

# The 13-Year Experience of Performing In-Center Short Daily Hemodialysis - Who Pays for It?

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## BACKGROUND

Conventional hemodialysis (CHD: 4h3x/wk) has been associated with poor quality of life and high morbidity, hospitalization and mortality rates. An ideal hemodialysis prescription requires ultrapure dialysate, single-use biocompatible membranes, on-line blood monitoring and more frequent and/or longer treatments. Hospitalization represents a significant financial burden, accounting for 40% of total dialysis expenditures. We have successfully run an in-center short daily hemodialysis program (SDHD: 2h6-7x/wk) complying with all requirements for an ideal prescription in the last 13 years.

## OBJECTIVES

This study aims to demonstrate how we have configured dialysis delivery, improved outcomes and managed resources to achieve an optimal sustainable dialysis practice.

## METHODS

Operational (productive efficiency, patient compliance and payers coverage), clinical (hospitalization, kidney transplantation and survival rates) and economic (supply dialysis cost, cost-savings and net savings) landscapes were assessed in 176 consecutive unselected private-insured patients (108M/68F; mean age  $57.6 \pm 19.0$  yrs, range 8-97) receiving in-center SDHD treatments (6-7x/wk; lasting  $117.2 \pm 8.8$ min, range 105-150; ultrapure dialysate and single-use high-flux dialyzer) from Jun/05 to May/18. Reimbursement has been largely based on patient outcomes and hospitalization rates.

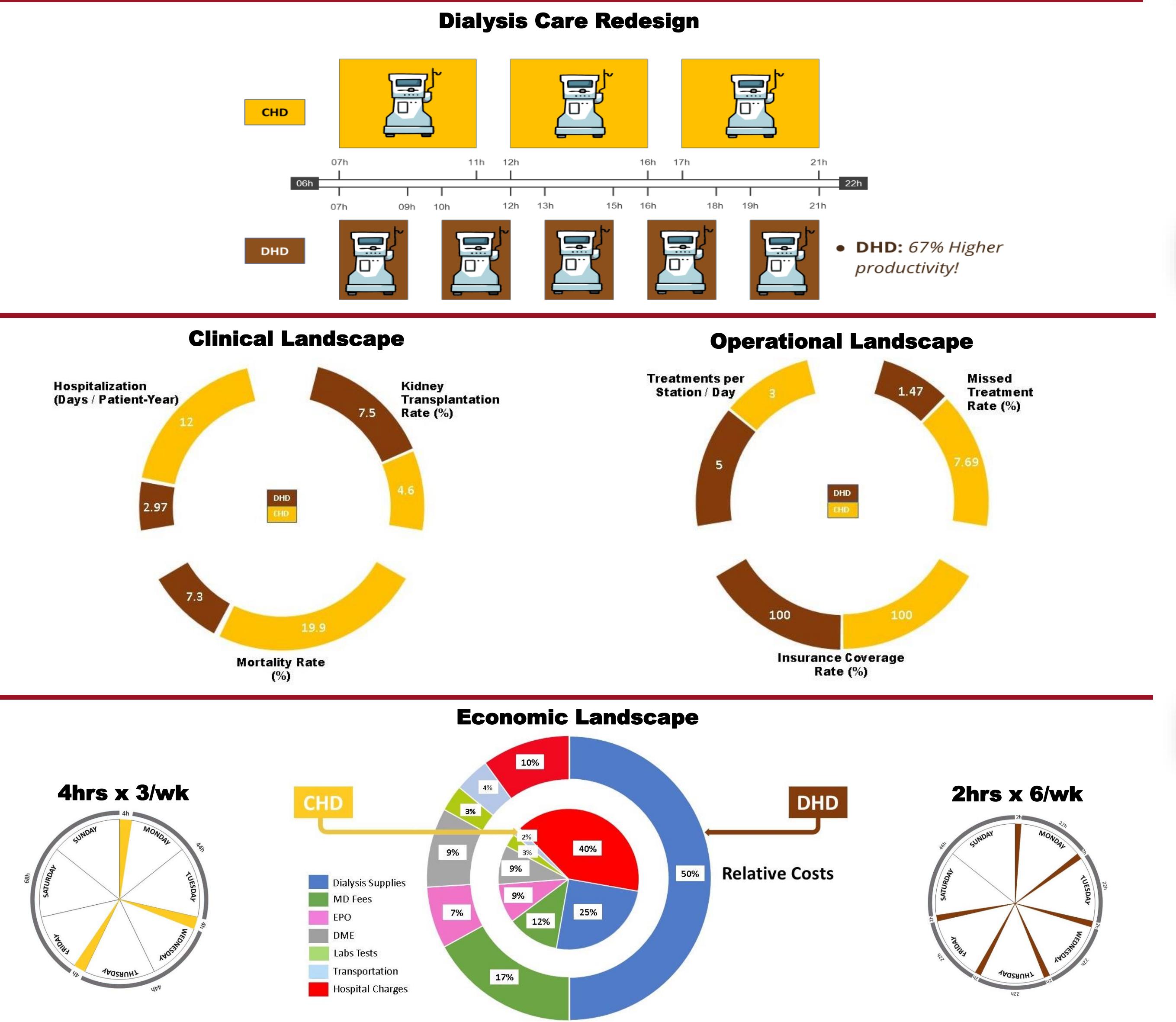
## RESULTS

Our in-center SDHD program operates five 2-hour shifts a day (67% higher productivity without increasing fixed costs), the average missed treatment rate was 1.47% and an incremental negotiated approach reached universal insurance coverage for daily regimen. Average hospital stay (2.97 days per patient-year), kidney transplantation rate (7.5%) and mortality rate (7.3%) were better than reported for CHD hospital stay (12 days per patient-year), kidney transplantation rate (4.6%) and mortality rate (19.9%). Daily hemodialysis consumables costs doubled, adding 25% for patient overall cost. Conversely, hospital total length of stay was 75% lower, reducing overall costs by 30% and offsetting the additional supply cost.

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## 176 PATIENTS ON IN-CENTER SHORT DAILY HEMODIALYSIS



## CONCLUSIONS

Our dialysis care redesign has markedly improved patient outcomes and dramatically reduced hospital stays and expenses.

With clinical and economic variables combined, it has been possible to sustain a distinctive yet affordable maintenance hemodialysis program.

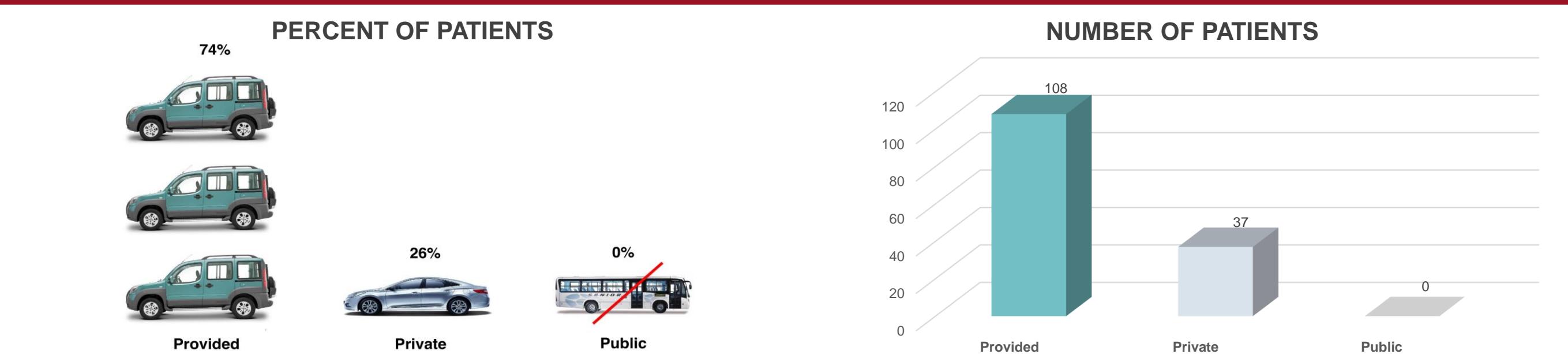
## DISCUSSION

By increasing dialysis frequency, a well recognized but costly way to better health-related quality of life and survival rate of dialysis patients, we targeted to decrease their expensive hospitalization costs in order to turn frequent dialysis schedule a financially viable reality. Hospitalization accounts for up 40% of all dialysis patients expenditures, leaving no more than 60% for the remained procedures related to chronic dialysis. It is a vicious circle, where an underpaid suboptimal dialysis prescription leads to more hospitalizations, whose costs prevent a better dialysis schedule when patients are discharged from hospital back to the maintenance dialysis. Our findings reveal a superior clinical performance of daily dialysis patients, including lower length of hospital stay, higher kidney transplantation rate and very low mortality rate - all the desirable outcomes for patients under renal replacement therapy. Dialysis redesign, combining clinical and economic variables in the right way, leads to the much needed improvement in dialysis outcomes.

## REFERENCES

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## ASN 2016: CBN&D DIALYSIS TRANSPORTATION



## ASN 2017: CBN&D SEVEN DAYS A WEEK DIALYSIS SERVICE

