New Medicare rules designed to reduce waste and fraud in medical-equipment reimbursements are driving some home-oxygen suppliers out of business and leaving patients scrambling to find new providers.

The new payment rules, effective Jan. 1, affect the more than one million people who rely on Medicare to pay for oxygen services, which relieve the symptoms of conditions such as emphysema and chronic obstructive pulmonary disease.

"It's totally penny-wise and pound-foolish," says Barbara Renzullo, a nurse and case manager at Massachusetts General Hospital in Boston. Some patients, unable to find a new supplier because their reimbursement rate has fallen so far, "wind up in the hospital."

Under the new rules, Medicare pays suppliers at the prevailing rate—an average of $200 a month, paid 80% by Medicare, 20% by patients—for the first three years after a patient begins coverage. Suppliers are then required to continue providing oxygen services to patients for an additional two years, but at a sharply reduced payment rate. After that, patients are entitled to receive new equipment, and Medicare will resume paying suppliers at the higher rate.

The changes are part of broader efforts by Congress and the Centers for Medicare and Medicaid Services, or CMS, which oversees the federal insurance programs, to address waste and fraud in reimbursements for so-called durable medical equipment, which includes things like home-oxygen machines, wheelchairs and walkers.

CMS says it expects to save about $220 million in the fiscal year that began last month. The agency says it had been paying too much for oxygen equipment, and that payments for the first three years should cover service costs for the two-year gap.

Suppliers say those calculations don't account for how much it actually costs to provide services, such as delivering oxygen tanks. Some are balking at accepting new patients who are near or have already reached the three-year limit on full payments. The companies would have to provide oxygen services for the next two years while getting minimal payments for follow-up visits and other services.

Ms. Renzullo, at Massachusetts General, said she has seen patients forgo using oxygen when their suppliers closed and no other company would take them. In January, one terminally ill patient wanted to move to Virginia to live with her daughter, Ms. Renzullo says. But the patient had reached the three-year oxygen payment cap, and no supplier in Virginia would accept her. The patient spent extra days in the hospital while Ms. Renzullo tried to sort out the situation. Ultimately, a Massachusetts supplier mailed an oxygen concentrator to Virginia.

Some smaller, independent oxygen providers, which account for much of the industry's business, say they are being driven out by separate Medicare rules that took effect Oct. 1 and require durable medical-equipment suppliers to be accredited and to post a surety bond.

The changes are supported by many in the industry, but some small suppliers say they can't afford them. It costs $2,500 to $3,500 for a company to go through an accreditation survey, says Wayne Stanfield, president of the National Association of Independent Medical Equipment Suppliers. But a supplier may spend tens of thousands of dollars to comply with the stringent requirements.

Respiratory therapist Bob Sherman is job hunting after his company, Family Pharmacy and Valley Medical Supply in Stevensville, Mont., decided to exit the durable medical-equipment business. The costs for accreditation and a surety bond, coupled with lower reimbursements, cut too far into profits, he says.

A CMS spokesman said the agency has heard of one supplier filing for bankruptcy recently, but is unsure whether it was caused by the new rules. He also said the amount paid to suppliers to maintain equipment was increased last month.