

ASN DIALYSIS ADVISORY GROUP

ASN DIALYSIS CURRICULUM

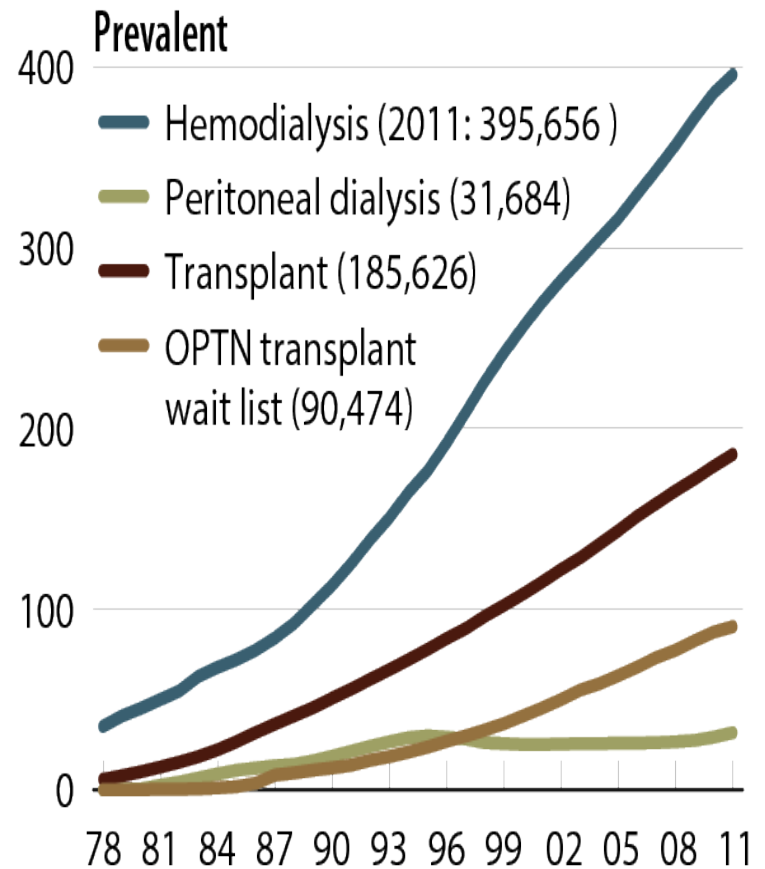
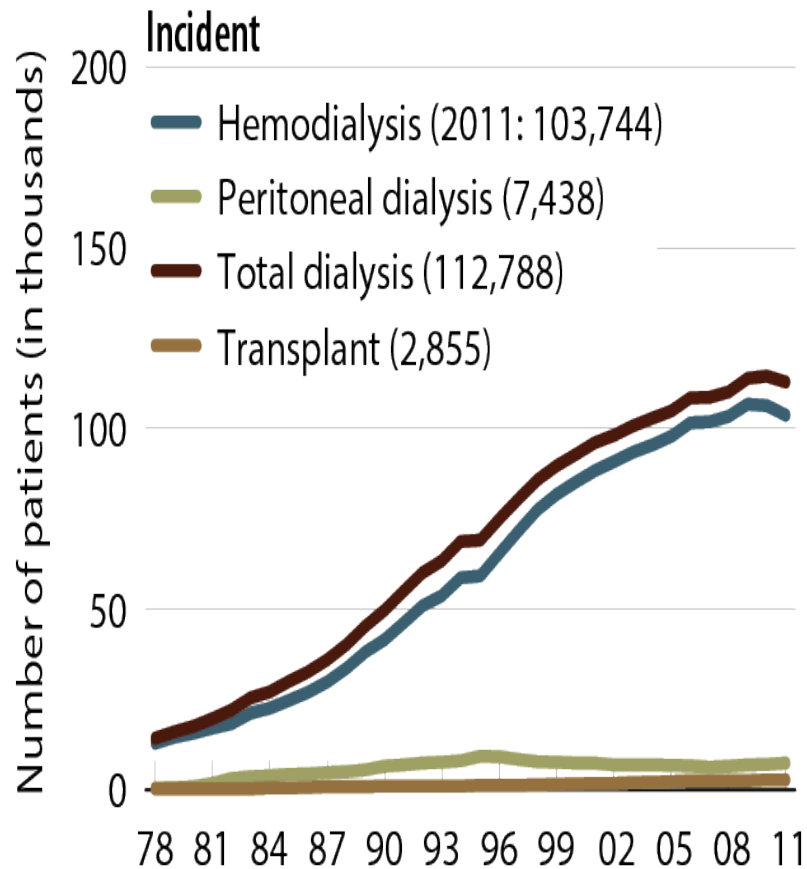
Assessing Adequacy of a Candidate for more Frequent Hemodialysis

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Affiliations and Disclosures

- **Funding**
 - NIDDK

Incident & Prevalent Patient Counts (USRDS), by Modality



Incident & December 31 point prevalent ESRD patients; peritoneal dialysis consists of CAPD & CCPD.



Why Do So Many Patients Dialyze In-center, When...

- ...there is a nursing shortage
- ...in-center hemo 3 times a week is not physiologic
- ...in-center hemo has the most restricted diet & fluids
- ...symptoms limit patients' work and activities



**More Frequent Hemodialysis
should be considered more
often**

Health Benefits of Frequent Hemodialysis

- **Better small solute clearances**
- **Improved nutritional status**
- **Better BP and volume control**
- **Better anemia management**
- **Better calcium/phosphorus**
- **Fewer medicines**
- **Improved quality of life**
- **Fewer hospitalizations**
- **Possibly better survival**

¹Lindsay R, et al. London, Ontario Daily/Nocturnal Dialysis Study. *Semin Dial.* 17(2):85-91, 2004.

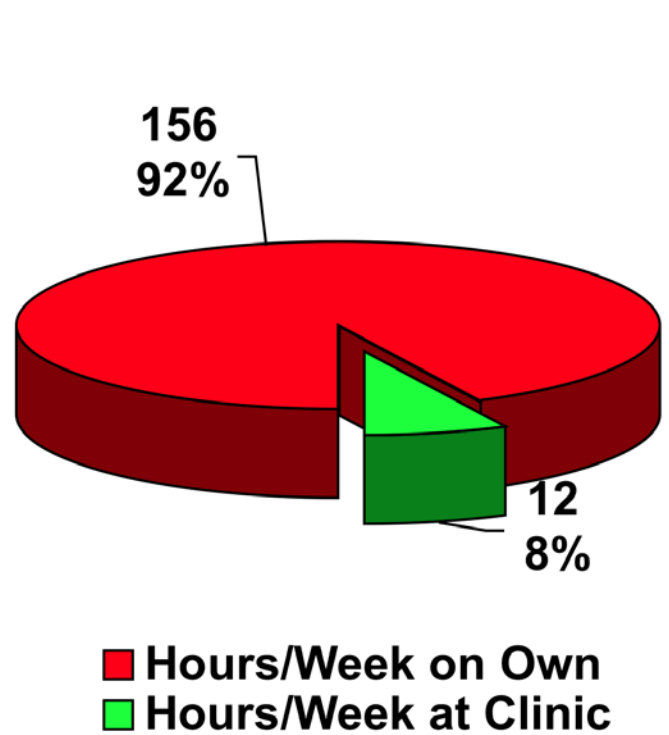
²Ting et al. Long-term study of high-comorbidity ESRD patients converted from conventional to short daily hemodialysis. *Am J Kidney Dis.* 42(5):1020-1035, 2003.

Psychosocial Benefits of Health Benefits of Frequent Hemodialysis

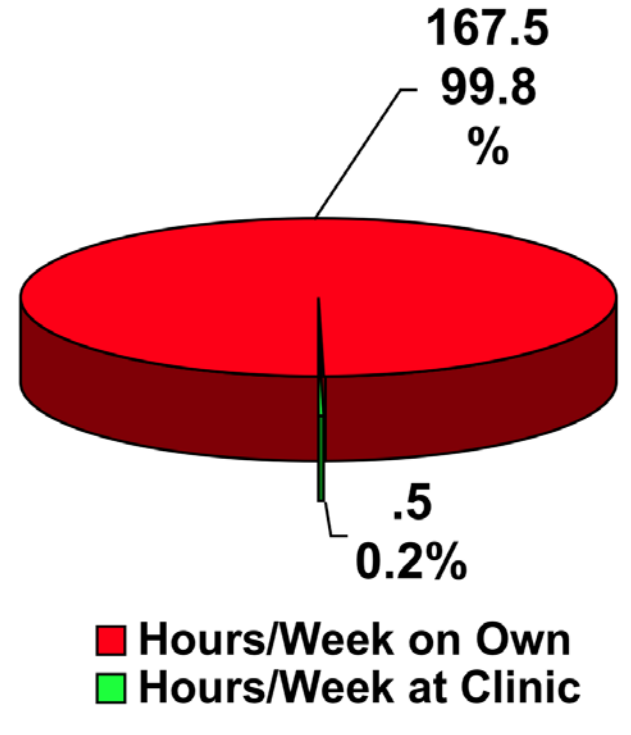
- **More control**
- **Less disruption of day**
- **Less travel to clinic**
- **Better sleep**
- **More hours for work/play**
- **More time with family or friends; less time with sick or dying people**
- **Better sexual functioning**

Improved Self-Management

A week in the life of a dialysis patient...



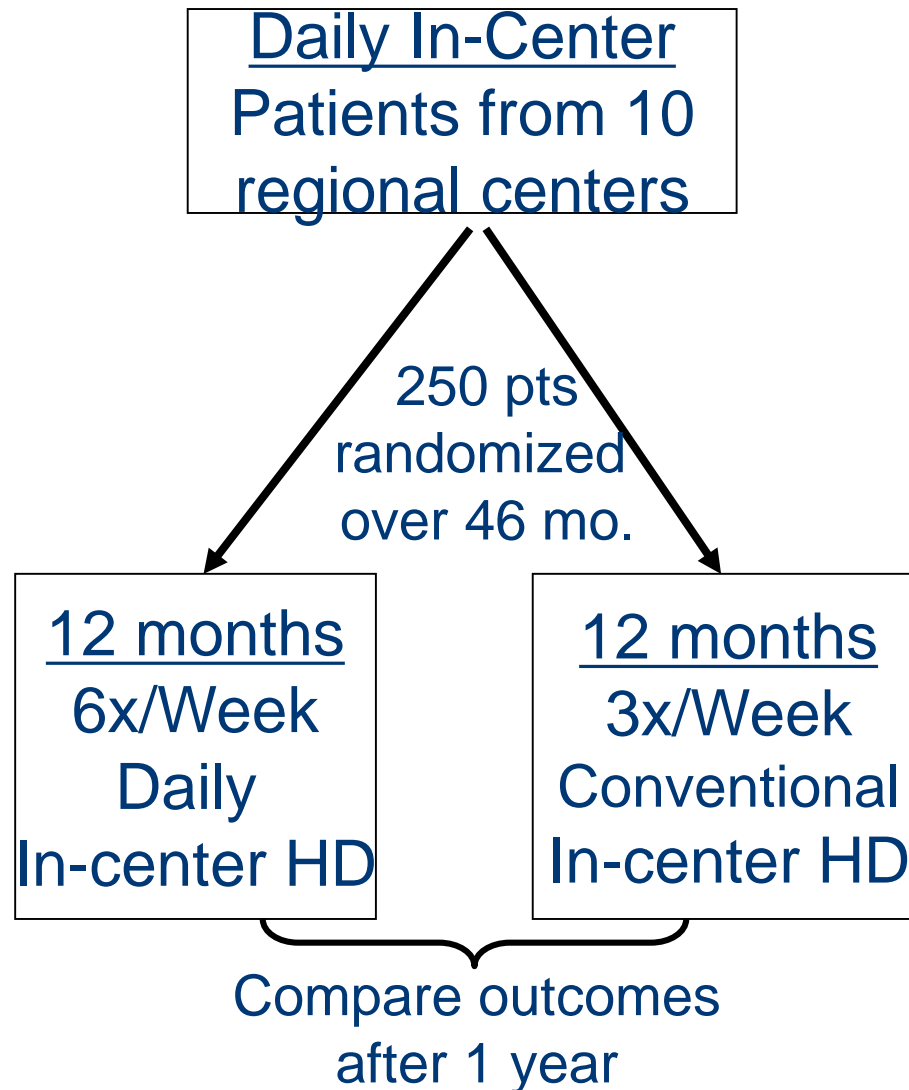
In-center HD



Frequent Hemo

FHN Study Design

Improved Self-Management



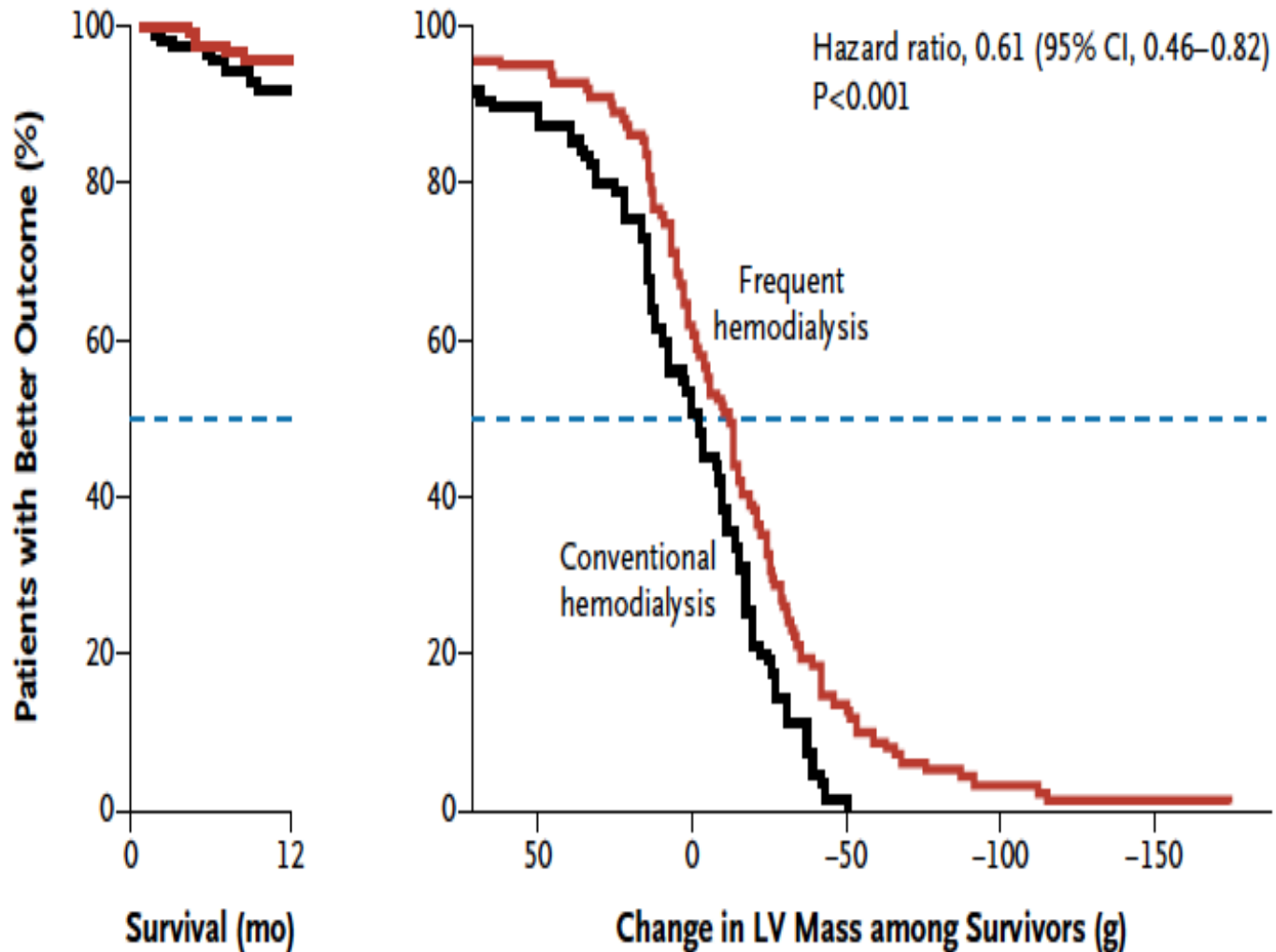
Main Outcome Domains

#	DOMAIN	MAIN OUTCOME
1	Cardiovascular structure/Function	Δ LV mass by cardiac MRI
2	Health related QOL/Physical function	Δ SF-36 physical health composite
3	Depression/burden of illness	Δ Beck depression index
4	Cognitive function	Δ Trail making B score
5	Nutrition/inflammation	Δ Serum albumin
6	Mineral metabolism	Δ Serum phosphorus
7	Survival/hospitalization	Δ Non-access hospitalization/death rate
8	Hypertension	Several outcomes
9	Anemia	Several outcomes

Co-primary Composite Outcomes

Death or Change in LV Mass

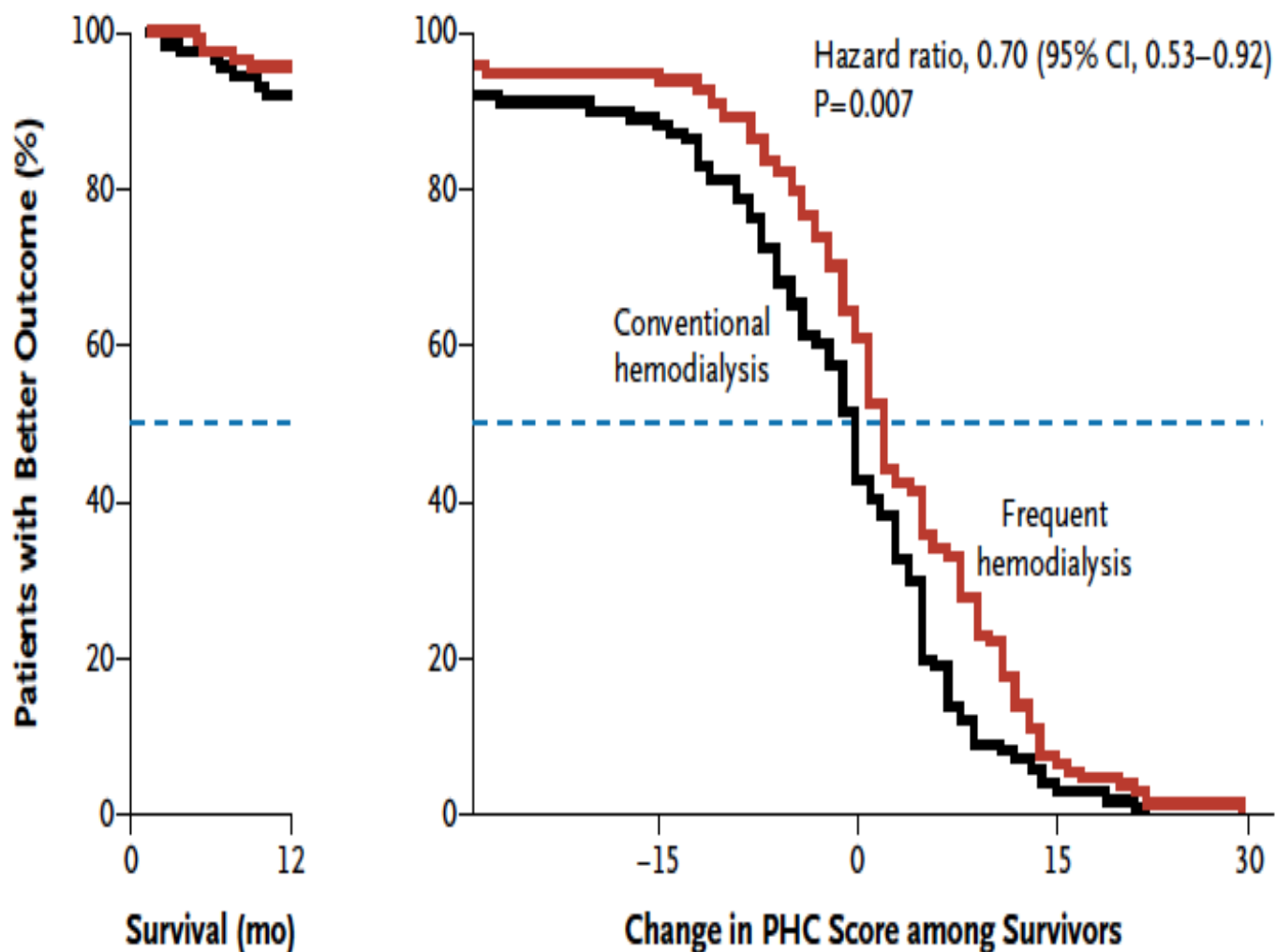
A Death or Change in LV Mass



Co-primary Composite Outcomes

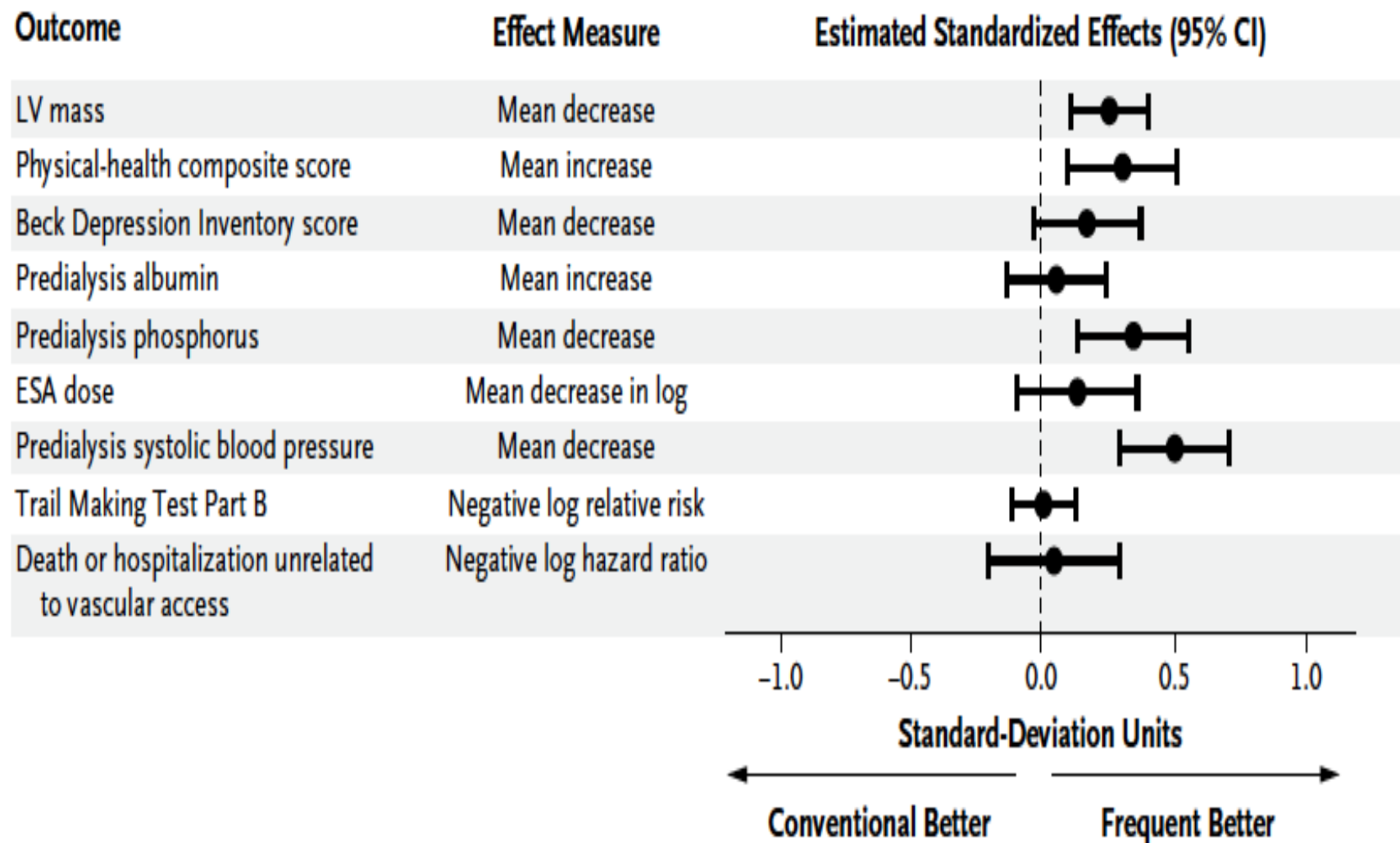
Death or Change in Physical Health Composite score

B Death or Change in PHC Score



Main Secondary Outcomes.

C Main Secondary Outcomes



Conclusions

- *Frequent hemodialysis, as compared with conventional hemodialysis, was associated with favorable results with respect to the composite outcomes of death or change in left ventricular mass and death or change in a physical-health composite score but prompted more frequent interventions related to vascular access.*



Common Barriers for Frequent Dialysis

- **Lack of awareness of home options**
- **Patient misperceptions**
- **Staff misperceptions**
- **Financial barriers**

Who Makes the Decision?

Joint or patient-led decision:

- **84% of new home dialysis patients**
- **47% of new in-center HD patients**

Medical team led decision:

- **53% of new in-center HD patients**
- **16% of new home dialysis patients**



Patient Misperceptions

- **You need a professional to do hemodialysis**
- **I can't do needle sticks**
- **Insurance won't pay for more frequent dialysis**
- **More frequent hemodialysis burdens the patient and family more**

Patient Misperceptions

In-Center Burdens

- No schedule control
- Travel to/from clinic
- Time off work/school
- No choice of stick-er
- Living w. symptoms
- Strict diet/fluid limits
- Other patient deaths
- Travel planning...
- Emergency worries

Frequent Home HD Burdens

- Order/store supplies
- Space for equipment
- Wiring/plumbing changes
- Putting in needles
- Doing treatments
- Alarms at night
- Troubleshooting
- Dialysis emergencies

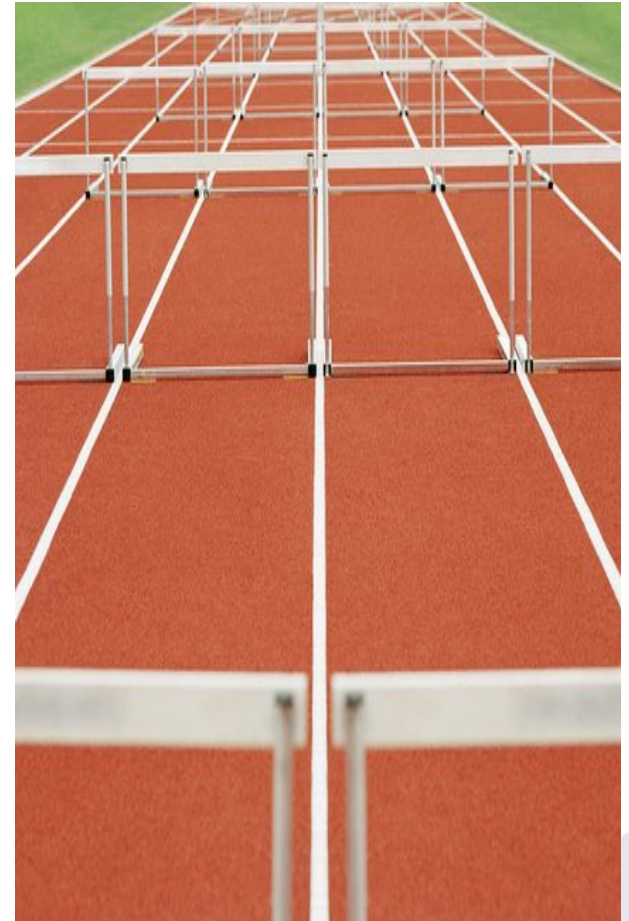


Staff Misperceptions

- **Professionals need to do HD**
- **Machines are too complex**
- **Patients are too:**
 - ① **Old**
 - ② **Uneducated**
 - ③ **Non-technical**
 - ④ **Unmotivated**
- **Liability risk is too high**

How do we Overcome Hurdles

- **Doctors and nurses need frequent hemo experience**
- **Clinics need examples of policies and procedures**
- **Staff/patients need frequent hemodialysis hemo mentors**



Conclusions

- **More intensive dialysis may improve ESRD patient outcomes**
- **Observational and RCT trials suggest better anemia care, phosphorus control, fluid and BP management with intensive HD**
- **Retrospective analysis shows improved survival with intensive dialysis**