

Increasing dialysis program sustainability through a technology enabled, high-efficiency staffing model

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BACKGROUND:

In-center HD (ICHD) registered nurse (RN) staff-to-patient ratios are commonly 1:9 and 1:15 for ICHD and home dialysis, respectively.

With persistent nursing shortages and the common goal of cost-effective, high-quality care, newer dialysis technologies, like the Tablo® Hemodialysis System (Tablo), with sensor-based automation and remote monitoring, may facilitate safe care through more innovative, staff efficient care models.

OBJECTIVE:

To estimate dialysis program patient capacity and reimbursement that might be achieved by implementing new dialysis technology with existing staff.

METHODS:

We estimated the patient capacity and corresponding reimbursement for a dialysis program with 4.0 ICHD RN and 4.0 Home RN FTEs across a range of nurse-to-patient staffing ratios.

- ICHD ratios from 1:9 to 1:15
- Home dialysis ratios from 1:15 to 1:25

Model assumptions include:

- 6-day/week, 3-shift/day clinic schedule
- Payor mix of 50% Medicare FFS, 30% Medicare Advantage (MA), 20% Commercial insurance
- Modality mix of 60% ICHD or self-care, 20% HHD and 20% PD.
- Other staff-patient ratios were held constant.
- Per treatment rates of \$257.90, \$294.01 and \$567.38 for Medicare FFS, MA and commercial insurance, respectively.
- Medicare FFS per treatment TPNIES add-on \$25.

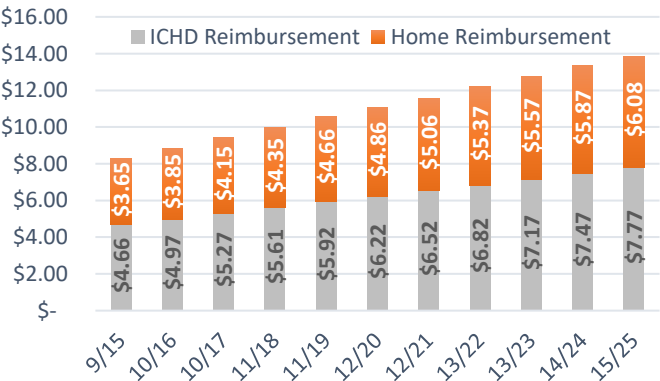
RESULTS:

- We estimated that 4.0 ICHD RNs and 4.0 Home RNs with ratios of 1:9 and 1:15, respectively, could support a population of 150 patients per year and yield a 5-year average annual reimbursement of \$8.31M.
- We estimated that with no change in nursing FTEs, expanding N ratios to 1:15 ICHD and 1:25 home could support 250 patients per year and result in a 5-year average annual reimbursement of \$13.85M, a 67% increase.
- Patient care technician requirements increased from 8 to 13 FTEs at a 1:4 ratio, across the range of ICHD ratios.

CONCLUSION:

More efficient nurse to patient staffing ratios and sustainable growth of in-center self care and home programs facilitated by technologies like Tablo’s remote monitoring capability, sensor-based automation and ease of use may help dialysis units safely and effectively meet the ongoing challenges related to reimbursement and nursing shortages.

Annual ICHD and Home Reimbursement
by ICHD/Home RN to patient ratios
(millions)



Annual Reimbursement per FTE
by ICHD/Home RN to patient ratios
(thousands)

