Solutions for Medicare Advantage Transplant Challenges
Transplant Procedures: Low-Volume, High-Cost Episodes of Care
Executive Summary

Low volume, high-cost transplant procedures place health plans at significant financial risk, with the cost per transplant episode exceeding $1 million in certain circumstances. Trends indicate that the number of solid organ and bone marrow transplants will continue to increase in the Medicare population due to broader indications for their use, new clinical technologies, and higher demand. As a result, health plans need to develop proactive strategies to control costs, mitigate risks and improve outcomes. One strategy is partnering with a transplant management organization to face challenges unique to transplants in the Medicare environment.

This white paper covers three topics of critical concern as Medicare Advantage health plans consider their transplant strategies:

• Challenging transplant trends in the general population
• Special challenges for the Medicare population
• Resources with an insurance organization helping Medicare Advantage health plans to provide quality transplant care while mitigating risk and cost factors

As the largest private-sector transplant management organization, Optum Transplant Solutions insures and/or manages approximately 10 percent of all U.S. transplants. It is the only carrier combining commercial insurance experience and Centers of Excellence (COE) network resources with a separate Medicare Advantage program tailored specifically for the unique needs of the Medicare population.

General Transplant Challenges

Increasing Demand Trends

More people are receiving transplants. Once regarded as “medical miracles,” transplants now are performed at more facilities by more specialists. More people of advanced age who formerly were not transplant candidates now qualify. At the end of 2005 there were 163,631 people in the U.S. living with a functioning transplanted organ. This number reflects an increase of 2.1 percent over the prior year and a 60 percent increase since 1997. From 1999 to 2008, the number of solid organ transplants increased by 27 percent. The majority of that increase – 22.7 percent – occurred between 1999 and 2004, with the number of transplants increasing from just over 22,000 in 1999 to slightly more than 27,000 in 2004. Between 2004 and 2008, however, the number of solid organ transplant procedures only increased by 3.4 percent, and remains somewhat static around 27,000 per year.

Solid organ transplants represented approximately 57 percent of all U.S. transplants in 2008, with the remainder being hematopoietic stem-cell transplants (SCTs) or “tissue grafts” (previously referred to as bone marrow transplants). The number of SCTs continues to grow due to broader indications for use and increased demand. Between 2004 and 2008, the number of SCTs increased 21.8 percent, going from 16,030 in 2004, to 19,526 in 2008. During that period, donor-provided allogeneic SCTs consistently represented slightly more than 40 percent of that total, with the remainder being autologous SCTs (collected from the patient and stored for later use). The number of allogeneic SCTs is limited by the number of available matching donors, while the number of autologous SCTs is limited by the substantial cost of collecting and storing bone marrow from individuals who provide their own SCTs.

Overall, identifying and accessing appropriate donors is the principal limiting factor restricting access to solid organs and SCTs. On February 3, 2010, the waiting list for solid organ donation had 105,500 unique patients registered. In each of the past five years, more than 14,000 individuals donated solid organs. Although individuals can donate multiple organs, a substantial disparity has opened between supply and demand, especially for kidney and liver transplants, which together comprise nearly 94 percent of the solid organ waiting list. Factors that could increase access to transplants, including several national initiatives mandated by federal law, have barely kept pace with the increasing demand for most types of transplant.
Solutions for Medicare Advantage Transplant Challenges
Transplant Procedures: Low-Volume, High-Cost Episodes of Care

For kidney transplants, the gap between donors and recipients has widened during the past 10 years, increasing waiting time from slightly more than 1,200 days to nearly 2,000 days. For liver transplants, despite an improved process for allocating available organs,5 waiting times still can range from 200 to 1,800 days, depending on the region of the country and each individual candidate’s “MELD/PELD” score assigning a priority rating for organ allocation.6

Patients ages 65+ can and do receive transplants. In fact, demand in the age 65+ Medicare population is growing faster than any other age group. From 1998 to January 29, 2010, the number of age 65+ candidates on the kidney waiting list more than doubled from 8.7 percent7 to 18 percent.8 Approximately 45 percent of all U.S. kidney transplants are performed in the Medicare system under the End Stage Renal Disease program, serving all ages. Of that total, approximately half of all deceased donor kidneys and more than a third of all living donor kidneys are paid through Medicare, according to the 2009 USRDS Annual Data Report. This places an exceptional cost and risk burden on Medicare Advantage health plans, as kidney transplants represent approximately 59 percent of all solid organ transplants.

**Increasing Cost Trends**

Although many types of transplants are no longer in the experimental stage, they are still complex, expensive procedures requiring intensive management of episodes lasting several years.

A 100,000-member health plan can expect $7 million in billed transplant charges based on 2008 estimates of national incidence. Based on previous trends, these annual billed transplant charges are projected to increase 12.7 percent per year, rising from an average transplant episode cost of $426,624 in 2008 to $688,848 by 2012.9 The total number of procedures are projected to increase from approximately 47,000 in 200810 to 52,000 in 2012. When increasing incidence is combined with increasing cost per episode, the combined trend is a projected 78 percent increase in total dollar cost of U.S. transplants from 2008 to 2012.

These increasing costs significantly impact health plans. Using 2008 transplant figures, a health plan with 1 million members over age 65 could expect 157 of its members to need a transplant. This rate is only slightly lower than the rate of 164 for the population under age 65, despite the challenges of achieving and maintaining transplant readiness facing advanced-age patients. Improved medical science and transplant management have made transplants feasible for more advanced-age patients, among many reasons why demand is increasing most rapidly for the 65+ age group.

The rate of cost inflation for the 65+ age group is twice the rate for the rest of the population, according to actuarial firm Milliman, which issues annual research reports on U.S. transplant trends. Between Milliman’s 2005 and 2008 reports, the annual increase in per-member-per-month costs for the under-65 age group was 14 percent on average, while the 65+ age group was 29 percent.11

**Medicare Challenges**

**Medicare Transplant Management**

Many transplant management best practices proven to prevent transplant rejection and improve health outcomes were originally developed for commercial insurance. These best practices can be applied successfully in Medicare Advantage health plans, when coupled with practices focused on the Medicare population.

Compared to the commercial insurance population, the Medicare population has advanced age, lower income and self-care limitations challenging every stage of the transplant process. Successfully managing a transplant episode to a healthy outcome requires a transplant management organization with capabilities to exceed critical threshold needs at every stage.
Without appropriate capabilities in the organization managing a transplant, Medicare Advantage plan enrollees may be at risk due to age, infirmity, reduced access to transportation, and limited finances for copays and other costs of post-transplant treatment.

Optum Transplant Solutions has identified six activities to reduce risk for Medicare patients:

1. Initial consultation prior to full transplant evaluation
2. Quickly reaching transplant readiness
3. Maintaining transplant readiness
4. Access to transplant Centers of Excellence (COE)
5. Post-transplant support to reduce risk of rejection
6. Caregiver identification and education

At each stage of the transplant sequence described above, a Medicare Advantage health plan faces higher risk and cost if its transplant management protocols lack critical capabilities. Optum Transplant Solutions excels at providing these capabilities, focusing them on the unique needs and environment of Medicare Advantage plan enrollees.

Transplant evaluations have a critical impact on plan cost. Full transplant evaluations can require visits with multiple specialists and multiple tests, generating at or above $15,000 in customer costs, with total billed charges substantially higher. In some cases, this expense is not necessary. In the experience of Transplant Solutions, 15 percent of evaluations can be avoided by using an initial consultation with a single medical expert, applying a special list of criteria. This benefits both the Medicare Advantage health plan and its enrollee. The plan incurs a lower evaluation cost for its total enrollee population, and health care providers can focus on the most appropriate treatment strategies to achieve the best possible health outcomes for each enrollee.

Effective application of clinical expertise during the pre-evaluation and evaluation phase avoids unnecessary and inappropriate transplants, through better diagnosis and identification of more appropriate treatment options. This leads to a 21 percent reduction of transplant incidence rates, compared to the population served in non-COE facilities. This reduces cost to Transplant Solutions partners including Medicare Advantage health plans. It also means better health outcomes for enrollees in those plans.

For some patients, being screened out of a transplant and quickly referred to a more appropriate specialized program is the best outcome possible. Most types of transplants have a waiting list of a few months to six or more years before a transplant becomes available. Approximately one-third of all candidates on waiting lists reach a successful transplant outcome, and another third die before reaching the top of the waiting list.

Consider this example: The life expectancy of a diabetic with renal failure, relying on kidney dialysis, is approximately six years. If this person had blood type B, lived in New York and experienced kidney failure in 1999-2000, the median waiting time for a matching kidney was 7.1 years, ranging from 6.4 to 8.1 years (95 percent confidence interval) — clearly outside this person’s life expectancy. Scenarios like this make alternative treatment attractive.

In cases where a transplant is indicated and strategies to avoid a long wait time are unavailable, it’s imperative to avoid mishaps that add more delay before a patient receives a transplant. Transplant Solutions has a three part strategy to avoid problems and get patients to the desired successful outcome: (1) avoid listing patients inappropriately who cannot reach or maintain transplant readiness; (2) for appropriate candidates, reach transplant readiness as quickly as possible; and (3) maintain transplant readiness without any lapses.
Reaching transplant readiness should be accomplished as efficiently as possible. In some cases, the Transplant Solutions initial consultation identifies patients who qualify for transplants, but will face more significant challenges in achieving transplant readiness. As early as possible, these enrollees are assisted with transplant readiness.

Efforts to hasten readiness can produce significant value in “pre-emptive transplants” where enrollees receive a live donor kidney before dialysis is medically necessary. These patients often have better health outcomes, and this early intervention can save a health plan up to $300,000 per year in costs associated with end-stage renal disease, including dialysis. In 2009, live kidney donations were 46 percent of all kidney transplants, making preemptive transplants a potentially rich source of cost savings and health benefits to transplant candidates.

Maintaining transplant readiness is an important strategy to achieve the shortest possible wait for a transplant. If a candidate has lost readiness by the time an organ becomes available, in most cases the candidate is off the list, missing transplant opportunities until regaining readiness. For an aging or fragile patient, a delay like this is especially damaging. With so many uncontrollable factors potentially causing an extended wait for an organ, it’s important to master controllable factors.

Medicare plan enrollees struggle to meet these high standards of transplant readiness due to challenges of psychosocial resilience and therapy compliance, as well as limited personal and financial resources to overcome these challenges. Advanced age increases the risk and negative impact of depression and other psychosocial issues that can defeat readiness. The enrollee may struggle to comply with pharmacy regimen or other readiness therapies due to reduced cognitive or psychosocial capacities. The enrollee may need extensive caregiver support to help with these needs, as well as transportation and other supports.

To assist the enrollee in maintaining high readiness, Transplant Solutions provides a multi-professional team including an RN case manager, a social worker and an administrative specialist.

Social workers facilitate resources to meet many of the psychosocial challenges that can affect transplant candidates. As part of their assessment, social workers will investigate the patient’s resources to meet significant requirements after transplant surgery. Many transplants require high-cost immunosuppressant medications, and the patient may have inadequate financial resources to meet co-pays or other costs. The social worker helps people plan finances and identify new resources to meet these expenses.

One case illustrates the important role of the social worker. A patient had already been placed on the waiting list to receive an organ before his Medicare Advantage health plan began its partnership with Transplant Solutions. The initial assessment by Transplant Solutions concluded that the patient had inadequate personal resources to maintain transplant readiness. The social worker in the transplant team worked with the person’s church, developing a team of caregivers to help with transportation, full compliance with his pharmacy regimen and other needs. This intervention reduced the risk of an unsuccessful surgery or rejection in this transplant episode, improving the prognosis for a successful outcome.

The transplant team also includes an RN case manager who plans treatment, but may seek a consultation with the medical director for special needs, for example in cases with multiple factors increasing the risk of rejection. The medical director has deep knowledge of capabilities and providers at each facility, to manage red-flag issues in individual cases, and is constantly educating the team on new trends and other concerns. Transplant Solutions has two medical directors to maintain on-the-ground knowledge of conditions in 144 Centers of Excellence and a secondary network of 104 centers for expanded choice by patients and health plans.

The administrative specialist plays an important role. Not only is each patient’s medical condition unique, but so is the particular mix of insurance and benefits available. The administrative specialist orchestrates coverage and related resources to the full advantage of the patient, ensuring that these resources are accessible when needed, parallel with the treatment plan.
Access to Transplant Centers of Excellence network. Currently, Optum has contracts with 144 COEs that have a total of 750 transplant programs. These programs have higher patient one-year survival rates than non-COE programs. In the commercial insurance sector, Optum Managed Transplant Program has a transplant cost risk rate that is less than half the unmanaged rate without access to COE.

When patients receive information about the clinical superiority of the Optum COE network, more than 90 percent choose to have their transplant performed there. The network includes transplant centers with specialized expertise, such as the 14 facilities in the Congenital Heart Disease (CHD) Centers of Excellence Network, which now serve an estimated 37 percent of complex CHD cases nationwide and continues to add facilities at the rate of one or two per year.

This clinical excellence is an important benefit for Medicare Advantage health plans and their members, because Medicare enrollees may experience challenges in access to quality care. COE require a high standard of transplant readiness that may be difficult to achieve for patients with multiple challenges. Transplant Solutions helps the patient achieve readiness in many factors, including: alcohol abstinence, acceptable body mass index, blood pressure management, control of diabetes, healthy nutrition and no untreated severe depression.

For each patient, the transplant team provides a personalized plan leveraging all the resources in the COE network and also available to the patient through insurance and personal social networks. The particular condition causing the need for a transplant can affect the selection of facility. Liver transplants, for example, may be indicated due to infection, cirrhosis or other conditions. Some candidates may have been exposed to many antigens and have high risk of rejection. Particular centers and even particular providers may have unique expertise in these areas.

Access to quality organs can be a significant issue. Some regions have a longer waiting list for particular organs, or have quality issues with available organs. In some cases, the candidate will be double-listed in a contiguous region to reduce potential time on the waiting list. These strategies, learned and practiced for commercial insurance, require the transplant team's broad and detailed knowledge of conditions in the regions.

Post-transplant rejection risk is reduced by intensive case management and support for the first 90 days postsurgery, plus the remainder of the year in continuing support. Although it is important to avoid rejection episodes, the basic Medicare benefit provides inadequate resources to control all the factors that can cause rejection in some cases. Transportation to medical appointments, maintenance of psychosocial health, compliance with pharmacy regimen, cooperation with intensive monitoring requirements — all these responsibilities burden a patient who may be bewildered and unable to navigate the system, even with the limited care management support provided by Medicare.

From a medical perspective, rejection must be prevented if possible, and minimized if not. Post-transplant rejection is not uncommon, but most rejection episodes do not end in the loss of an organ or tissue graft. Even when managed successfully, however, rejection episodes are costly. Successfully managed kidney rejection episodes often generate $20,000 to $40,000 for immunosuppressant medications, medical specialist billings, hospitalization and other expenses.

A rejection episode ending in the loss of an organ or tissue graft is far more costly. According to one study, the average cost to Medicare of a failed kidney transplant is $67,700 in the first year following the transplant. When the patient's reduced health status and other patient costs are included, that figure rises to $137,930 in the first year post-transplant. In this very vulnerable population, patients expect premium services from their Medicare Advantage health plan and require protracted case management and social services. The risk of litigation is much higher as well, placing significant direct and indirect costs on a Medicare Advantage health plan.
And additional costs do not end there. Approximately 11 percent of kidney transplants are repeat transplants. These cases represent the outliers that can generate catastrophic costs, in the range of 10 to 15 times the cost of a successfully managed rejection episode where the organ is saved. This paper has focused on kidney transplants, due to their relative importance to Medicare Advantage health plans. The same general cost trends also apply to rejection episodes and failed transplants for other organs and tissue grafts.

Transplant Solutions dedicates intensive resources to the critical post-operation period to enhance the patient's prognosis for a healthier outcome. Preventing or managing rejection controls cost, improves patient health outcomes — and has a major impact on access to highest quality of care for other patients, as well. Centers of Excellence are judged on their patient health outcomes in an increasingly competitive field. Leading COE are becoming highly selective in contracts, to control their patient population and the risk of adverse health outcomes that could reduce their competitive position. Medicare populations are known to have higher risk. The success of Optum Transplant Solutions at reducing that risk and improving patient health outcomes means that our Medicare Advantage partners will have access to leading Centers of Excellence.

Caregiver identification and education may be most significant during the critical post-transplant period, but is practiced throughout the episode of care. Transplant Solutions works with the patient and the Medicare Advantage health plan to identify all care providers. Physicians, nurses, pharmacists and other health care professionals appreciate being fully informed about transplant plans, critical medical concerns, and how their treatment plans and activities will be affected by pre- and post-care needs. They receive information and education to function as peripheral members of the transplant team, because their treatment activities will impact the patient's ability to complete the treatment episode with a successful health outcome.

**Superior Savings**

The clinical excellence and sophisticated case management coordinated by Transplant Solutions reduces cost for health plans and improves health outcomes for patients. Both of those advantages are reflected in an important statistic: Transplant Solutions COE facilities have an average 17 percent decrease in hospital length of stay, compared to non-COE facilities.

In addition to reduced hospital costs, Transplant Solutions also reduces the costs that payers incur by negotiating preferred rates with its network providers. Through contracts with its COE network, Transplant Solutions leverages its purchasing power to give clients an average savings of 48 percent per transplant episode compared to billed charges, representing a substantial discount compared to prevailing market rates.

Several items contribute to this substantial discount. Transplant Solutions has a robust base payment rate covering many services not provided in most competitors’ contracts. Transplant Solutions also puts superior purchasing power to work in many cost categories, including: organ procurement or tissue harvest, outpatient services and post-transplant drugs, inpatient per diems, outpatient fee schedules for both pre- and post-transplant services, and the bank of inpatient days available to eligible admissions.

In addition to the transplant episode package rates providing a 48 percent average discount over billed charges, rates can vary substantially between facilities. In one case, Transplant Solutions generated a $200,000 savings by choosing to locate a transplant procedure at a facility in an adjoining region, providing quality medical care within 250 miles of the patient's home.

Transplant Solutions provides savings through clinical case management and contract savings, described above. Medicare Advantage health plans enjoy substantial savings on Centers of Excellence facilities through a partnership with Transplant Solutions. Without this partnership, health plans might have restrictions or be denied access to some of those COE facilities.
As soon as a Medicare Advantage health plan opens a partnership with Transplant Solutions, all resources become available to reduce risks and control costs. In the case described above, where a patient had inadequate resources to maintain transplant readiness, the transplant episode began before the Transplant Solutions partnership. As soon as the patient had access to Transplant Solutions services, the risks of a long delay on the waiting list or post-transplant rejection were reduced dramatically. This illustrates how cost savings can begin immediately after a Medicare Advantage health plan launches its partnership with Transplant Solutions.

**Optum Managed Transplant Program**

To further reduce risk exposure for Medicare Advantage plans, Optum also has developed a special Managed Transplant Program (MTP) insurance plan. Through this program, Transplant Solutions manages the clinical and financial aspects of payers’ transplant cases through a transplant reinsurance carveout product. Under the program, health plans pay a standard monthly fee, and MTP pays virtually all claims that result from transplant cases, enabling transplants to become a more predictable, even expense. This allows payers and employers to use their cash reserves for other projects and programs, instead of maintaining it to pay for catastrophic transplant episodes.

**Conclusions**

Transplants are low-volume, high-cost procedures that can directly impact the financial stability of health plans. Medicare Advantage plans face increased cost and risk due to the many increased risk factors in the Medicare population, and Medicare’s End Stage Renal Disease Program, providing approximately half of all U.S. kidney transplants. Payers and employers that closely monitor the industry’s changing transplantation trends can develop strategies to mitigate risks and improve patient outcomes. However, substantial infrastructure and resources are required to proactively manage the transplant process. Even with such programs in place, Medicare Advantage plans may have limited access to COE providing the highest quality care, and will be unable to secure the most favorable contract rates available to the largest transplant providers. Outsourced transplant management programs provide Medicare Advantage health plans with an alternative to reduce their risks and costs while improving patient outcomes. Transplant Solutions deserves consideration for access to the highest quality care at discounted rates through its COE network, and its multi-professional team providing intensive care. This combination provides substantial cost reductions and clinical excellence generally not accessible to Medicare Advantage health plans. Transplant Solutions is arguably the most robust outsourcing partner available, combining the purchasing power of the largest commercial carrier with a management program designed for the Medicare population.

**Supplements**

**Medicare Transplant Emerging Trends**

As the leading transplant management organization, Transplant Solutions is constantly monitoring and managing trends affecting its operations and partners. This supplement contains additional information about utilization, cost and risk trends that Medicare Advantage health plans may want to know about as they assess the transplant needs of their enrollees and consider the most appropriate partnerships to meet them.

**Increases in Allogeneic SCTs** — These types of bone marrow transplants are expected to increase by 10 percent to 20 percent due to improvements in harvesting and new procedures. For example, nonmyeloablative regimens that use lower doses of pre-transplant chemotherapy drugs and/or radiation have expanded the number of patients eligible to receive transplants. Programs to improve the harvesting of cord blood, combined with
Solutions for Medicare Advantage Transplant Challenges

Transplant Procedures: Low-Volume, High-Cost Episodes of Care

more favorable regulations, are increasing the number of cord blood units for public use. Currently, more than 90,000 cord blood units are within the national registry. It is estimated that once there are 250,000 cord blood units available for public use, 85 percent of all patients will have an acceptable match.

**Increases in Cord and Double Cord in SCT** — Cord blood is versatile in that it doesn’t require a perfect donor/patient match, has reduced contamination risks and is an effective way to harvest non-embryonic stem cells. However, cord blood yields fewer stem cells and collection is limited. To increase the stem cells per dose, clinicians are evaluating the effectiveness of “double-unit” cord blood transplants, where cord blood from two unrelated donors is combined. Increased awareness and proliferation of registries, combined with improved harvesting and handling techniques, is expected to increase the use of cord blood.

**Use of SCTs for Immunological-Based Diseases** — Current research is pursuing the use of SCTs to treat immunological-based (non-malignant) diseases. These may include autoimmune diseases (e.g., lupus, scleroderma, rheumatoid arthritis, Crohn’s disease, multiple sclerosis, etc.) and immunodeficiency diseases (e.g., Chediak-Higashi Syndrome, Ommen Syndrome, Wiskott-Aldrich Syndrome, etc.). As of 2005, 3.2 percent of all SCTs in North America were for non-malignant diseases.

**Ventricular Assist Device (VAD)** — These are surgically implantable, mechanical devices that assist the heart in pumping blood to the rest of the body. VADs are designed for use as a bridge to transplant, supporting a failing heart until a donor heart becomes available. Studies have shown that patients receiving VADs have three times the survival rate of patients receiving medical treatment prior to transplant. Data suggests that 60 percent to 70 percent of patients who utilize a VAD as a bridge-to-transplant would not have survived on their own long enough to obtain a transplant. Although the use of VADs help improve outcomes, they also increase costs. It is estimated that VAD implants could reach 30,000 annually by 2020, at a current net cost of $400,000 per patient (and substantially more with inflation). This could increase the cost of managing congestive heart failure by $3 billion to $10 billion per year.

**Growing Demand of Kidney/Liver Transplants** — Clinical evidence from some studies suggests improved clinical outcomes for patients receiving kidney/liver transplants versus a liver transplant alone. In some cases, enrollees may expect or pressure their plan to authorize this costly procedure, fearing they will die without it. Patients on hemodialysis at the time of a liver transplant who do not recover native kidney function have a 50 percent mortality.

**Kidney Paired Donation** — Approximately 83,000 people are on the kidney transplant waiting list in America, but 12 of these people die every day waiting for a kidney. Kidney paired donation matches one incompatible donor/recipient pair to another pair with a complementary incompatibility, so that the donor of the first pair gives to the recipient of the second, and vice versa. This procedure adds about $25,000 or more to the average cost of a kidney transplant, but it increases the overall number of transplants. The Alliance for Paired Donation has pioneered a new way of using altruistic, or good Samaritan, donors — so that the transplants no longer have to be performed simultaneously. This approach, known as Non-simultaneous Extended Altruistic Donor Chains (NEAD Chains), allows donors to “pay it forward” after their loved one receives a transplant.

**Desensitization of Highly Sensitized Recipient** — Highly sensitized patients have a disproportionately high percentage of antibodies within their body that react against human leukocyte antigens (HLAs), making them unlikely candidates for transplantation. Because highly sensitized patients do not receive transplants, they make up a disproportionate number of patients on the kidney waiting list. Currently, about 20 percent of patients on the kidney waiting list are classified as sensitized or highly sensitized. Clinicians are developing desensitization protocols and donor exchange programs as a remedy, which can increase the life expectancy of these patients by 10-plus years. Research suggests that the early transplantation of highly sensitized patients can save more than $350,000 in expenses over the patient’s lifetime. Transplanting 50 percent of highly sensitized patients could save more than $140 million per year in medical expense across the country.
About Optum

As one of the nation’s largest health and wellness companies, Optum makes health care more accessible, affordable and effective for employers, health plans, public sector entities and the 58 million individuals we serve. Optum optimizes the health, well-being and financial security of individuals and organizations through personalized health management solutions. We help people live their lives to the fullest.

References

1. 2007 Organ Procurement Transplantation Network/Scientific Registry of Transplant Recipients annual report.
2. Organ Procurement and Transplantation Network.
3. National Marrow Donor Program, accessed Aug. 25, 2008. The successor data resource in this field now is the Center for International Blood and Marrow Transplant Research and is found at http://www.cibmtr.org/
4. Organ Procurement and Transplantation Network, accessed April 13, 2009. Data subject to change based on future data submission or correction.
5. 2007 Organ Procurement Transplantation Network/Scientific Registry of Transplant Recipients annual report.
6. 2007 Organ Procurement Transplantation Network/Scientific Registry of Transplant Recipients annual report.
7. 2008 Organ Procurement Transplantation Network/Scientific Registry of Transplant Recipients annual report.
14. Based on a CHD incidence rate of 44 cases per million members from Risk Adjustment for Congenital Heart Surgery 1-6, a risk adjustment model developed by Boston Children’s Hospital and adopted by the Society of Thoracic Surgeons.
15. This estimate is a middle ground of payment ranges (actual charges may be higher) estimated by Dr. John Whelchel, who has performed more than 4,200 transplant surgeries. For these estimates, Whelchel drew from the last two years of experience in Atlanta’s Piedmont Hospital, where he is Surgical Director of the Kidney/ Pancreas Program. Based on clinical presentation reinforced by biopsy findings, Whelchel describes three categories of rejection that typically are managed to avoid the loss of a transplanted kidney. Acute cellular rejection in the Banff 1A or 2A grades has generated payments in the range of $4,000 to $6,000, and after a 1- to 3-day hospitalization, can be treated on an outpatient basis. More severe acute cellular rejection in the Banff 2A grade or above has generated payments in the range of $25,000 to $40,000, and may involve up to seven days of hospitalization, depending upon the quality of outpatient facilities available. Antibody-mediated acute humeral rejection, in the Banff 2B grade and above, may require as much as 10 days of hospitalization, and has generated payments in the range of $35,000 to $60,000. These categories may overlap or mix; what are primarily cases of cellular rejection may also have a mild-to-moderate component of humeral rejection, requiring more costly treatments like intravenous immunoglobulin or plasmapheresis. Whelchel estimates the incidence of renal (kidney) rejection in the first year post-surgery at Piedmont Hospital at 8 percent, and cites 10 percent to 15 percent rejection rates as “acceptable” at most facilities. “Of course the optimal treatment is to monitor patients closely and prevent or recognize rejections early in their course when they are simpler to treat,” Whelchel notes.
16. This estimate is consistent with the 2006 estimate published by the United States Renal Data System (USRDS), and an estimate calculated for “Cost of Lifetime Immunosuppression Coverage for Kidney Transplant Recipients” by T. Page and R. Woodward, Health Care Financing Review, Winter 2008-2009/Volume 30, Number 2, pp. 95-104.
17. Ibid.
20. Available in many but not all contracts.
23. National Marrow Donor Program.
26. Estimate based on several assumptions driven by current experience: (a) lifespan of patients receiving VADs
is increased by 8 years or more, with annual costs to a health plan of $50,000, (b) patients receiving one VAD
will receive another VAD in the seventh year following the first VAD,
(c) those incurred expenses ($300,000 for two VAD insertions, $400,000 for additional years of medical
management) are offset by savings of approximately $300,000 that would have been spent if the VAD had
not been implanted.
27. Summarization of clinical evidence taken from presentation by Optum Transplant Solutions medical