

# Reassessing how payers determine the value of organ transplant programs

While an organ transplant is a lifesaving event for patients, for payers, it is a complex and expensive care episode. The average billed cost for a transplant is nearly \$600,000, and it can rise to \$1 million or more, depending on circumstances.<sup>1</sup>

Transplant volume is also trending up. Last year, more than 30,000 organ transplants were performed annually for the first time in the U.S. Organ transplants increased nearly five percent over 2014, continuing a three-year trend of annual record numbers.<sup>2</sup>

With transplant volume and costs likely to grow, understanding the clinical and financial aspects of your transplant cases is more important than ever.

This white paper examines:

- Traditional methods of measuring transplant program value
- New research suggesting a more sophisticated method of valuation
- How to assess your own member population

## **Traditional success measures — good but incomplete**

One-year patient survival and one-year graft survival have long been established as key quality metrics uniformly adopted by payers, providers and regulators. But this model provides an incomplete view of transplant care. It focuses on a few short-term results and doesn't account for wait times, mortality on the waitlist, long-term survival, quality of life and other metrics, including costs. There is wide variation in transplant outcomes, practice patterns and cost of care, even in programs with statistically similar one-year patient and graft survival.

## **Reconsidering quality evaluation**

While the current valuation model has served its purpose, payers increasingly realize that a more sophisticated way to evaluate quality and cost-effectiveness of transplants is needed. A more comprehensive value definition can facilitate continued innovation, identify and correct poor performance, and reward superior performance. That, in turn, will serve patients well, improve transplant program performance and provide greater return for payers.

## **Research supports broader quality measures**

Optum<sup>®</sup> has embarked on a research project to evaluate organ transplant value in a broader, more holistic way. Rather than focus solely on one-year patient and graft survival, the research — the Transplant Value Initiative (TVI) — considers multiple variables in the spectrum of care that impact overall clinical and financial outcomes. As noted, transplantation is a complex clinical event with ramifications beyond the actual surgical procedure. For this reason, TVI looked at clinical management and cost factors for each phase of the transplant experience — from evaluation and listing to transplant and beyond.

Using the traditional one-year patient and graft survival yardsticks revealed little variance among the medical centers we analyzed. But we found substantial variation when comparing other outcomes, costs and practice patterns.

For example, for centers that transplanted 10 or more Optum kidney, liver or heart cases, the 30-day readmission rate, 30-day complication rate, post-transplant admission days, median number of days spent on the waiting list and waiting list mortality all showed substantial variation. All of these, of course, affect patients' quality of life and life expectancy. This suggests that the one-year patient and graft survival metrics, alone, are insufficient to measure performance.<sup>3</sup>

Costs also varied significantly among these centers. For liver transplant cases, pre-transplant paid claims ranged from 36 to 234 percent of the Optum national average. One-year post-transplant paid claims had a range of 29 to 229 percent of the Optum national average.<sup>3</sup>

## Kidney transplant success factors:

### Benefits of living donor

According to the National Kidney Foundation, 17,107 kidney transplants took place in the U.S. in 2014. Over two-thirds of the transplants came from deceased donors.<sup>4</sup> A kidney given by a living donor, however, provides critical benefits for those in renal failure and helps payers reduce costs.

A kidney from a living donor:

- Functions better and lasts longer than a kidney from a deceased donor<sup>5</sup>
- Reduces or eliminates the time the recipient spends on debilitating dialysis and an organ waiting list<sup>5</sup>

In an Optum managed population with heavy utilization of the Optum Centers of Excellence kidney transplant programs, we compared transplant, survival, post-transplant and graft survival metrics, and costs. More than two-thirds of the adult kidney transplants in the study — 67.2 percent in 2013 — involved a living donor. By contrast, over the same time period, nationally, only 34 percent of kidney transplants came from live donors.<sup>6</sup> Yet two years post-transplant, both graft and patient survival rates were higher for living donations.<sup>7</sup>

Cost savings with living donor transplants are significant, according to our study. The average adjusted cost of a living donor transplant from referral through one-year post-transplant is more than 28 percent lower than for a kidney transplant from a deceased donor. Living donor savings are derived from shorter waitlist times, less time on dialysis and fewer comorbidities associated with renal failure and dialysis.<sup>8</sup>

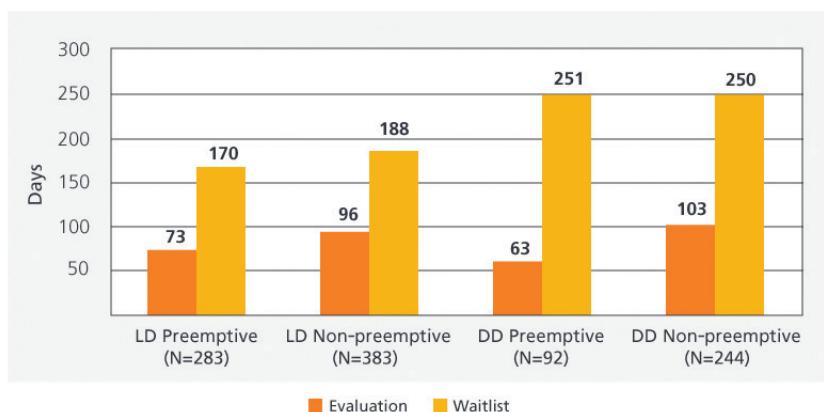
### Pre-emptive transplants

Pre-emptive transplants involve a patient receiving a kidney transplant prior to going on dialysis. We examined pre-emptive kidney transplant outcomes to assess the effect of the absence of dialysis.

With kidney transplants, time spent on the waiting list can potentially become the most expensive aspect of treatment. The average estimated billed charges for a kidney transplant are \$334,300.<sup>9</sup> With the annual average cost of dialysis per member at \$260,000, a kidney patient who spends several years on a waiting list may actually exceed the cost to transplant a kidney.<sup>10</sup>

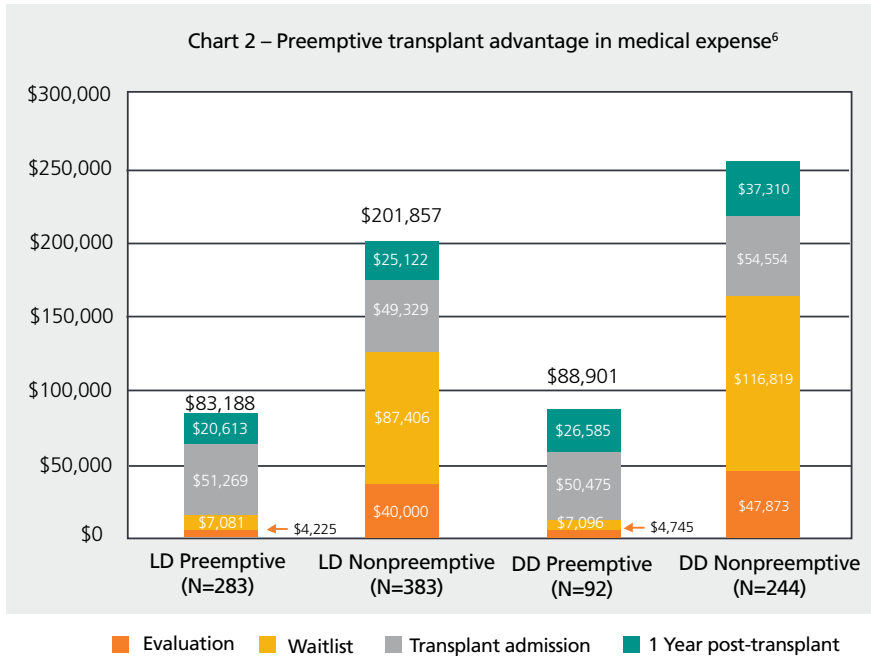
With a pre-emptive kidney transplant, however, the costs and the valuation equation, as defined by the TVI project, change dramatically. First, the evaluation and waitlist times are reduced, as Chart 1 reveals.<sup>11</sup>

**Chart 1 — Average length of pre-transplant phases for transplanted cases**



Second, a pre-emptive transplant from a living or deceased donor offers significant savings, as Chart 2 shows.<sup>12</sup> And as noted previously, living donor grafts are both more enduring and efficient.

**Chart 2 — Average savings with pre-emptive kidney transplant**



### What to look for in your population

While more research remains to be done with respect to indicators of transplant success, payers can start to consider the following issues with their member populations:

1. What are your member costs from transplant evaluation through one-year post-discharge and beyond?
2. What are the indirect costs related to transplant, such as time on waitlist leading to more time on dialysis for a kidney?
3. Dialysis is a significant cost driver for solid organ transplants, even beyond kidney transplants. How can you decrease dialysis utilization among patients on the waitlist?
4. How do you sustain an organ while the member is on the waitlist? Does the transplant center where your member is listed have other programs to treat the underlying conditions and comorbidities?
5. How do you manage chronic kidney disease members before they have end-stage renal disease, as they may not be on the transplant waitlist?
6. Do you educate members on pre-emptive kidney transplantation and living donor kidney transplantation?
7. Would kidney transplant patients in your population be open to dual-listing in a different geography (organ procurement organization (OPO)) with shorter median wait times?

Addressing these questions involves research, data, analytics and the expertise of a health care company such as Optum. For more information on this topic, see the full journal article in *Transplantation Reviews* at [http://www.transplantationreviews.com/article/S0955-470X\(15\)30007-0/abstract](http://www.transplantationreviews.com/article/S0955-470X(15)30007-0/abstract).

## Looking ahead

Looking more broadly at transplantation measures of clinical quality and financial efficiency enables us to better understand the characteristics that drive value. As an industry, we must continue to redefine best practices and outcomes that encompass the entire transplant experience.

While one-year patient and graft survival will remain important indicators of performance, other metrics should be considered. They include: the ability of a patient to be seen promptly, evaluated expeditiously and treated quickly, patient clinical status, the ability to return to work and other quality of life factors as determined by the patient. All of these are important drivers of cost and clinical outcomes.

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### Endnotes:

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