EBRI ISSUE BRIEF

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RATIONING HIGH-COST HEALTH CARE: THE CASE OF ORGAN TRANSPLANTS

ABSTRACT

Organ transplantation is rapidly gaining recognition as accepted therapy for some health problems. The emergence of health insurance coverage for transplantation could encourage rapid inflation in health care costs. Excess hospital capacity and growing physician supply in many areas of the country have generated strong competition for patients among hospitals and physicians. Widespread insurance coverage for transplant surgery may encourage hospitals to build transplant capability, and liberalize medical indications for transplant surgery, as a way to use existing capacity and attract preferred physicians and medical students. The emergence of redundant hospital capability and the performance of marginally beneficial transplants would accelerate health care costs.

The number of major organ transplants performed in the United States has risen dramatically since 1980. The most important constraint on the continued growth of transplant surgeries is the supply of donor organs. Two different bills pending in Congress (S.2048 and H.R. 4080), however, promise to expand the supply of donor organs. The greater supply of donor organs, and expanding public and private financing for transplants, will encourage rapid growth in the number of transplants performed each year.

Although the prospect of rationing high-cost health care in the United States is difficult, growing recognition of organ transplants as accepted medical practice--and the high cost of transplant surgery--may force Congress to consider rationing transplants to control Medicare and Medicaid costs. H.R. 4080 would allow Medicare broad discretion in establishing eligibility and reimbursement standards for transplants.

This Issue Brief discusses: (1) the emergence of insurance coverage for nonrenal transplants; (2) pending federal legislation affecting transplantation; (3) the current supply of transplant capability; and (4) federal program options to contain health care costs by directing the further growth of transplant capability.

Introduction

New technologies for saving the lives of the terminally ill, or improving the lives of the chronically ill, capture the imagination of the American public. In considering new technologies, it is natural to focus on their life-saving potential, rather than on their cost or their sometimes highly experimental nature. As health care providers gain experience with new technologies, however, and as complementary therapies and drugs are developed, procedures that were once experimental may become accepted practice. The evolution of experimental procedures into accepted practice brings wider access to technological advances in health care, and improvement in the quality of life for many Americans and their families.

The evolution of new technologies into accepted medical practice is important for those who finance health care. Private insurers and public insurance programs pay for health services (within the specifications and limits of the insurance arrangement) if the services represent accepted medical practice. In general, they do not pay for services that they consider experimental. Insurers' recognition that a technological advance has become accepted medical practice, therefore, is a necessary first step in offering insurance coverage for new services. Insurance coverage, in turn, provides a strong financial incentive for health care providers to deliver state-of-the-art health care.

Technological advances in health care can either reduce or raise health care costs. Technological advances that improve the outcome or quality of health care, but raise health care costs, pose a difficult problem: how to provide the new service to all people who might benefit, but maintain reasonable constraints on health care spending. The growing acceptance of organ transplants as therapy for some illnesses presents just such a problem of rationing health care. Third-party payers for health care--private insurers, government programs and providers of health care (when the patient is otherwise unable to pay)--share the growing problem of humanely and efficiently rationing organ transplants to control health care costs.

The number of major organ transplants performed in the United States has increased dramatically over the last decade (see table 1). The number of kidney transplants performed in 1982 was 44 percent greater than in 1975. This increase reflects improvements in the procurement and matching of donor kidneys, improvements in surgical techniques, and the recent development of drug therapy to suppress immunological rejection of a transplant. Similarly, the number of heart and liver transplants performed in the United States has increased since 1975, and rose dramatically in 1983. Most observers expect rapid growth in transplant surgeries to continue, constrained only by the supply of donor organs.

Kidney transplantation as a therapy for end-stage renal disease (ESRD) has become accepted medical practice, particularly for children. Persons diagnosed as ESRD patients are eligible for Medicare coverage, if they are insured by Social Security or are the dependent of an insured worker. As a result, the Medicare program finances virtually all kidney transplants performed in the United States.

The growing number of heart, liver, and pancreas transplants performed each year suggests that transplant surgery for other major organs (i.e., generally, nonrenal transplants) is rapidly becoming a standard therapy for other specific health problems. These health problems do not carry Medicare entitlement, however. Furthermore, Medicare regards most nonrenal transplants as experimental, and, therefore, does not pay beneficiaries' costs for the surgery.1/

Organ transplants can be very costly. For example, the cost of a liver transplant (excluding follow-up care) might exceed $250,000; a heart transplant might exceed $114,000. Kidney transplants are, in general, much less costly than other kinds of major organ transplants; the cost of kidney transplantation averages about $40,000--roughly equal to the cost of a year of dialysis treatments. By comparison, open-heart surgery (depending on the complications of the individual case) might cost about $20,000.

TABLE 1

Number of Selected Major Organ Transplants
Performed in the U.S. by Type, 1975-1983

Year	Heart	Liver	Pancreas	Kidney
1975	23	9	6	3,730
1976	24	14	7	3,504
1977	23	21	8	3,973
1978	34	19	15	3,949
1979	32	11	19	4,271
1980	36	15	39	4,697
1981	62	26	54	4,883
1982	103	62	74	5,358
1983	172	145	128	a/

SOURCE: Unpublished survey data from the Battelle Human Affairs Research Centers (Seattle, Washington); and unpublished data from the New Human Pancreas and Islet Transplant Registry (Minneapolis, Minnesota: University of Minnesota, Department of Medicine and Surgery).

a/ Tabulation not available.

The cost of experimental, nonrenal transplantation is generally paid as a teaching expense by the hospital performing the surgery. Some hospitals may perform non- or quasi-experimental transplants (such as liver transplants) as charity care, if the surgery is not otherwise covered by Medicare, Medicaid or private health insurance. Hospitals generally defray the cost of charity care (i.e., bad debt) by increasing charges to privately insured patients.

Insurance Coverage for Nonrenal Transplants

Insurance coverage for nonrenal transplants is beginning to emerge, as some private insurers and state legislatures recognize nonrenal transplants--particularly liver transplants--as accepted medical practice. In these states, nonrenal transplants may be covered by private insurers and/or Medicaid. Blue Cross and Blue Shield of Massachusetts, for example, offer a separate health insurance policy to cover expenses associated with nonrenal transplants. Other state or regional Blue Cross plans (including those in Connecticut, Maryland, New York, Pennsylvania, Rhode Island and Texas) also cover specific kinds of nonrenal transplants.

In California, the state legislature has formally recognized liver transplants as accepted medical practice. As a result, Medi-Cal (California Medicaid) will pay for liver transplants when medically indicated. This action by the legislature may lead to California Blue Cross and Blue Shield coverage, as well as commercial coverage, for liver transplants. California Blue Cross plans now cover heart transplants, but restrict where they may be performed.

In Connecticut, the Medical Society has approved a resolution recognizing liver transplants as accepted medical practice. The resolution has been forwarded to the Governor, and recommends that private insurers and Medicaid pay for liver transplants. Connecticut Blue Cross and Blue Shield, as well as most commercial insurers throughout the country, now cover specific kinds of transplants on a case-by-case basis. Pending federal or state legislative guidance, New York Medicaid and many other state Medicaid programs also cover transplants on a case-by-case basis.

Recognition of transplant surgery as accepted practice poses an important problem for all payers of health care costs--private insurers, Medicare, Medicaid and individual patients. Excess hospital capacity and growing physician supply in many areas of the country have generated strong competition for patients among hospitals and physicians. Widespread insurance coverage for transplant surgery may encourage hospitals to assemble transplant capability, and liberalize medical indications for the surgery, as a way to use existing capacity and attract preferred physicians and medical students. The emergence of redundant hospital capability, or the performance of marginally beneficial transplants, would accelerate health care costs.

Pending the establishment of federal standards for Medicare reimbursement, activity to limit the delivery or financing of transplant surgery will be addressed at the state level. Currently, no state has established standards to contain the diffusion of transplant capability or the rapid growth in the number and cost of transplants.

States' authority to limit the number of hospitals performing transplant surgery, however, has already been questioned. Historically, state regulation of hospitals has been implemented through Health Systems Agencies (HSAs). In states that continue to fund HSAs and enforce their decisions, HSAs authorize major acquisitions or expansion of hospital capital. Hospitals that already have a significant investment in laboratory and surgical capital, however, may find that assembling highly trained surgeons and support staff is the greatest cost associated with acquiring transplant capability. Consequently, the authority of HSAs or other state regulation to restrict hospitals from performing transplant surgery has not been established.

Pending Federal Legislation

Both the Senate and the House are considering bills that seek to improve the availability of organ transplants throughout the United States. Federal action to improve access to organ transplants will probably accelerate the growth of transplant surgeries and, in turn, raise the health care costs paid by private insurers, Medicaid and Medicare.

A bill introduced by Senator Hatch (R-UT)--S. 2048--cites the need to expand transplant capability in the United States, and to improve the national coordination of donor organs. S. 2048 would provide mainly for the establishment of a commission to study and recommend federal action to improve access to organ transplantation. The bill was passed by the Senate on April 11, and awaits consideration by the House of Representatives.

A different approach is taken in H.R. 4080--the National Organ Transplant Act, introduced by Representative Gore (D-TN) and ordered reported by the Health Subcommittee of the House Energy and Commerce Committee on March 6. This bill would provide federal grants for planning, establishing, operating and expanding qualified organ procurement organizations. H.R. 4080 also provides for the establishment and operation of a United States Transplantation Network (financed from Medicare's Hospital Insurance trust fund) to coordinate the national distribution of donor organs. Both H.R. 4080 and S. 2048 would establish a national registry of people who undergo or require organ transplantation.

In addition to providing federal funds for the national coordination of donor organs, H.R. 4080 would give the Department of Health and Human Services (HHS) broad authority to designate centers for transplant surgery and other complex medical procedures, and to establish who may receive the surgery. This authority would allow HHS to withhold Medicare and Medicaid reimbursement for transplant surgery if the hospital, surgeon, or circumstances of surgery failed to meet as yet undefined HHS criteria. This provision has been criticized by some who feel that the bill would grant HHS authority that is too broad. Nevertheless, H.R. 4080 provides an important opportunity to establish federal standards to discourage the inefficient diffusion of transplant capability among hospitals, and to control the liberalization of medical indications for transplant surgery to patients for whom the benefit may be marginal.

Supply of Transplant Capability

Hospital capability to perform kidney transplants is relatively widespread; only ten states do not have facilities to perform kidney transplants. Relatively few hospitals, however, have nonrenal transplant capability for one or more organ type. Nevertheless, some cities are already emerging as centers for various types of nonrenal transplantation. These include Boston, Chicago, New York, Houston and Richmond.2/ Metropolitan areas with at least one facility currently able to perform nonrenal transplants are presented in Table 2.

TABLE 2

Number of Renal and Nonrenal Transplant Facilities, and Hospital Beds Per Resident Population, in Selected Metropolitan Areas, 1982 a/

Standard Metropolitan Statistical Area	Total Transplant Facilities	Renal Transplant Facilities	Nonrenal Transplant Facilities b/	Hospital Beds Per Capita
Boston, MA	6	6	4	5.6
New York, NY	6	6	2	5.2
Philadelphia,PA	6	5	1	5.0
Chicago, IL	5	5	3	5.4
Detroit, MI	4	4	1	4.6
Houston, TX	4	2	2	5.3
Baltimore, MD	3	3	1	4.6
Cincinnati, OH	3	2	1	4.9
Anaheim, CA	2	2	1	3.6
Dallas, TX	2	2	1	4.6
Gainesville, FL	2	1	1	10.4
Indianapolis, IN	2	1	1	5.5
Miami, FL	2	1	1	6.2
Minneapolis, MN	2	2	1	5.3
Richmond, VA	2	2	2	6.9
St. Louis, MO	2	2	1	6.4
San Francisco, CA	2	2	1	4.3
Birmingham, AL	1	1	1	6.9
Denver, CO	1	1	1	4.5
Madison, WI	1	1	1	6.8
New Haven, CT	1	1	1	4.9
Pittsburgh, PA	1	1	1	6.0
Rochester, NY	1	1	1	3.6
San Diego, CA	1	1	1	3.9
Shreveport, LA	1	1	1	8.0
Tucson, AZ	1	1	1	4.9
Total	64	57	34	5.3 c/

SOURCE: Unpublished data from Battelle Human Affairs Research Centers (Seattle, Washington); unpublished data from the New Human Pancreas and Islet Transplant Registry (Minneapolis, Minnesota: University of Minnesota, Department of Medicine and Surgery); and tabulation of the Area Resource File (U.S. Department of Health and Human Services.)

a/ Includes only standard metropolitan statistical areas (SMSAs) with one or more nonrenal transplant facilities.
b/ Heart, lung or pancreas transplant facilities.
c/ Figure represents the average number of hospital beds per resident population for all standard metropolitan statistical areas.

The factors that have contributed to the growth of transplant capability in cities like Boston and Chicago have not been determined. These might include competition for patients, competition among teaching hospitals for resident physicians or students, or the supply of physicians in the area. Among the five centers identified above, only Richmond has a bed-to-population ratio (6.9 beds per 1,000 resident population) that significantly exceeds the national average (5.3 beds per 1,000 population). Further development of nonrenal transplant capability by hospitals, however, will depend critically on the payment standards adopted by Medicare, Medicaid and private insurers.

Directing the Growth of Transplant Capability

Medicare and Medicaid are, together, the largest buyers of hospital care in the United States and potentially the most influential purchasers of organ transplantation. As a result, private health insurers view Medicare and Medicaid incentives for the efficient growth of transplant capability as critical. Without public program standards, private insurers doubt their own ability to establish standards to encourage the efficient diffusion of transplant capability, or curb the liberalization of medical indications for transplant surgery.

Medicare and Medicaid might adopt several strategies to control program costs for transplants and provide incentives for the efficient growth of transplant capability among hospitals.

Reimbursement--Medicare is currently phasing in its prospective pricing system for hospital care. Under this system, hospital expenses for each recognized type of organ transplant will probably be reimbursed as a separate diagnosis-related group (DRG). For example, Medicare currently has a separate DRG for kidney transplants. Medicare might control the diffusion of transplant capability among hospitals by setting and maintaining stringent reimbursements for transplant DRGs. The only hospitals that would perform organ transplants, then, would be those capable of doing so at sufficiently low cost.

Stringent DRG reimbursement, however, might produce some undesirable effects. First, only four states regulate hospital charges to privately insured and individual patients, as well as Medicare and Medicaid patients. In states that do not regulate hospital charges to privately insured patients, Medicare payments which are less than the hospitals' cost of providing transplants for beneficiaries, will probably be shifted into hospital charges to privately insured patients. As a result, a strategy of stringent DRG reimbursement for transplants may not discourage the inefficient diffusion of transplant capability. In addition, it would probably be opposed by private insurers and by employers who are the primary purchasers of private health insurance.

Second, stringent DRG reimbursement would favor the delivery of transplant surgery to patients who represent the lowest hospital cost, and discourage access to transplantation by others. The prospective cost of providing care to any particular patient, moreover, may not correspond to medical indications

for surgery. For example, persons over age sixty-five are currently considered, for medical reasons, generally inappropriate candidates for kidney transplantation. However, stringent reimbursement may, for cost reasons, discourage organ transplants for persons considerably younger than age sixty-five who may, for example, have complex diagnoses. Cost-based decision-making by providers could restrict access to transplantation among patients who would clearly benefit--including patients who are privately insured.

Federal Regulation--Both Medicare and Medicaid could discourage the inefficient diffusion of transplant capability among hospitals by establishing standards for reimbursement. In fact, Medicare now regulates the number and types of hospitals that it will reimburse for kidney transplants.

To obtain Medicare certification, hospitals must meet a volume standard. Medicare grants unconditional certification to hospitals that perform at least fifteen kidney transplants each year, and conditional certification to those that perform fewer than fifteen transplants, but at least eight per year. Medicare allows conditionally certified hospitals three years to raise their volume to fifteen or more transplants per year; those that do not reach that level lose Medicare certification. The lower supply of donor organs for nonrenal transplants suggests that Medicare's ESRD volume standards may be unreasonably high for other kinds of transplant surgery. Nevertheless, a volume standard might be considered as a means of controlling the diffusion of transplant capability among hospitals and higher health care costs.

H.R. 4080 would allow HHS to establish standards that would assure quality in the performance of relatively unusual surgical procedures by hospitals. Since familiarity with a specific surgical procedure is important in assuring quality, H.R. 4080 might allow HHS to establish a volume standard similar to the standard it now uses in the Medicare ESRD program. A volume standard has the potential disadvantage, however, of favoring existing transplant facilities --discouraging the entry of new transplant facilities that could not achieve sufficiently high initial volume. In turn, hospitals might respond by liberalizing medical indications for organ transplantation to achieve sufficient volume for public-program certification.

Probably the most difficult form of regulation to enact or enforce would be the explicit rationing of transplants to patients with qualifying characteristics. In fact, this kind of rationing now occurs de facto, based on medical indications for transplantation, the availability of donor organs, and the patient's ability to pay. Wider private and public insurance coverage and federally funded improvements in the availability of donor organs, however, may ease the stringency of this rationing by providers.

Congress might consider establishing rules for rationing transplants among individual patients, all of whom may medically qualify. This action by Congress would make rationing criteria explicit, and limit the informal rationing authority now exercised by providers. If explicit, various criteria for rationing transplants (for example, the patient's age or economic and

family status) could be unacceptable. Other criteria, however, might be considered. For example, persons with a terminal diagnosis, in addition to the diagnosis that indicates need for transplantation, might be made ineligible for transplant surgery. Even this kind of rationing--based on the patient's cumulative prognosis--could be, in many circumstances, painful to enforce. Nevertheless, the high cost of some transplants may force standards for formally rationing health care among individual patients.

State Regulation

State regulation to control the diffusion of transplant capability among hospitals is another option that Congress may consider. Although federal funding for state and local health planning has been severely cut, planning agencies continue to operate in some states.

Congress could designate transplants as an optional Medicaid coverage, and legislate explicit state authority to regulate either transplant capability among hospitals, or patient eligibility for transplantation, or both. This option would have the advantage of allowing local preferences to govern the kind and stringency of restrictions that might be placed on access to transplantation surgery or other high-cost forms of health care. Furthermore, standards for Medicaid reimbursement might be sufficient to induce efficient diffusion of transplant capability among hospitals. This option, however, does not address the need for uniform federal Medicare standards to govern eligibility or reimbursement for transplantation.

Conclusion

Although the prospect of rationing high-cost health care in the United States is difficult, growing recognition of organ transplants as accepted medical practice--and the high cost of transplant surgery--may force Congress to consider rationing transplants to control Medicare and Medicaid costs. Federal legislative proposals to improve access to organ transplantation may hasten Congress to consider restricting public-program reimbursement and eligibility for transplantation.

The Medicare ESRD program may provide a model for rationing health care by regulating the provision of particular health care services. Many would argue, however, that the ESRD model is inadequate: ESRD program costs have risen rapidly since the program was legislated in 1972. Nevertheless, alternative forms of rationing may be so controversial that federal action would be stalled.

Private insurers are concerned that widespread insurance coverage for nonrenal transplants would encourage the inefficient diffusion of hospital capability to perform transplants, and encourage the easing of medical indications for transplantation. Furthermore, they are concerned that the absence of federal restrictions on reimbursement or eligibility for transplantation would impede their own ability to establish and enforce standards.

The establishment of either federal standards or workable private insurance standards, however, requires a public consensus about the kinds of restrictions that might be acceptable. The task of finding that consensus may fall to Congress as it considers public program payment for organ transplants. Congress may take this opportunity to reassess the individual right to high-cost health care; alternatively, it may provide only general guidelines to discourage the acceleration of transplantations and health care costs. In either case, the standards set by Congress will be an important signal to health care providers and a precedent for private insurers.

Notes

1/ Medicare does pay the costs associated with some lesser-cost nonrenal transplants--including skin, cornea and pancreas transplants.

2/ EBRI gratefully acknowledges Joan Krueger's assistance in tabulating the Area Resource File to provide estimates of hospital beds per resident population by Standard Metropolitan Statistical Area. Ms. Krueger is a doctoral candidate at the University of Illinois at Champagne-Urbana.