

RightStart Program

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Background

- ESRD patients <65 years old do not receive Medicare coverage until 91 days of ESRD therapy. In order to make results comparable across age groups, USRDS reports mortality rates for all patients after 90 days of ESRD therapy.
- Several studies have highlighted multiple co-morbidities and risk factors that are present in the majority of patients starting dialysis therapies. Nevertheless, few studies have focused on the mortality of dialysis patients during these initial 90 days, or on processes to reduce it.

Co-Morbidities and Risk Factors Associated with Early Mortality

❖ Co-Morbidity

- Age
- Nutritional Status
- Diabetes
- Cardiovascular Disease
- LVH
- Depression

❖ Risk Factors

- Unplanned start (w/o permanent access)
- Short (<4 months) prior nephrological care
- Low residual renal output

❖ Reversible Risk Factors

- Anemia
- Low albumin
- High Phosphorus
- High catheter rate

At Initiation of Dialysis in the U.S.

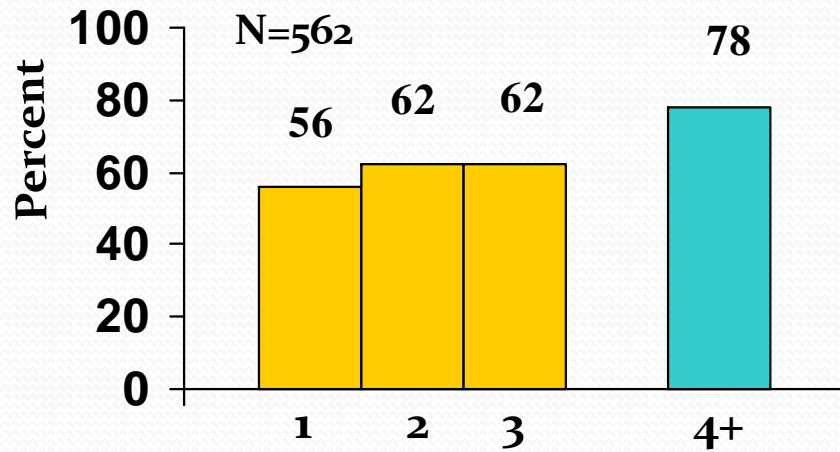
- 57% had albumin concentration below lower limit of normal
- 80% of patients with Hct <28% were not receiving EPO
- 50% had no visit with dietitian (21% had one visit)
- 25% had a permanent access 30 days before starting dialysis
- 33% used temporary access 60 days after initiation

Laboratory Outcomes Following Initiation of Dialysis (N = 7,658) HCFA Data from Q4, 1997

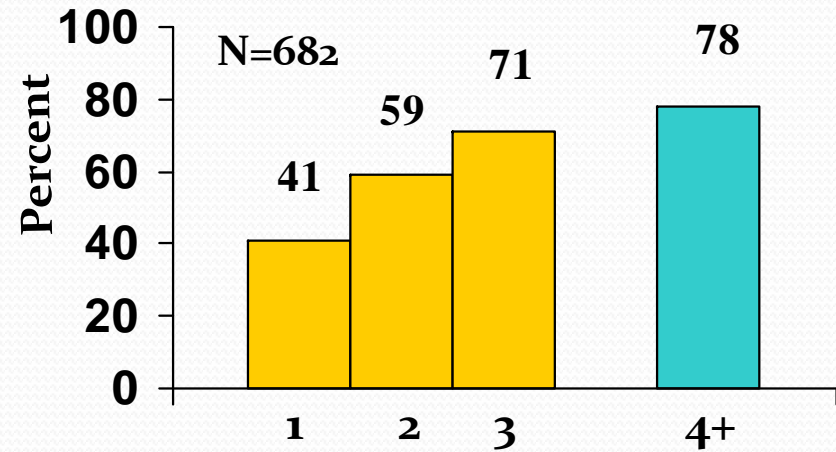
	<u>6</u> <u>Months</u>	<u>6-12</u> <u>mo</u>	<u>12-24</u> <u>mo</u>	<u>24</u> <u>mo</u>
% with URR > 65%	43	68	76	78
Median Dialysis Time (min)	210	210	210	210
% patients with HCT > 33%	41	58	60	59
% of patients with Albumin > 3.5	63	81	86	87

Outcomes for Patients Initiating Dialysis

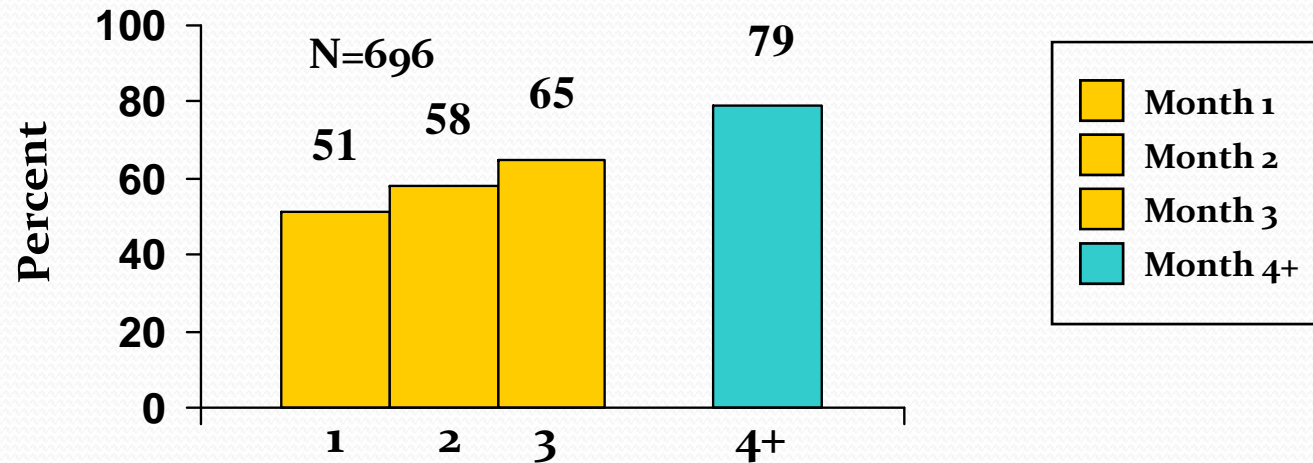
URR $\geq 70\%$



Hct $\geq 33\%$



Albumin ≥ 3.7 g/dL



A Special Group: New Patients Have Special Needs



New HD Pts Arrive:

- Anemic
- Malnourished
- Underdialyzed (uremic)
- With catheter
- Inflammatory state (catheter)
- Inactive
- Jobs threatened
- Overwhelmed
- More likely to be hospitalized
- More likely to die



RightStart Pilot Program – Primary Areas of Patient Care

- **Patient Education**
- **Vascular Access (surgeon appt 1st mo. if catheter)**
- **Medications**
- **Nutrition**
- **Facilitate overall medical care**
- **Rehab/SW referrals**
- **Physical activity program**
- **Self-Care**
- **Collaborate with staff**
- **Documentation**

RightStart® Goals

Defined goals for each healthcare team member

General Goals

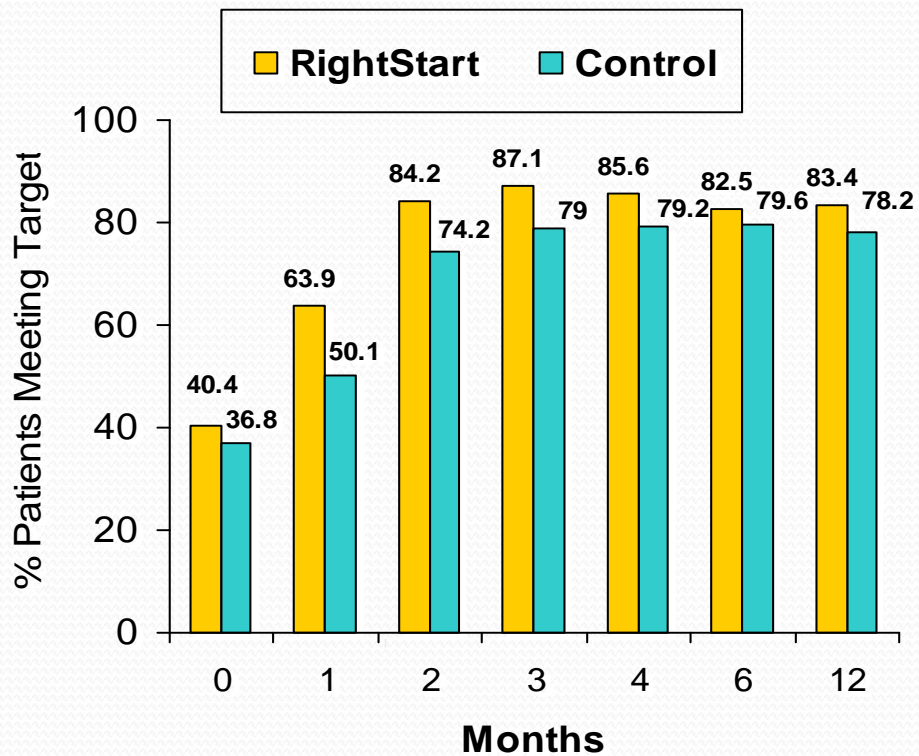
- Ongoing individualized Patient Education & Self-Care, Medication Reviews, care plans, recommendation for a liberal diet
- Protocol-driven outcomes

Specific Goals

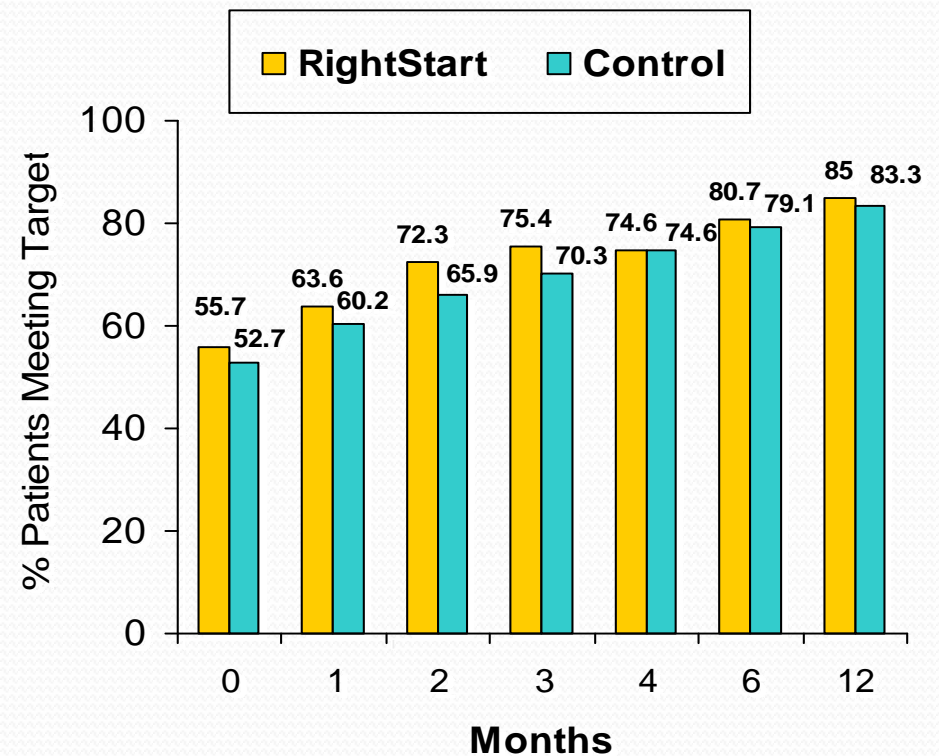
- Week 2: URR $\geq 70\%$
- Weeks 3-4: Target EDW
Hct $\geq 30\%$, T. Sat $\geq 20\%$
Transplant referral & permanent access planning
- Weeks 5-6: Stable BP
- Weeks 7-8: Hct $\geq 33\%$
PO₄ 3.5-5.5 mg/dL
Use Permanent Access
- Weeks 9-10: Review Goal Achievement
- Weeks 11-12: HgbA_{1c} $\leq 7\%$
Albumin ≥ 3.7 g/dL
PTH 150-300 (BiPTH 75-150)

Laboratory Parameters

Percent of Patients with Hematocrit $\geq 33\%$

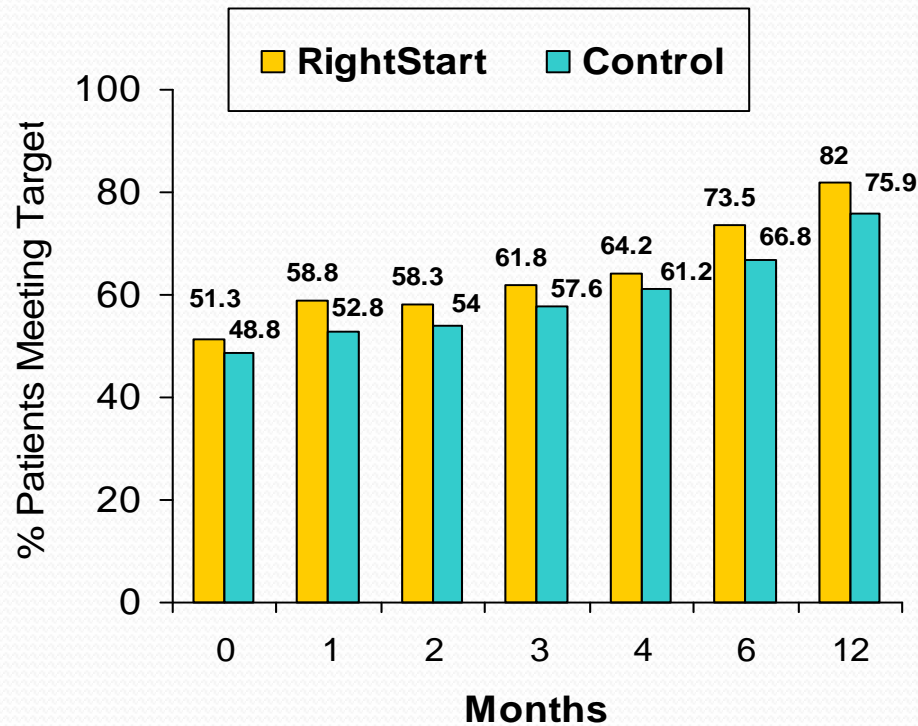


Percent of Patients with Albumin ≥ 3.5 g/dL

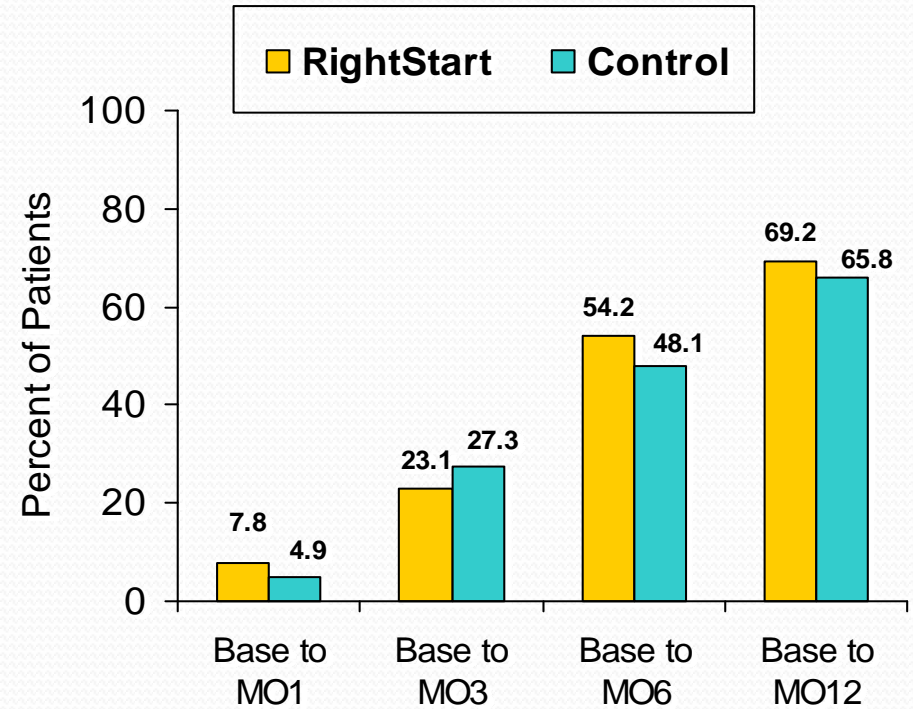


URR and Vascular Access Outcomes

Percent of Patients with URR $\geq 70\%$



Percent Reduction of Catheters





Patient-centered
team approach to
Continuous Quality Improvement





*What Do Patients Say They Want?
(I CARE)*

Information

Compassion

Attitude

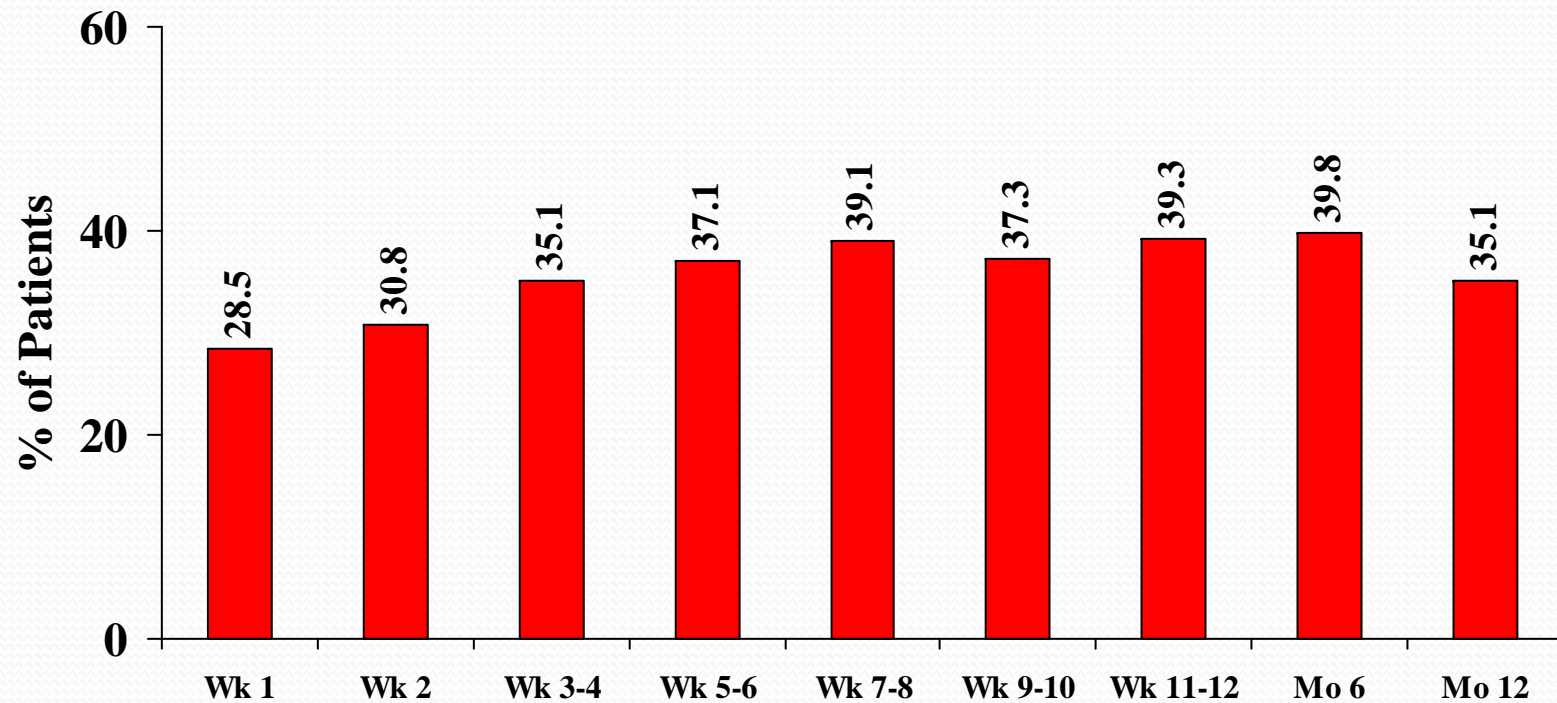
Responsiveness

Expertise

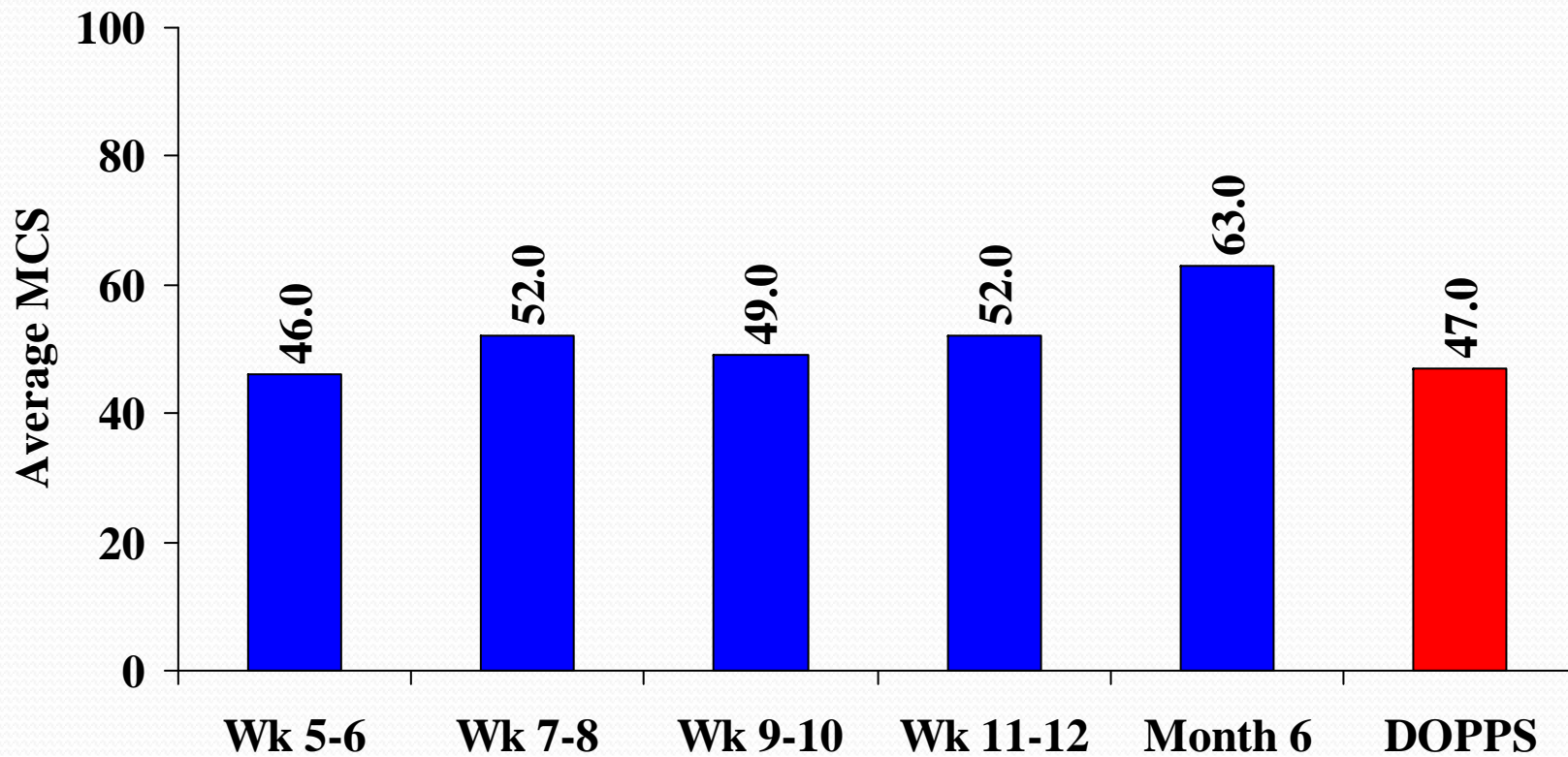
Right Start Outcome Data

Percent of Patients Physically Active

■ All RS

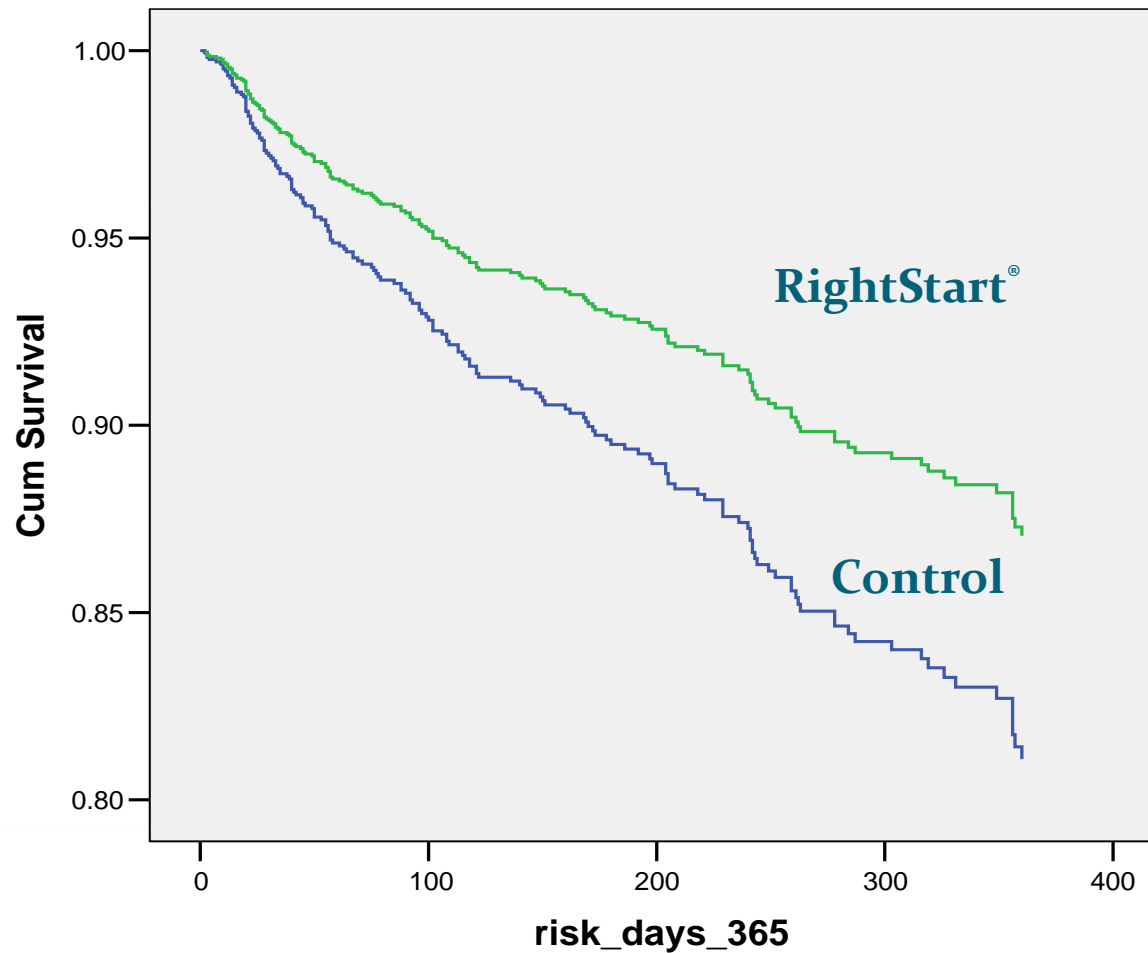


All Patients KDQOL by Weeks Average Mental Component Score (MCS)



Survival Curve, 1st 365 Days

Adjusted Cox-proportional hazards regression model



Adjusted by age,
race, gender,
diabetes

$P < 0.001$ by Cox Log-rank, Breslow, and Tarone-Ware tests at 90, 180, and 365 day exposure levels.

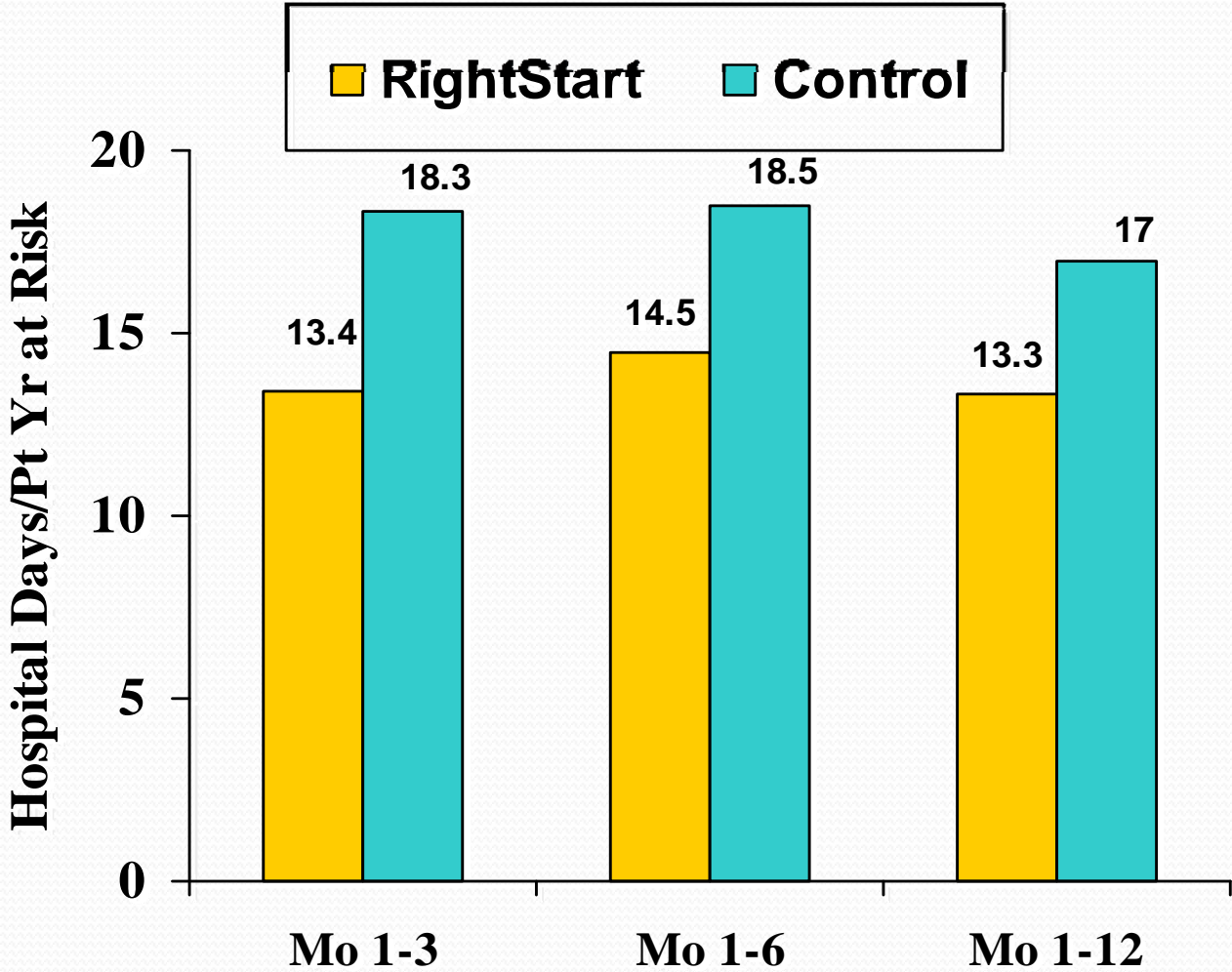
Mortality Hazard Ratios

Mortality Period	Unadjusted Hazard Ratio ¹ (95% CI)	Adjusted ² Hazard Ratio ¹ (95% CI)	P Value (Adj. Hazard Ratio)	RightStart [®] (deaths per 100 pt yrs)	Control (deaths per 100 pt yrs)
90-days	0.52 (0.35-0.76)	0.60 (0.37-0.97)	0.037	0.20	0.39
180-days	0.55 (0.40-0.75)	0.60 (0.40-0.91)	0.015	0.18	0.33
365-days	0.60 (0.46-0.79)	0.66 (0.46-0.95)	0.026	0.17	0.30

1 = Control used as reference group

2 = Adjusted for age, gender, race, diabetes

Hospital Days per Patient Yr at Risk





Combine RightStart and Diabetes Programs - Primary Areas of Patient Care

RSCM (follow pts x4 months)

- Patient Education/Modality Options
- Vascular Access
- Medication Reviews
- Nutrition
- Rehab/SW referrals
- Foot Exams/Shoes
- Glucose control – home records
- Prevention (eye exams)
- Case Follow-up and input
- Self-Care
- Electronic Documentation/Outcomes

All Patients Included

- Nursing home pts
- Non-English speaking pts
- Spouse/significant other for confused pts

Diabetes Foot Checks:

Preventing Infection and Amputations



Facts About the Diabetic Foot¹

- ESRD pts with diabetes have 10X the rate of amputations as normal population
- Up to 86% of amputations start from a minor injury i.e. blister, callus, poorly fitting shoes
- Amputations linked to decreased survival rate
 - 51% of ESRD pts survive 1 yr after amputation
 - 34% of ESRD pts survive 2 yrs after amputation

¹Eggers et al. *Kidney International*



Diabetes Foot Check Procedure

- **INITIAL FOOT CHECK-** (Annually) includes:
 - Observation of shoes, skin condition, integrity, temperature
 - Check Pedal Pulses
 - Sensory testing
 - Patient Education
- **ROUTINE FOOT CHECK** – (Monthly) includes:
 - Observation of shoes, skin condition, integrity, temperature
 - Reinforce Patient Education