SATELLITE
HEALTHCARE

Despite advantages, home dialysis slow to grow

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AMONG THE UNWELCOME companions to excess weight are often diabetes and hypertension. And, in turn, the strain of those diseases wears down the kidneys, sometimes leading to a condition that until the 1940s was invariably fatal — kidney failure.

But with the gradual rise of dialysis in that decade, in which a machine substitutes for kidneys by cleansing the blood, patients had a new tool for survival.

Now, more than 341,000 Americans who are waiting for a kidney transplant, or who don't qualify for one, get regular dialysis to stay alive. That figure is expected to rise to 541,000 by 2020, according to the United States Renal Data System, most of it attributed to kidney failure due to diabetes or hypertension.

But the price tag for caring for these patients is growing ever more costly. Currently, dialysis treatment accounts for 8 percent of expenditures by Medicare, which pays for most dialysis in the nation. By 2010, the agency expects to pay at least $28 billion annually for dialysis, and by 2020, $54 billion.

"These rising numbers of people on dialysis are really a major public health issue," said Dr. John Moran, corporate medical director of Wellbound, a Mountain View-based dialysis company with 12 locations, including seven in the Bay Area.

Moran is among those advocating a cost-effective alternative to the standard dialysis protocol, which entails three visits a week to a dialysis clinic or a hospital, where patients remain connected to a machine for three to four hours while it clears their blood of excess fluids and wastes.

Wellbound promotes the use of home dialysis, a technique used by less than 10 percent of dialysis patients, but which studies show improves patient outcomes and lowers costs.

At Kaiser Permanente Southern California, kidney disease experts are pushing to reverse the percentages, so that dialysis in hospitals and clinics "becomes the modality of last resort" and home dialysis the leading therapy, according to a 2005 article in Nephrology News and Issues, quoting Dr. Peter Crooks, medical director of the HMO's Southern California renal program.

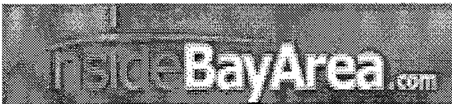
"We promote it to anyone who shows a glimmer of interest," said Dr. Eli Weil, physician administrator for the end-stage renal disease program for Kaiser Permanente Northern California.

"Kaiser can see the benefit to the system," Moran noted.

For every patient using a home-based technique called peritoneal dialysis, the HMO saved $20,000 in annual costs, according to the Nephrology News and Issues article, in significant part due to lowered rates of hospitalization from the cardiovascular conditions that often accompany kidney failure, and from less use of prescription drugs.

For a technique called home hemodialysis, which directly cleans the blood (peritoneal uses an indirect method), the savings were $10,000 per year for the HMO.

Wellbound offers peritoneal dialysis as well as



home dialysis, using a machine manufactured by NxStage Inc., a Massachusetts firm. In 2005, it became the first portable dialysis equipment to receive U.S. Food and Drug Administration approval.

Those rates are unique to Kaiser, given its integrated system. But the cost savings are even greater for other health care providers. A 2007 analysis comparing home hemodialysis with dialysis at hospitals and clinics, so-called in-center dialysis, reported that home hemodialysis cost between $34,000 and $37,000 annually, while in-center dialysis cost $59,000 and $100,000 per year.

Numerous studies note that patients report feeling better on home hemodialysis, and that patients receiving the more frequent and generally longer treatments afforded by home dialysis had lower mortality rates, were more frequently employed, were hospitalized less, and reported less psychological distress.

Kidney disease experts, however, frequently note that the current crop of studies are limited by their small size or study design, and that it's hard to know whether the better rates are simply due to the fact that patients on home hemodialysis are younger and have fewer other medical conditions than patients using in-center dialysis.

To provide more comprehensive data on the benefits of home hemodialysis in comparison with in-center treatment, the Centers for Medicare and Medicaid Services and the National Institutes of Health are running two large clinical trials on the subject. The trials are expected to conclude in 2010, with results ready for release by 2011, said Dr. Paul Eggers, a researcher with the National Institutes of Health who is leading the studies.

The NIH/CMS research reflects a growing interest in closely analyzing the effect of both the length and duration of hemodialysis sessions, Moran said. Currently, Medicare reimburses three sessions a week, which generally last between three to four hours.

But Moran said that protocol arose less through rigorous analysis, and more because it was the threshold at which people began to report feeling better in the early days of dialysis.

"Three (weekly visits) sort of became the standard, without any sort of rationale, except that it left people feeling OK," he said.

While experts debate whether existing data supports the notion that home hemodialysis improves mortality, there's little dispute that longer dialysis sessions, preferably the overnight session that home treatment allows, provide the best results.

"If you do more hours, almost all nephrologists agree you'll do better," said Weil, with Kaiser. "There are fewer hospitalizations, less medication, less complications."

In response to critiques of the inadequacy of current studies on the benefits of home dialysis, Moran noted that no studies showed patients at home did worse, and virtually all showed an improvement.

Moran noted that peritoneal dialysis, which uses a method of injecting and then draining liquid, cleansing blood through diffusion from the abdominal cavity, is also used at home and yields good outcomes as well. But he said patients often report feeling even better with home hemodialysis, which directly routes blood through a machine which filters it and returns it to the body.

"If all those signs point in one direction, that's

the direction you should go," Moran said.

But a significant obstacle, he emphasized, is current Medicare reimbursement policies, which only pay for three visits a week. Home hemodialysis patients typically undergo six treatments weekly, often overnight.

Penny Mohr, director of the division of research on health plans and drugs for the Centers for Medicare and Medicaid Services, questioned whether Medicare reimbursement policies were indeed a barrier to expanded adoption of home hemodialysis. She noted that the home treatment is less expensive, since trained medical personnel aren't needed to run the equipment.

But Moran said that with six treatments a week, costs are still higher.

"If Medicare reimbursed six days a week, you would see a lot more patients doing home hemodialysis," he said.

Mohr said that when the results of the two NIH/CMS studies are released in 2011, they might provide data that could lead the agency to request a change in reimbursements. In the meantime, she noted, the Bush administration recently proposed changes, which Congress would need to approve, in the reimbursement structure that might indirectly provide higher reimbursements for home treatment.

Furthermore, should compelling and rigorous data showing the cost benefit of home hemodialysis be presented before the federal studies conclude, she said that also could sway Medicare officials.

Weil noted that patient preference is another obstacle to wider adoption of home hemodialysis, since many patients prefer that trained health care workers administer their dialysis.

In addition, home hemodialysis requires that the recipient live with someone who can serve as a caregiver — an option not available to many dialysis patients. Furthermore, patients with other health conditions may not be good candidates for home treatment.

But patients who do adopt the home treatment typically report marked improvements in their lives.

"They're very pleased," said Weil.

While he expressed doubts that home hemodialysis will become widespread Weil also expressed his support for it whenever possible.

"If we're providing them with a therapy that I believe is better, then we should do it," Weil said.

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