010. At this article's deadline, doctors said the recipients and donors were doing well.

The exchange was the first to take place under the UNOS program after years of hammering out details about how the project would work. Seventy-seven transplant programs are participating in the pilot, each affiliated with one of four coordinating centers.

More than 700 kidney transplants have taken place worldwide through paired donation in the last three years, according to UNOS. Through U.S. regional exchanges, transplant centers have pulled off several double-digit transplant chains started by altruistic donors.

A single national pool to match donor-recipient pairs for kidney exchanges could yield an extra 1,000 to 3,000 kidney transplants a year, experts estimate. Fewer than 17,000 kidney transplants are performed annually in the U.S., with nearly two-thirds of kidneys coming from deceased donors. Nearly 90,000 patients are on the UNOS waiting list for kidneys, and every transplant performed with a living donor's kidney means one less person on that list.

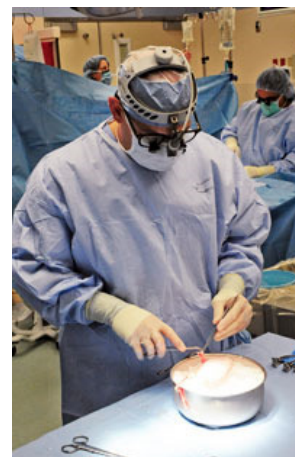
More important, experts said, is that a national pool of potential matching pairs will make it easier to find compatible donors for the hardest-to-match patients. "The best part about these exchanges is that they open up the opportunity for living donor transplants to people who have medical contraindications," said David A.

Axelrod, MD, section chief of solid organ transplant surgery at Dartmouth-Hitchcock Medical Center in Lebanon, N.H. He performed the donor and transplant operations for Niedzwiecki, who was 89% "sensitized" due to pregnancy, meaning that of 100 potential donors, 89 would not match medically.

### Fewer than 17,000 kidney transplants are performed annually in the U.S.

"The goal of many people for many years has been to get a true national program to make it as reasonable as possible to get people in a single program," said Kenneth Andreoni, MD, chair of the UNOS Kidney Transplantation Committee and associate professor of surgery at The Ohio State University College of Medicine. "The secret is to have enough donors so that people who are highly sensitized can find that needle-in-the-haystack donor. The more people there are in the system, the more chances there are of finding that donor."

The first match run using the nationwide data pool happened in October 2010 and resulted in the Niedzwiecki



Jason Wellen, MD, surgical director of the Barnes-Jewish Hospital kidney and pancreas transplant program in St. Louis, helped perform the Crowder kidney transplant. "Every transplant program should have a tremendous interest in joining a paired exchange program," Dr. Wellen said.  
[Photo courtesy of Barnes-Jewish Hospital]

and Crowder transplants. The second run was in early December 2010, and of 62 donor-recipient pairs listed, 12 were matched in four three-way matches, Dr. Andreoni said. The coordinating centers have been notified and are doing further testing to assure that the transplants can come to fruition.

Even more transplant programs should be willing to participate once the UNOS project moves out of the pilot phase, said Jason Wellen, MD, surgical director of the Barnes-Jewish Hospital kidney and pancreas transplant program in St. Louis. He helped perform the Crowder transplant.

"I think most programs, once the pilot program is complete and shown successful, will be extremely eager to enter into the UNOS program," Dr. Wellen said. "Many centers that have never participated in regional exchanges will be willing to do so as part of the UNOS program."

#### **Aiming for routine**

Improving the participation rate will be a major challenge for the project, said Alvin E. Roth, PhD, one of the founders and designers of the New England Program for Kidney Exchange, a UNOS pilot coordinating center and in 2004 the first regional exchange to be launched.

"It's nice that the [UNOS program] got going in a preliminary way, but it's got a long way to go before it's a big exchange," Roth said. "They're working now on a very small scale. They had 40 donor-patient pairs in October and 60-plus in December -- that's fewer than one per participating hospital. The promise of a national exchange is there will be really lots of donor-patient pairs. ... We have to work to make that happen; it won't just happen automatically."

#### **Nearly 90,000 patients are on the UNOS waiting list for kidneys.**

The barriers to participating include funding, with payers unwilling to fund the expensive work-ups potential donors require unless they know the kidney will be going to the patient they cover. That is impossible, by definition, to guarantee in an exchange arrangement, said Michael Rees, MD, PhD, director of renal transplantation at the University of Toledo Medical Center in Ohio.

"We haven't worked out a way in America to finance paired donation," said Dr. Rees, CEO of the Alliance for Paired Donation, another coordinating center for the UNOS project.

He estimates that an initial pool of \$8 million could become a self-perpetuating fund to help finance the cross-matching costs along the lines of what organ procurement organizations do for cadaveric donation. The costs for the UNOS program, which include the expense of flying donor kidneys from one part of the country to another, are being paid for by the Organ Procurement and Transplantation Network and philanthropy.

"I'm in favor of there being a national system, and it is best run by UNOS," Dr. Rees said. "But they will build a national system based on consensus, and consensus takes time."

He said the goal is to transform living kidney exchange -- whether a two-way swap or an extended chain -- from a relatively rare event to something commonplace. "It has to become boring and routine," he said.

The print version of this content appeared in the Jan. 17 issue of *American Medical News*.

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#### **ADDITIONAL INFORMATION:**

##### **WEBLINK**

United Network for Organ Sharing Kidney Paired Donation Pilot Program ([optn.transplant.hrsa.gov/resources/kpdpp.asp](http://optn.transplant.hrsa.gov/resources/kpdpp.asp))

"A nonsimultaneous, extended, altruistic-donor chain," *The New England Journal of Medicine*, March 12, 2009 ([www.ncbi.nlm.nih.gov/pubmed/19279341](http://www.ncbi.nlm.nih.gov/pubmed/19279341))

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