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# In Discarding of Kidneys, System Reveals Its Flaws

By KEVIN SACK

ST. PAUL — Last year, 4,720 people died while waiting for kidney transplants in the United States. And yet, as in each of the last five years, more than 2,600 kidneys were recovered from deceased donors and then discarded without being transplanted, government data show.

Those organs typically wound up in a research laboratory or medical waste incinerator.

In many instances, organs that seemed promising for transplant based on the age and health of the donor were discovered to have problems that made them not viable.

But many experts agree that a significant number of discarded kidneys — perhaps even half, some believe — could be transplanted if the system for allocating them better matched the right organ to the right recipient in the right amount of time.

The current process is made inefficient, they say, by an outdated computer matching program, stifling government oversight, the overreliance by doctors on inconclusive tests and even federal laws against age discrimination. The result is a system of medical rationing that arguably gives all candidates a fair shot at a transplant but that may not save as many lives as it could.

“There is no doubt that organs that can help somebody and have a survival benefit are being discarded every day,” said Dr. Dorry Segev, a transplant surgeon at Johns Hopkins University School of Medicine.

For 25 years, the wait list for deceased donor kidneys — which stood at 93,413 on Wednesday — has remained stubbornly rooted in a federal policy that amounts largely to first come first served. As designed by the government’s Organ Procurement and Transplantation Network, which is managed under federal contract by the nonprofit United Network for Organ Sharing, the system is considered simple and transparent. But many in the field argue that it wastes precious opportunities for transplants.

One recent computer simulation, by researchers with the Scientific Registry of Transplant Recipients, projected that a redesigned system could add 10,000 years of life from just one year of transplants.

Currently, the country is divided into 58 donation districts. When a deceased donor kidney becomes available, the transplant network's rules dictate that it is first offered to the compatible candidate within the district who has waited the longest. Additional priority is given to children, to candidates whose blood chemistry makes them particularly difficult to match and to those who are particularly well matched to the donor. If no taker is found locally, the electronic search expands to the region and eventually goes national.

The kidney matching system does not, however, consider the projected life expectancy of the recipient or the urgency of the transplant. By contrast, the systems for allocating livers, hearts and lungs have been revised to weigh those factors.

As a result, kidneys that might function for decades can be routed to elderly patients with only a few years to live. And when older, lower-quality kidneys become available, candidates atop the list and their doctors can simply turn them down and wait for better organs. If that happens too often, doctors say, a kidney can develop a self-fulfilling reputation as an unwanted organ.

Complicating matters is a race against the clock that starts as soon as a kidney is recovered and placed on ice for evaluation. Because kidneys start to degrade during this "cold ischemic time," surgeons typically hope to transplant them within 24 to 36 hours.

But that short window can be devoured by testing, searches for a recipient and long drives or flights to transport the kidney. The organ procurement organization in each district is allowed to make offers to only a few hospitals at a time — usually three to five — and the hospitals have an hour to respond.

**Missed Opportunities**

It is not precisely clear how often kidneys are discarded that might be useful.

Last year 2,644 of the 14,784 kidneys recovered were discarded, or nearly 18 percent, according to the United Network for Organ Sharing. About one-fifth of those discarded kidneys — nearly 500 — were not transplanted because a recipient could not be found.

But transplant statisticians say that record-keeping is imprecise. And some authorities, like Dr. Barry M. Straube, a nephrologist who served for six years as Medicare's chief medical officer, and Dr. Robert J. Stratta, the director of transplantation at Wake Forest School of Medicine, speculate that as many as half of discarded kidneys could be transplanted.

"I think you could argue about how many missed opportunities there are," said Dr. Alan B. Leichtman, a nephrologist at the University of Michigan. "But not that there are missed opportunities."

Last October, a ticking clock apparently forced doctors to discard one of the kidneys donated

by Judith Kurash, 72, who died in a Twin Cities-area hospital after suffering a brain aneurysm.

Surgeons successfully transplanted her liver. Her heart went to research. But given Ms. Kurash's age and history of hypertension, finding recipients for her kidneys proved challenging.

They were turned down by five area hospitals, six Midwestern ones and then 37 others nationwide, before finally being accepted by a center on the East Coast, according to LifeSource, the organ procurement organization in St. Paul. Although testing showed the kidneys to be similar, one was transplanted, while the other was not.

The East Coast hospital declined to be identified or comment on the case. But Meg Rogers, LifeSource's director of organ procurement, said the hospital reported that Ms. Kurash's right kidney had "timed out" after spending at least 24 hours on ice.

"Unfortunately, once that kidney is recovered, time isn't on our side," Ms. Rogers said. "It sometimes takes all the stars aligning."

Although pleased that any of his mother's organs had been placed, Terry Kurash said the successful transplant of one kidney, to a 58-year-old man, raised the question of why the second had been discarded.

"You'd like to see the most efficient process that allows the most organs to get to the most recipients," Mr. Kurash said.

More than half of discarded kidneys come from older donors like Ms. Kurash whose age and health problems may have made them marginal for transplant. But in 2011, nearly 1,000 discarded kidneys came from donors who were younger than 60, according to the organ sharing network.

So it was in March, when a nationwide computer search failed to produce a taker for one of the kidneys donated by Frank D. Duncan, a fit 36-year-old who succumbed to smoke inhalation from an early-morning electrical fire at his house in Memphis (his wife and two young sons escaped).

Mr. Duncan's widow, Catherine, said she had received notice from the Mid-South Transplant Foundation, the local organ procurement organization, that his liver had been transplanted into a 47-year-old man and that his left kidney had gone to a 36-year-old woman.

But despite making offers to nearly 10,000 potential matches, the agency did not find a candidate willing to take Mr. Duncan's right kidney, said Kim Van Frank, Mid-South's executive director.

The failure to place the second kidney, which was discarded, confounded Ms. Duncan. “You’ve got all these people all over the country that are waiting for one,” she said, “and here you’ve got this perfectly good kidney.”

**Success at a Cost**

The number of kidneys discarded each year has grown 76 percent over the last decade, more than twice as fast as the increase in kidney recoveries. Clearly, revamping the allocation system would help shorten the wait list.

But given that the list has grown 30 percent in five years, transplant officials say that more must also be done to encourage people to register as donors, increase donor registration rates, remove financial and logistical obstacles and narrow extreme differences in wait list time among states.

There are any number of reasons a doctor might turn away a kidney. But there is growing concern that those decisions are made without good diagnostic tools and under pressure from regulators and insurers to maintain high transplant-success rates.

When a kidney is removed, doctors often biopsy a slice and connect the organ to a pump that measures blood flow for signs of scarring and hardening of the vessels. When kidneys are discarded, hospitals cite biopsy results more than any other reason. Yet studies suggest that biopsies do not always do a good job of predicting how long a transplanted organ might survive.

“The hardest decision we make in deceased organ transplant is whether to accept a given organ for a given patient,” said Dr. Gabriel M. Danovitch, medical director of the kidney transplant program at Ronald Reagan U.C.L.A. Medical Center. “It’s all odds, based on information that is incomplete at best.”

Another factor, doctors and organ procurement officials say, is federal scrutiny of transplant success rates.

In 2007, following revelations of lax government oversight of poorly performing transplant centers, the federal agency that manages Medicare, required that survival data for transplanted organs and recipients be made public. The figures are adjusted for relative risk factors and compared with expected survival rates.

The penalty for underperformance can be severe. If the number of failures exceeds expected levels by 50 percent, transplant programs are flagged, explained Thomas E. Hamilton, director of survey and certification for the federal Centers for Medicare and Medicaid Services. If it happens twice in 30 months, the program’s administrators are given a brief probationary period to improve, or convince regulators that there were other factors.

Otherwise, the program is decertified.

Because Medicare is the primary insurer for kidney transplants, such a ruling can effectively close a transplant program. Commercial insurers also use the survival ratings to make decisions on contracts.

Over five years, through June, 79 organ transplant programs had drawn oversight for repeatedly falling short and seven had been decertified, Mr. Hamilton said.

In interviews, dozens of transplant specialists said the threat of government penalties had made doctors far more selective about the organs and patients they accepted, leading to more discards.

“When you’re looking at organs on the margins, if you’ve had a couple of bad outcomes recently you say, ‘Well, why should I do this?’ ” said Dr. Lloyd E. Ratner, direct of renal and pancreatic transplantation at NewYork-Presbyterian/Columbia hospital. “You can always find a reason to turn organs down. It’s this whole cascade that winds up with people being denied care or with reduced access to care.”

Dr. Michael A. Rees, a transplant surgeon at the University of Toledo Medical Center, said his kidney program was cited by Medicare in 2008 after several unlikely failures. To save the program from decertification, he said he cut back to about 60 transplants a year from 100, becoming far choosier about the organs and recipients he accepted.

The one-year transplant survival rate rose to 96 percent from 88 percent, but Dr. Rees still bristles at the trade-off. “Which serves America better?” he asked. “A program doing 100 kidneys and 88 percent of them are working, or a program that does 60 kidneys and 59 of them are working? It’s rationing health care under the guise of quality, and it’s a tragedy that we are throwing away perfectly good organs.”

Mr. Hamilton said the Medicare agency agreed that individual hospitals had grown more cautious, and appropriately so. But he said there was no evidence that had led to more discards nationally, as other hospitals had picked up the slack.

“There’s something very negative about poor outcomes,” Mr. Hamilton said. “And that’s where we need to be putting our attention.”

**Other Approaches**

The transplant community has grappled for years with the problem of viable kidneys being discarded. But the politics of rationing, where any reallocation creates high-stakes winners and losers, has thwarted all efforts at revision. Eight years after the United Network for Organ Sharing charged its kidney transplantation committee with improving the system, there has been no change.

One approach, outlined by the committee in February 2011, called for rating each organ based on the donor's age, height, weight and medical history. The top 20 percent of those kidneys would be allocated to candidates expected to live the longest. The rest would be matched to give priority to candidates within 15 years of the donor's age.

The proposal died quickly after federal officials warned that discrimination laws would prohibit the use of age to determine outright who gets a transplant.

There are no such obstacles in Europe. And in 1999, seven countries, including Germany, began matching kidneys from donors 65 and older to recipients in the same age bracket. Those kidneys were allocated close to home to shorten cold time, and biopsies were used sparingly.

The number of older kidney donors has more than tripled, and discard rates are less than a third of that in the United States, said Dr. Ulrich Frei, a German nephrologist who has compared the two systems. Studies have found no significant difference in survival rates for older patients in Europe and the United States, he said.

Dr. Frei said he found the discard rate in the United States "quite disturbing." The reliance on biopsy is misplaced, he said, and valuable hours are wasted in the sequential search for a taker for a lower-quality kidney. That they wind up discarded, he said, is "a self-fulfilling prophecy."

On Friday, the kidney committee plans to circulate a new proposal that would leave most of the system in place. As with the prior plan, the top 20 percent of kidneys would be matched to the candidates expected to survive the longest, placing older patients at a disadvantage. But the remaining 80 percent would still be allocated primarily by time spent on the wait list.

"It's a compromise," Dr. Ratner said. "I think it's going to make very little difference."

Dr. John J. Friedewald, the committee's chairman, said it was impossible to please everybody when allocating limited resources.

"We want to maintain equal access and do better with this pool of kidneys," he said. "But by changing allocation slightly and getting 10,000 more life-years lived, what is that worth? Is it worth slightly decreased rates of access for certain groups of people? That's what we go back and forth trying to decide."

In August, as the committee finalized its recommendation, a group of researchers proposed yet another allocation algorithm in the American Journal of Transplantation. It would give individuals in different age bands an equal chance to get a transplant in a given year. But it would drive the best kidneys to the youngest recipients.

A lengthy public comment period will follow Friday's release of the new proposal. The organ

sharing network's board is not expected to vote on a plan until at least June, and possibly much later.