

Convenience, Cost a Plus for At-Home TPN

NutriSole, a new dedicated specialty nutrition support program from Soleo Health, is helping patients initiate and maintain total parenteral nutrition (TPN) in the comfort of their own home or long-term care setting. Since launching as a pilot in January 2016, company data show that the program is improving outcomes and decreasing the cost of care.

TPN is a very complex and potentially dangerous therapy if not properly managed, explained Rich Parker, MD, a medical advisor to Soleo Health, which provides home infusion and specialty

pharmacy services. In the United States, the cultural norm is for the TPN line to be placed in the hospital, with the patient then monitored for two or three days before he or she is discharged. “But we’ve

proven that is not necessary,” Dr. Parker said. “It is safe to do in the home.”

As of October 2017, NutriSole was employed at 18 branch pharmacies nationwide. Its success, suggested Dr. Parker,



Photo courtesy of Soleo Health

**3 days of
TPN cost**

\$1,500

at home,
versus

\$8,000

in the hospital

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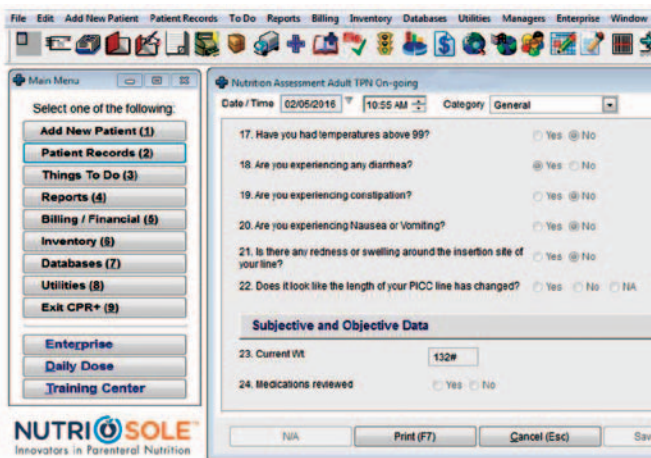
Best practices in automation, informatics and patient safety

results from an interdisciplinary team of dietitians, nurses and pharmacists trained in nutrition support who are available 24 hours a day, seven days a week, as well as extensive clinical outcomes reporting via SoleMetric, the company's proprietary clinical outcomes program. These combined efforts give physicians the confidence to entrust TPN care to Soleo Health, according to the company. Soleo Health's nutrition support teams exclusively manage the formulations of 77% of Soleo's TPN patients and 100% of Soleo's home-start TPN patients. As a specialty infusion provider, Soleo can provide specialty medications in addition to TPN.

On a weekly basis, NutriSole patients receive a detailed assessment customized to their nutrition therapy. Data are collected about response to care, hospitalizations, ER visits and formulation changes; recommendations related to lab data and catheter events are made after reviewing the data. “We are not just looking at catheter infections, but any events related to the catheter. Events may be related to occlusions, breaks, phlebitis or accidental removal,” explained Barbara Prosser, the vice president of clinical operations at Soleo Health. “These assessments are built into the electronic charting system, which provides us the ability to give detailed information about patients' progress not only to physicians but also to the ACOs [accountable care organizations] and payors.

“We use that data internally to monitor the therapy for patients as well,” Ms. Prosser added. “If they are hospitalized, we want to know why. With that constant feedback, dietitians and pharmacists can adjust formulations and make therapy recommendations for better outcomes.”

OPERATIONS & MANAGEMENT



erable cost of health care, there's been very good pressure on raising quality and lowering cost," Dr. Parker said. "This is a win-win."

Patient Selection Crucial

Angela L. Bingham, PharmD, BCPS, BCNSP, BCCCP, an associate professor of clinical pharmacy at Philadel-

phia College of Pharmacy of the University of the Sciences, noted that a home-start TPN regimen may not be appropriate for all patients. "Patients at high risk of refeeding syndrome or with other conditions, such as renal failure, heart failure, diabetes mellitus, or fluid and electrolyte disorders, would not be good candidates for home-start TPN," Dr. Bingham said. "For medically unstable patients, it would be safest to initiate parenteral nutrition in the hospital setting where close monitoring by the interdisciplinary health care team

is available around the clock."

Still, "for carefully identified patients who are very stable, home-start TPN—such as the service provided by NutriSole—may be a good option," Dr. Bingham said. But she emphasized that laboratory monitoring parameters for these patients should then be "closely reviewed" at initiation and as it is advanced.

—Lynne Peoples

The sources reported no relevant financial relationships beyond their employment.

Arizona Oncology's Experience

Tania Cortas, MD, a medical oncologist with Arizona Oncology, in Phoenix, has been using the NutriSole program in her practice since its inception. She described one of her cancer patients, who also had Crohn's disease. "It was very challenging to treat her because of issues with hydration, nutrition and weight loss," she said. "But she was able to continue getting treatment thanks to the support of the NutriSole program."

Dr. Cortas added that the patient would likely have ended up in the hospital on multiple occasions—and would have had to come into the clinic on an almost daily basis—were it not for the home-based TPN.

Since launching the program, the most common clinical intervention among NutriSole patients is TPN formulation changes related to lab results. Based on lab monitoring, program staff make recommendations back to physicians. "We keep track of those, and we look to see how many of those avoided potential hospitalizations," said Ms. Prosser, adding that the vast majority of doctors take the NutriSole team's recommendations for adjustments. "If we can keep the patient out of the hospital or emergency room, then we've saved patients and payors a lot of money."

In 2016, the first year of the NutriSole program, Soleo Health reported outcomes that it claimed exceeded industry averages. Catheter infections, for example, appeared less frequently in the NutriSole group compared with the industry median: 0.01 versus 1.31 infections per 1,000 catheter-days (*Clin Nutr* 2013;32[1]:16-26). The company also estimated substantial cost savings through its program. The average price tag for an inpatient hospital stay is \$2,271 per day, according to the Kaiser Family Foundation. Meanwhile, the average cost of home TPN initiation, including the outpatient placement of a central line and per diem rates, amounted to \$1,500 for three days—well below the average of more than \$8,000 for a patient spending those days in the hospital.

"As we've moved away from the fee-for-service world, due to the intol-

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