



National
Kidney
Foundation®

Trends in End-of-Life Care among Patients with End-stage Renal Disease

Yoshio N. Hall, MD, MS

United States Renal Data System:

Special Studies Center on Palliative and End of
Life Care

University of Washington – Stanford University

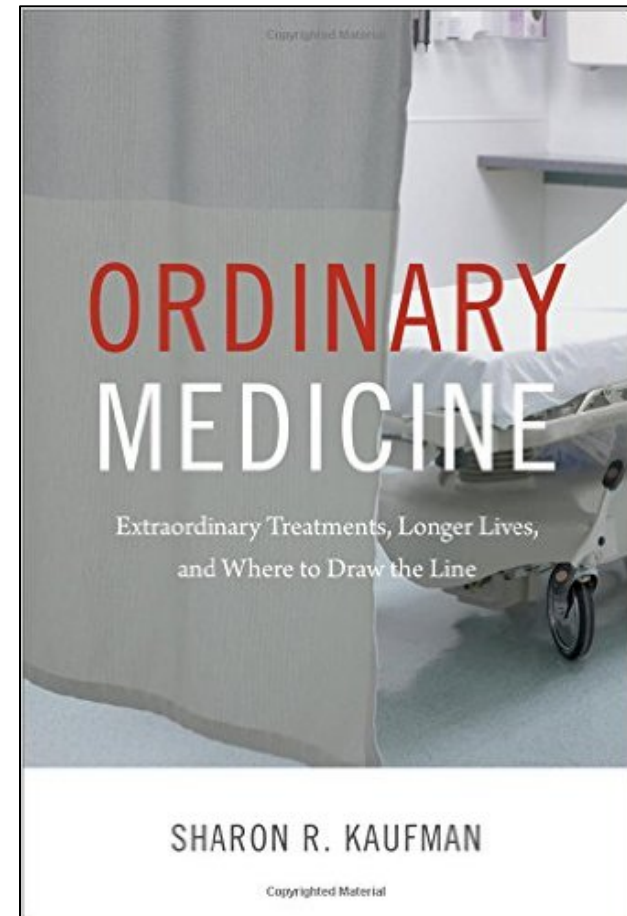
Disclosures

- Group Health Cooperative, Nephrology
- American Kidney Fund, Board of Trustees
- Clinical Journal of American Society of Nephrology, Editorial Board
- Grant Funding (University of Washington)
 - NIH/NIDDK
 - Satellite Coplon Extramural grant program
 - American Kidney Fund



Rationale

- Most patients receive intensive care at the end of life that is primarily focused on life prolongation.
- End-of-life care is expensive, and costs are predominantly driven by inpatient services
 - 25% of Medicare expenditures accounted for by 5% of recipients who die each year



Objectives

- Examine trends in treatment practices and patterns of health care utilization during the final months of life among decedents with ESRD (2000—2012).
- Explore differences in trends by demographic characteristics.
- Identify potential opportunities to enhance EOL care planning for patients with ESRD in clinical practice.



Design & Data sources

Source: Public-use Standard Analysis Files (SAFs) 2014 version

PATIENTS
MEDEVID
RXHIST
PAYHIST
DEATH

ESRD service date 1995 or later who died between 2000–2012

Case Study (Follow Back)



DEATH

3 months Fee-for-service Medicare A & B (primary payer)

CMS 2746

Medicare Institutional and Physician Supplier claims

Primary measures:

1. Frequency of hospital admission, length of stay
2. Admission to intensive care unit (ICU)
3. Use of hospice care
4. Dialysis discontinuation
5. Use of invasive procedures (ICD-9)



Decedent Cohort

N=1,110,597

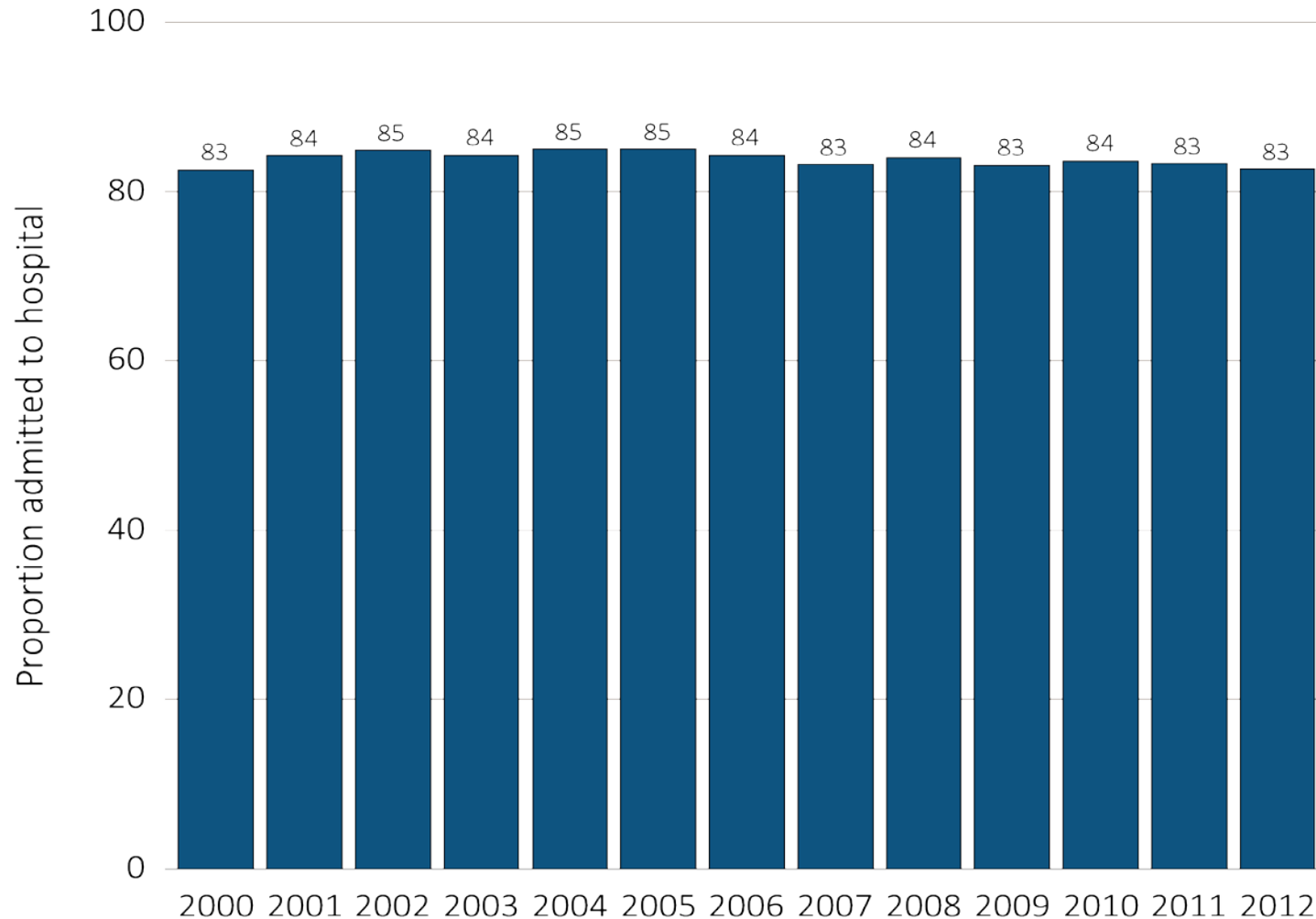
Variable	2000	2004	2008	2012
Age, mean, yrs	67.5	68.1	68.8	69.1
≥75 years, %	35	37	38	37
Male, %	52	54	55	56
White, %	66	65	67	68
Black, %	28	28	27	27
Hispanic, %	8	10	11	12
Hemodialysis, %	86	89	89	88
Medicare A&B (last 90 days)	57	68	66	66

Median per person costs under Medicare Parts A & B in 2012 were \$116,416 for the last year of life

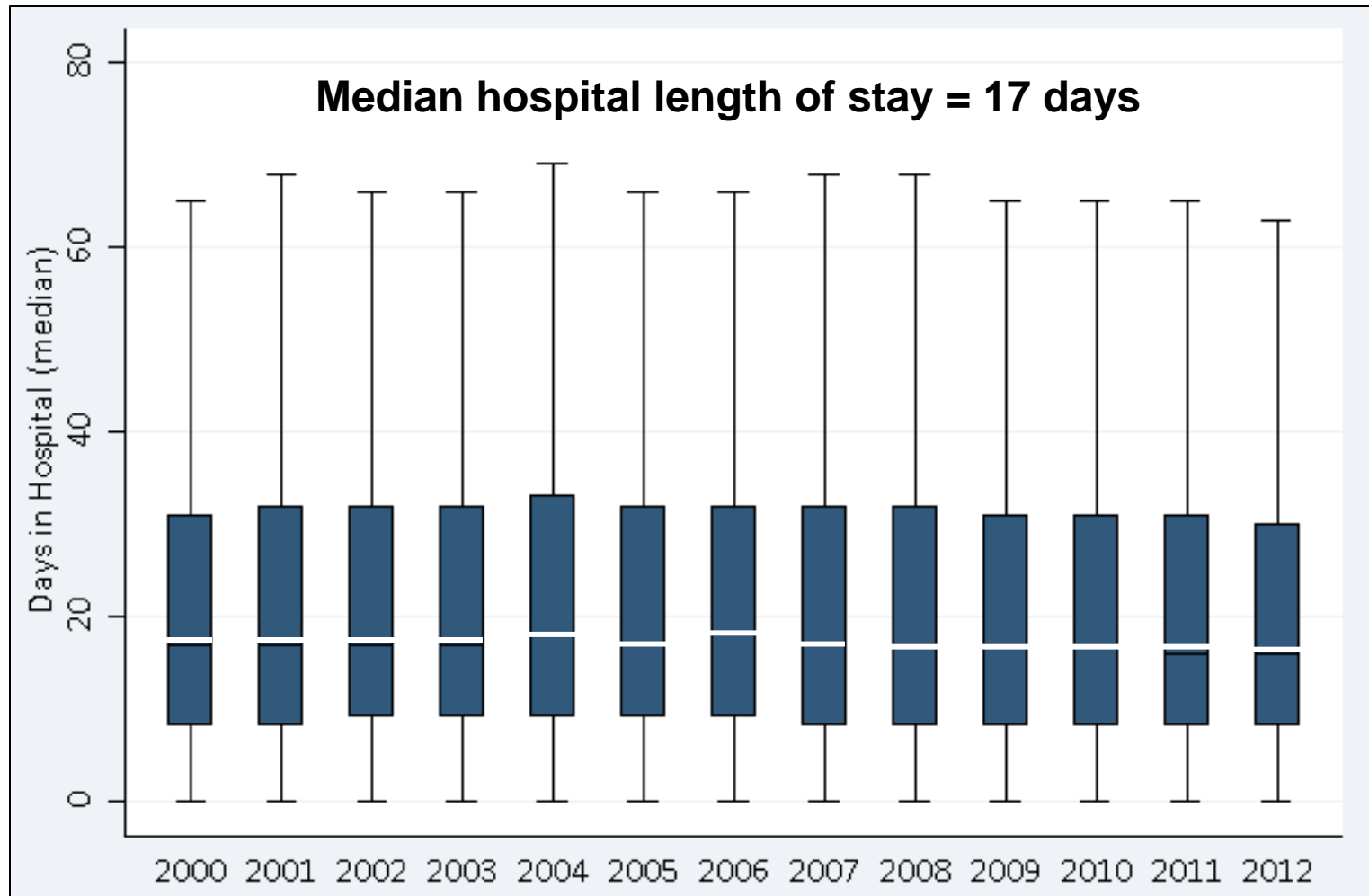


Acute Hospital Admission

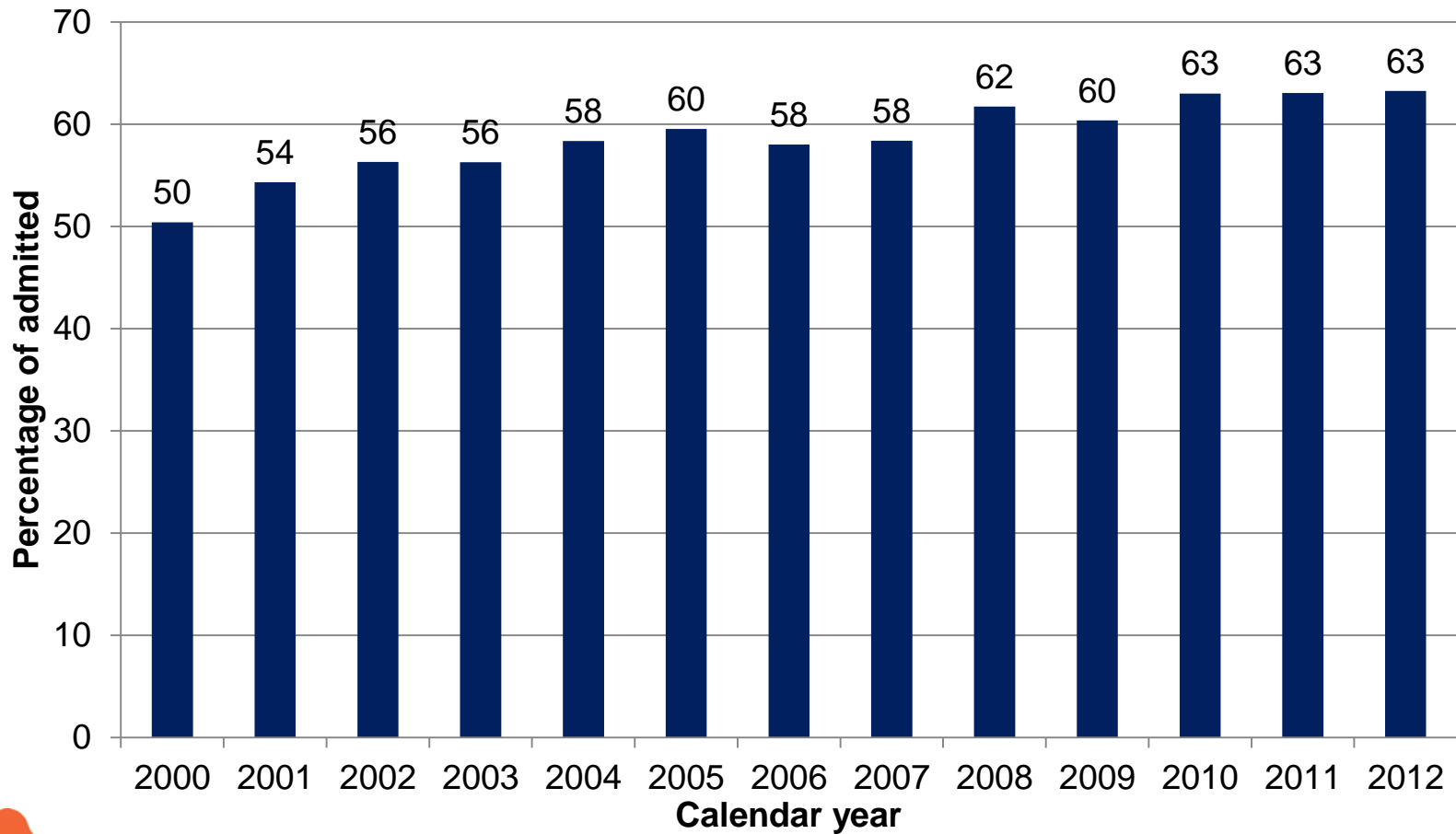
Last 3 months of life



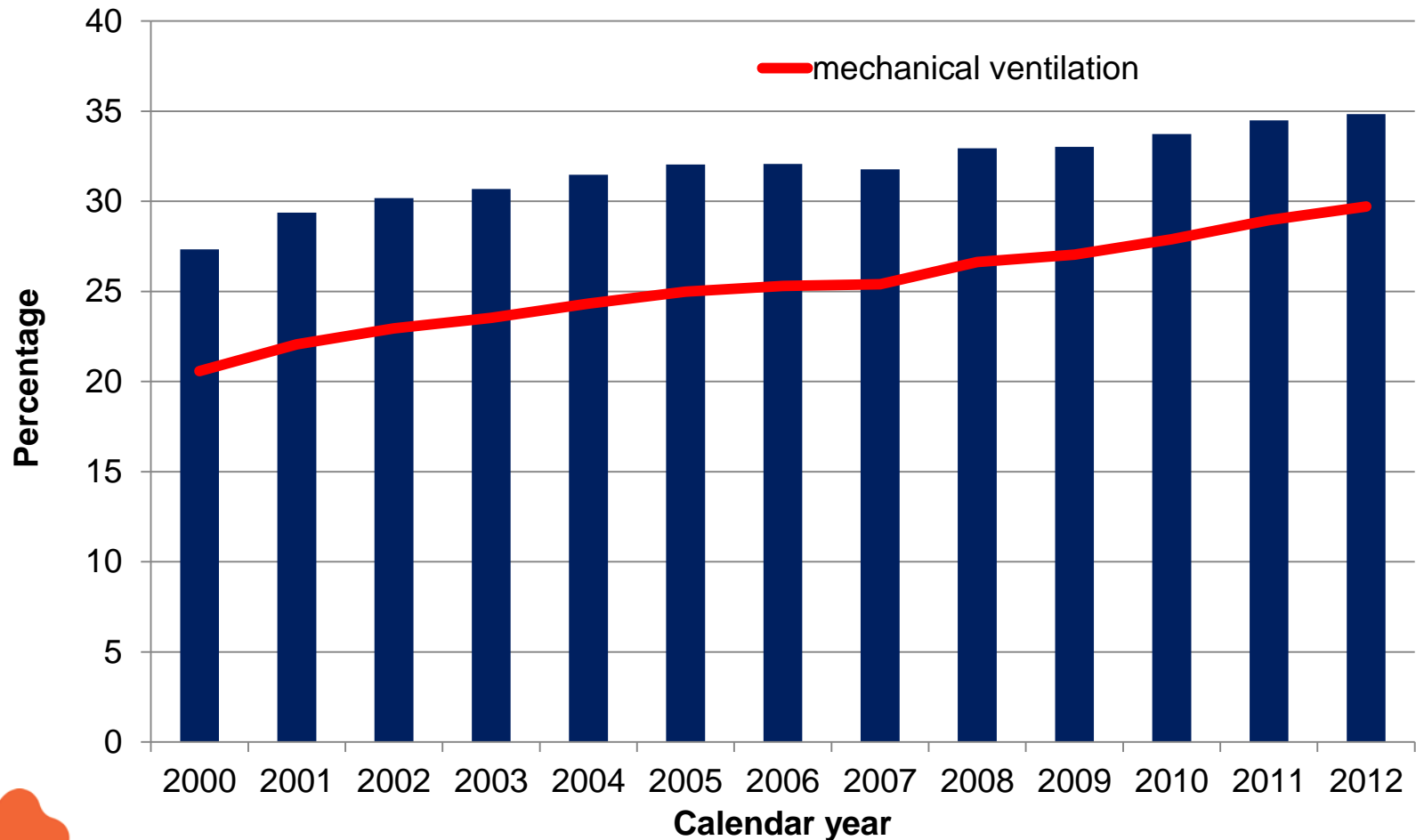
Median hospital length of stay



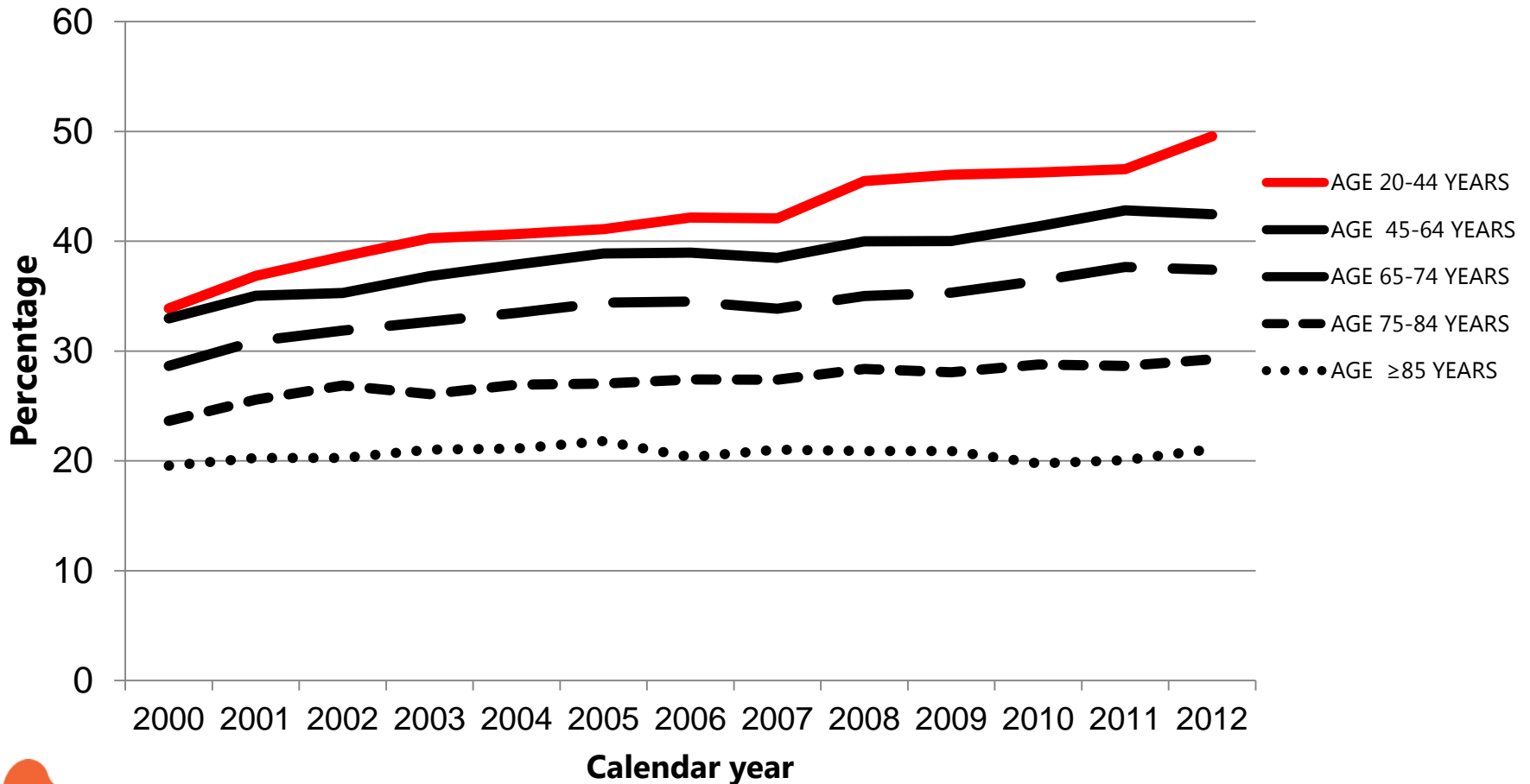
Intensive Care Unit Admission



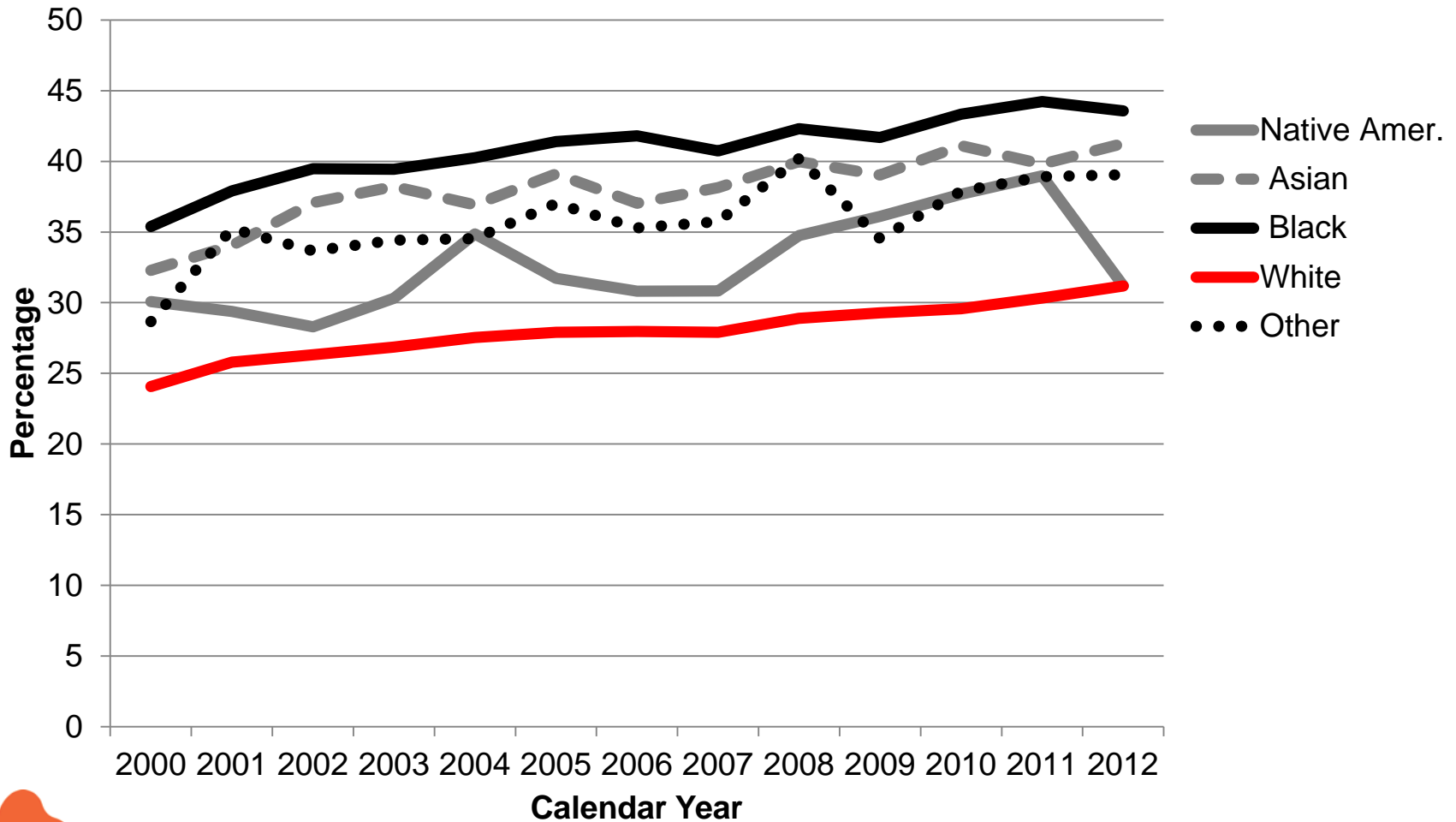
Receipt of intensive procedures



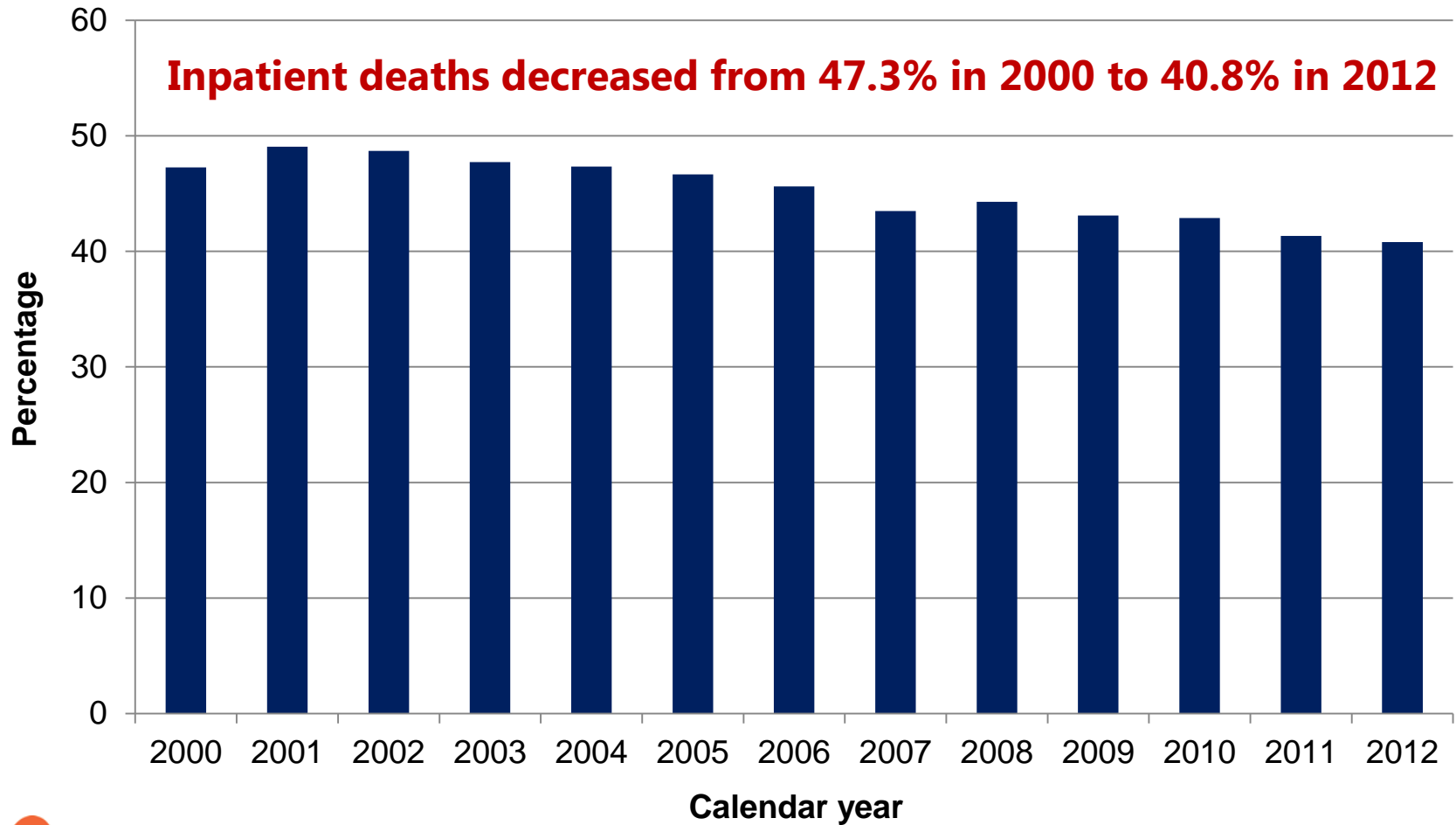
Receipt of intensive procedures by age group



Receipt of intensive procedures by race

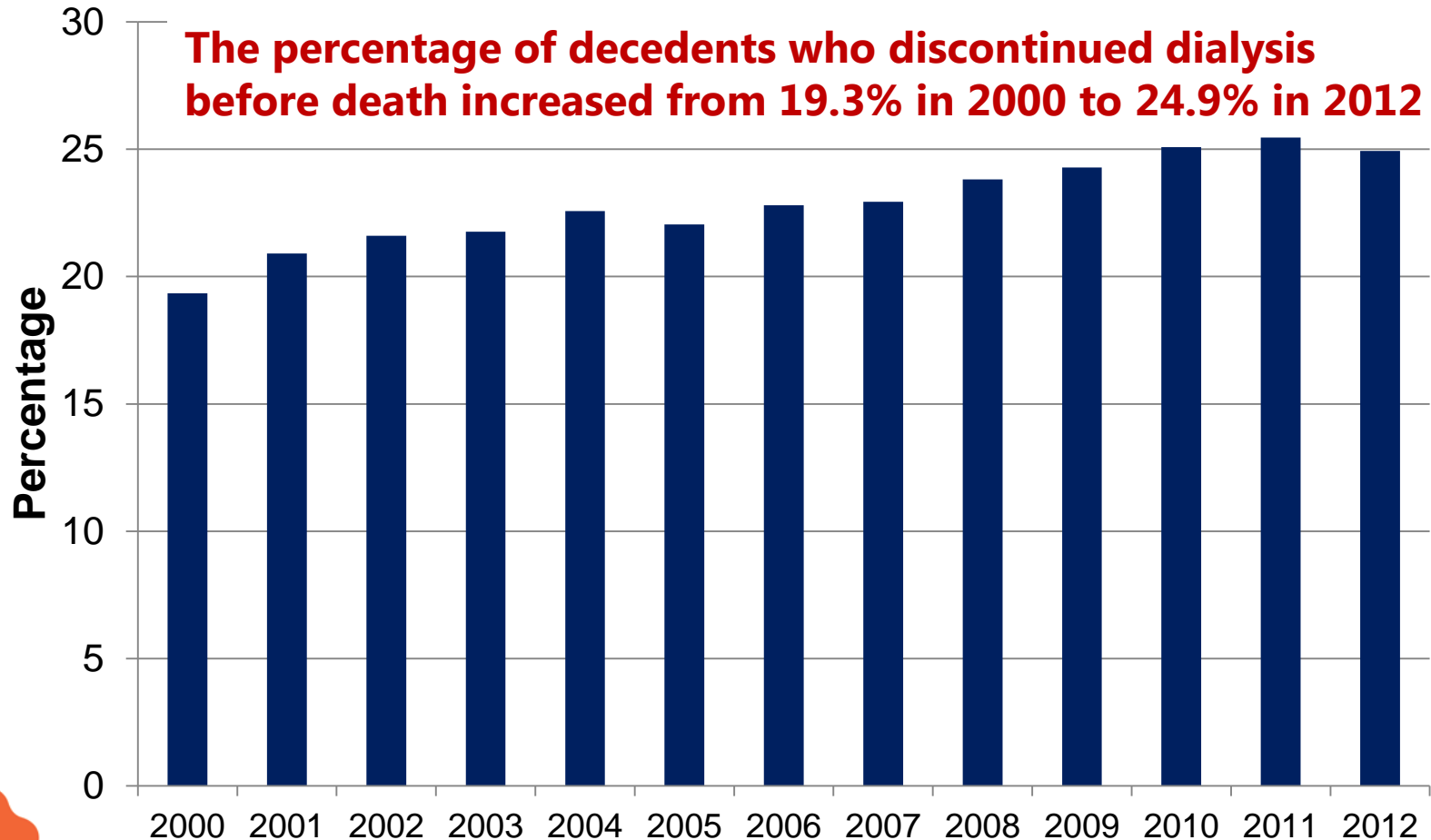


Inpatient deaths



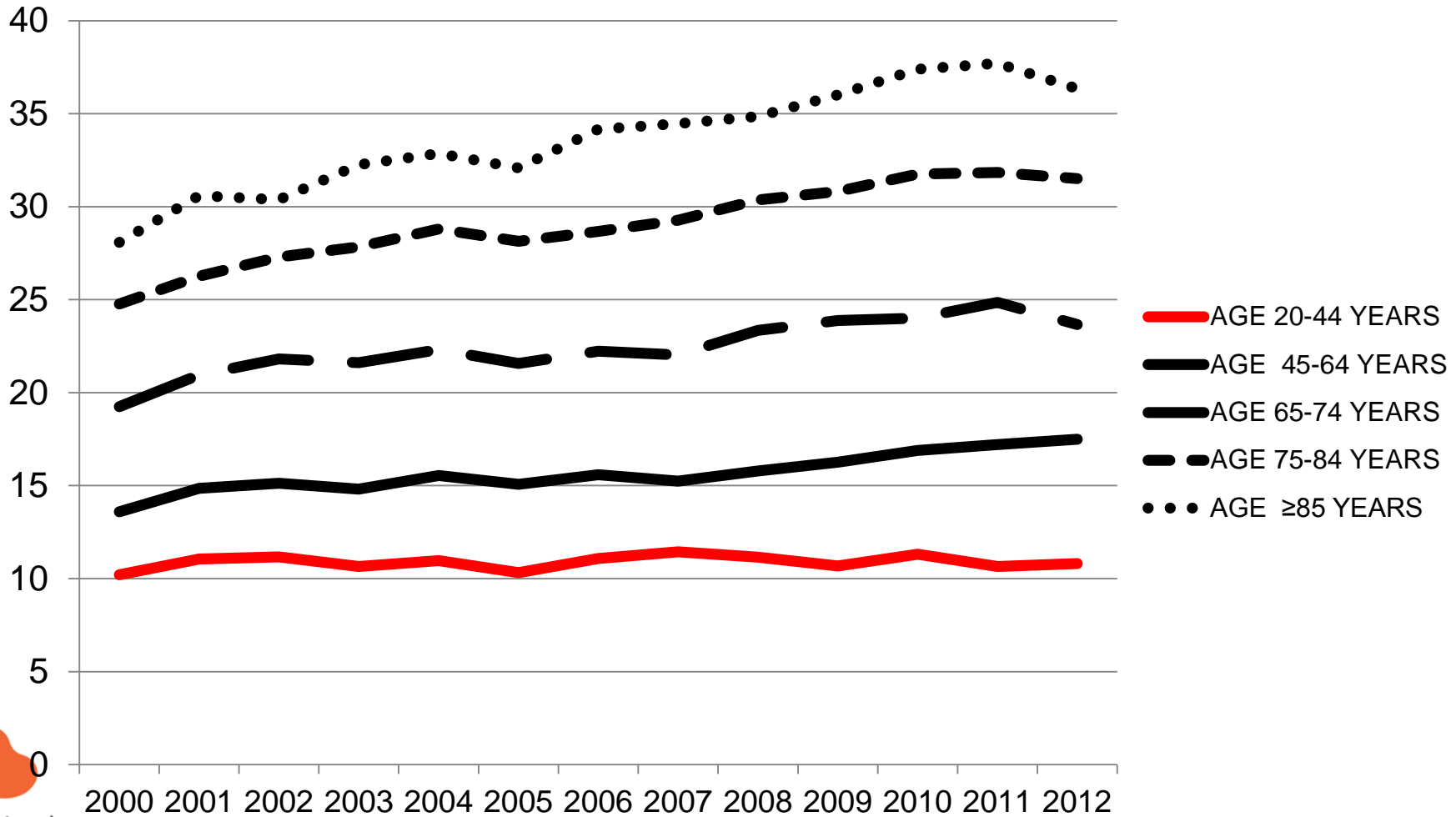
Dialysis discontinuation prior to death

Median time from discontinuation to death as reported on the CMS Death Notification form was 6 days (IQR, 3, 12 days)



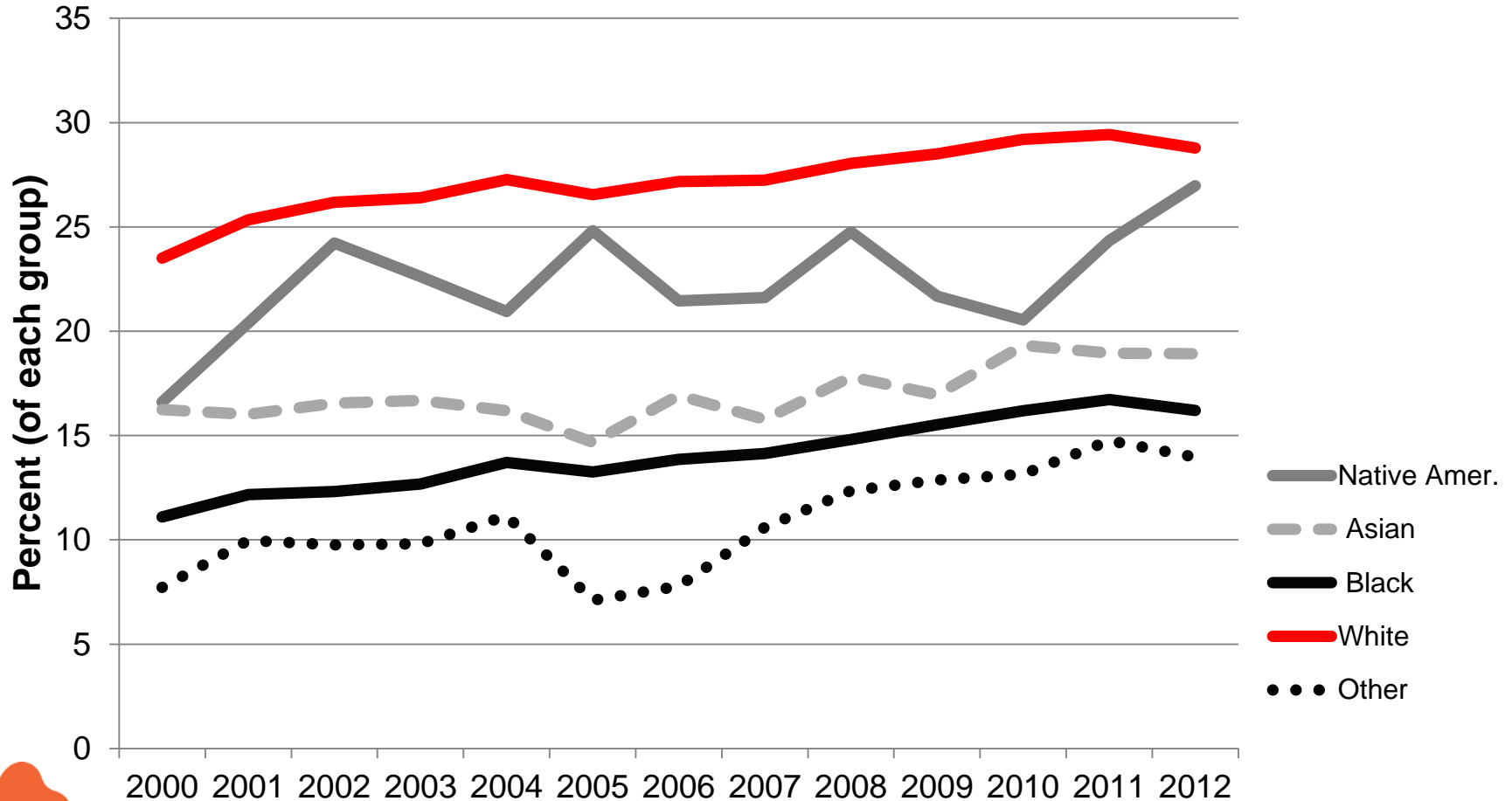
Dialysis discontinuation: by age group

Dialysis discontinuation before death was highest for patients aged 85+ years (34.2%) and lowest for those 20-44 years (10.9%)



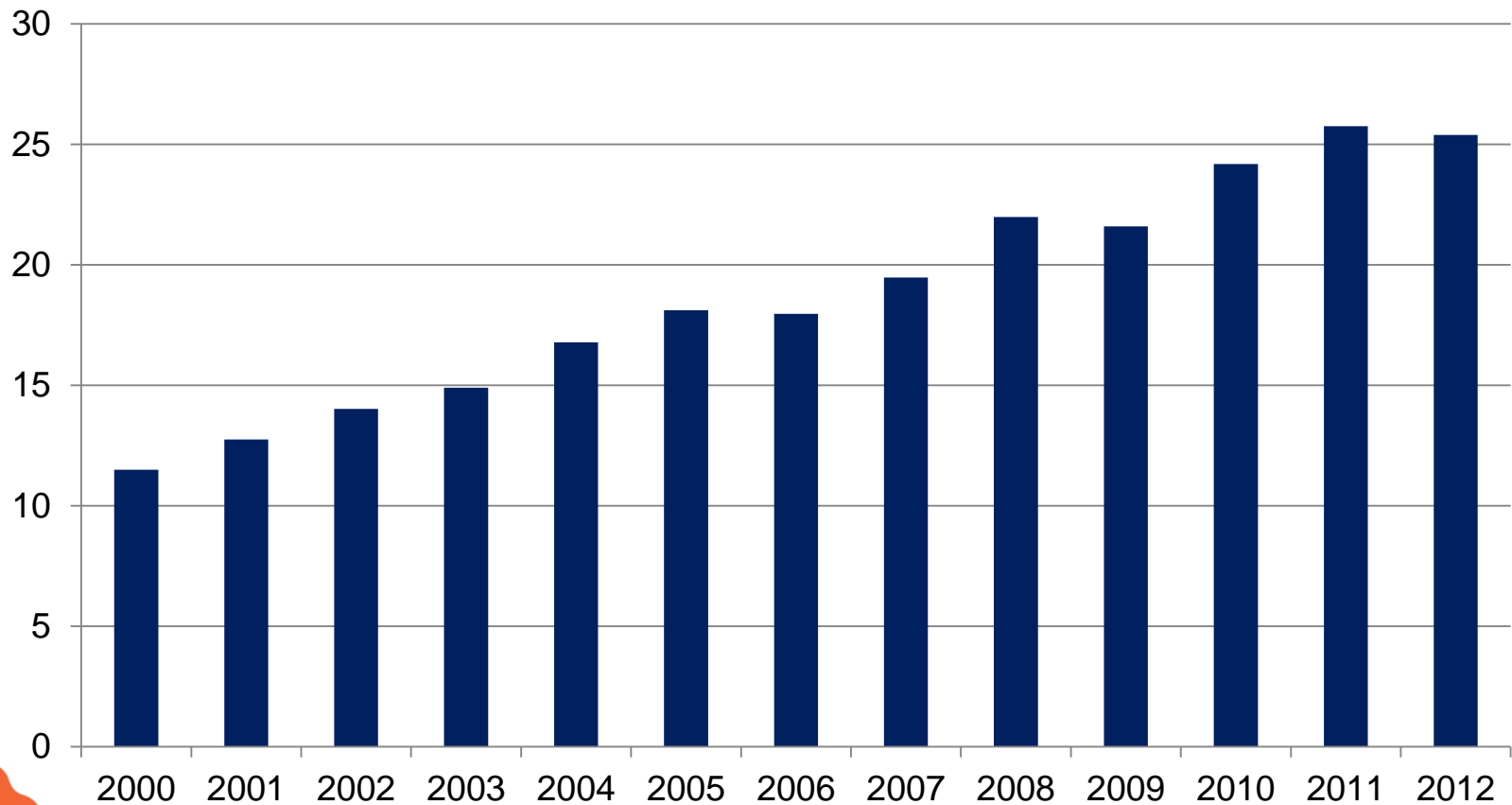
Dialysis discontinuation by race

Dialysis discontinuation before death was highest for Whites (27.3%) and lowest for patients of Other race (10.2%)



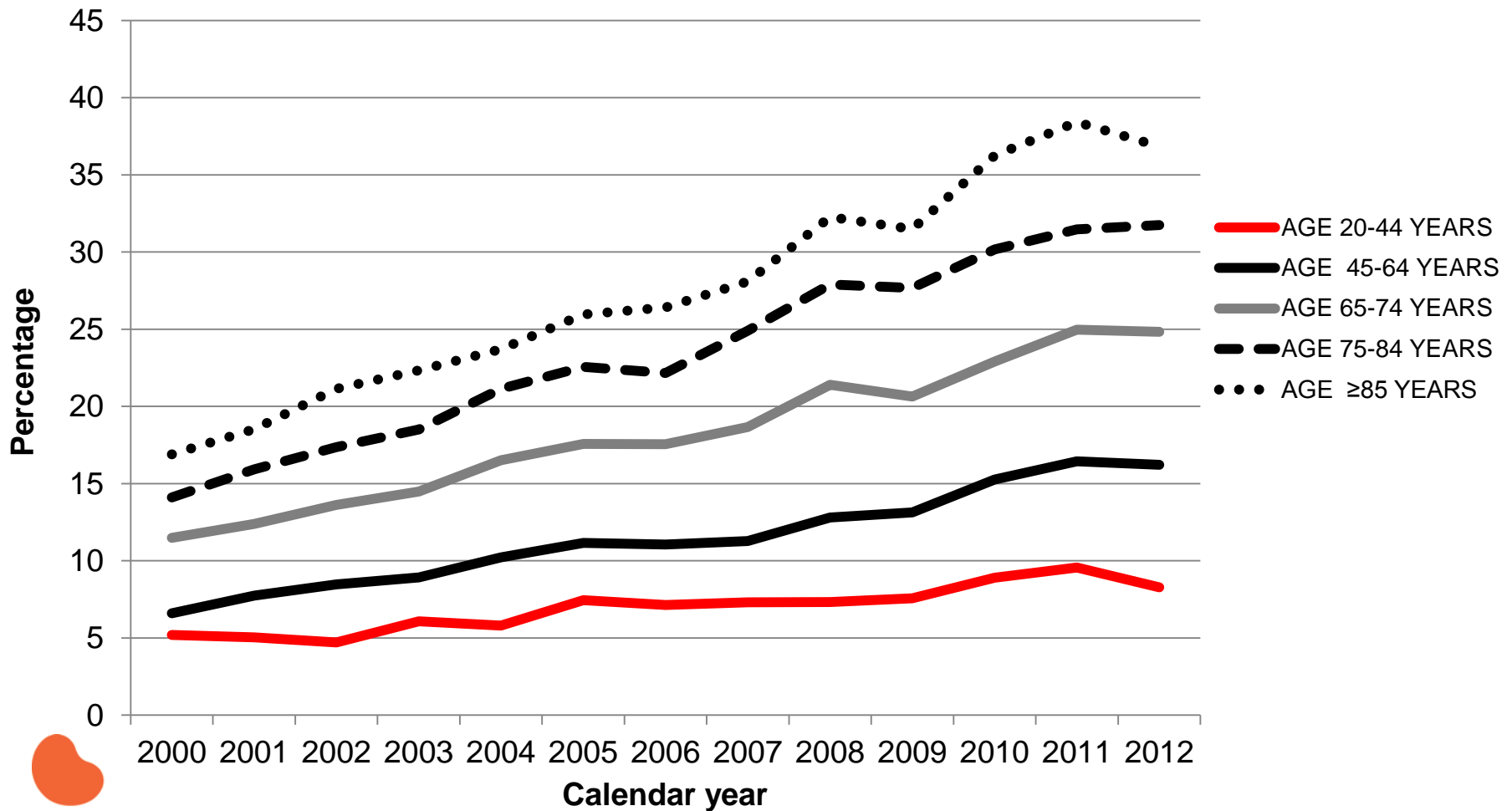
Hospice use at time of death

The percentage of patients receiving hospice services at the time of death increased from 11.4% in 2000 to 25.4% in 2012



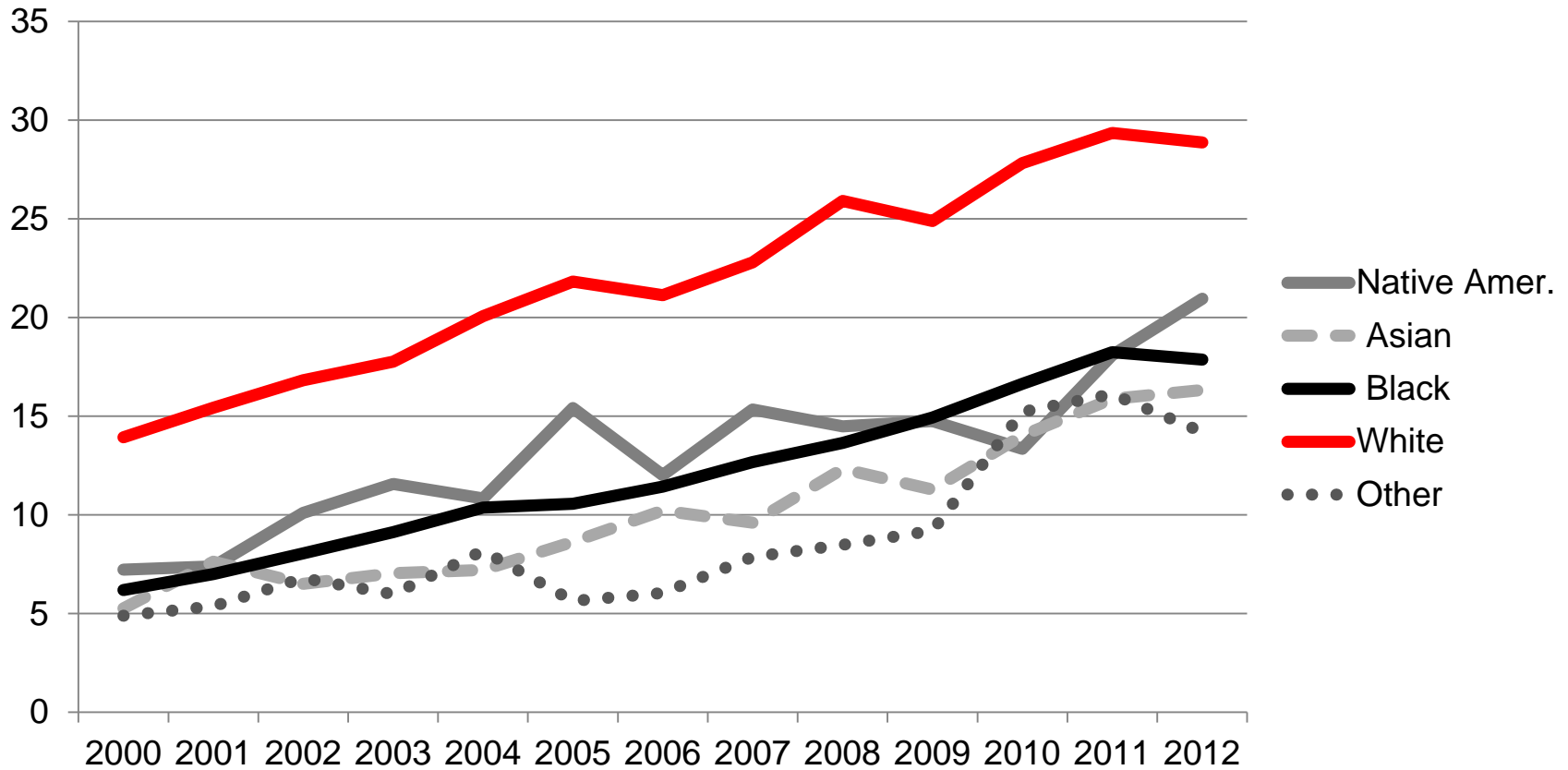
Hospice use at death: by age group

Overall use of hospice services was highest for patients aged 85 years and older (28.9%) and lowest for those aged 20-44 years (7.0%)



Hospice use at death: by race

Overall use of hospice services was highest for Whites (22.4%) and lowest for those of Other race (7.5%)

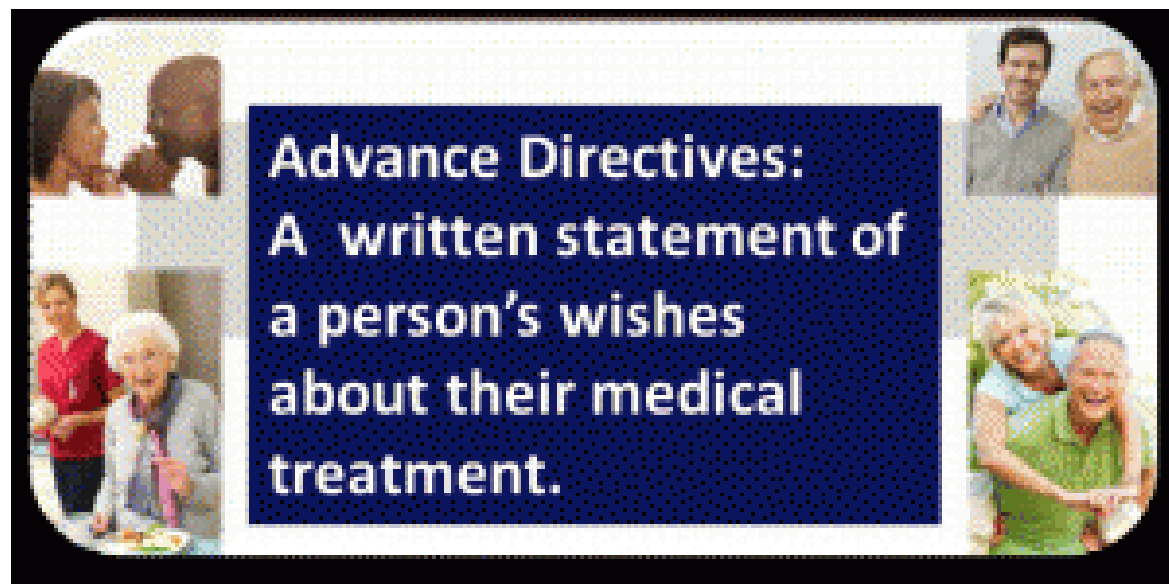


Summary trends

- Stable hospital admissions (83%) and length of stay (median 17 days)
- Increased frequency of ICU admissions (50% to 63%)
- Increased intensive procedures (27% to 35%)
- Reduced hospital deaths (47% to 41%)
- Increased dialysis discontinuation (19% to 25%)
- Increased use of hospice care at the time of death (11% to 25%)



Advance Care Planning



Health and Retirement Study, a nationally-representative sample of older Americans found that more people are completing advance directives: from 47% in 2000 up to 72% in 2010



Prevalence of Advance Directives

	Holley et al. (80 patients) AJKD 1997	Sehgal et al. (65 nephrologists) JAMA 1996	Kurella Tamura et al. (61 patients) NDT 2010
Completed an advance directive	35%	30%	38%

Prevalence of Advance Directives among Nursing Home Patients with ESRD is substantially lower than among patients with other life-limiting conditions (e.g., cancer, O2-dependent COPD, advanced dementia)



Themes

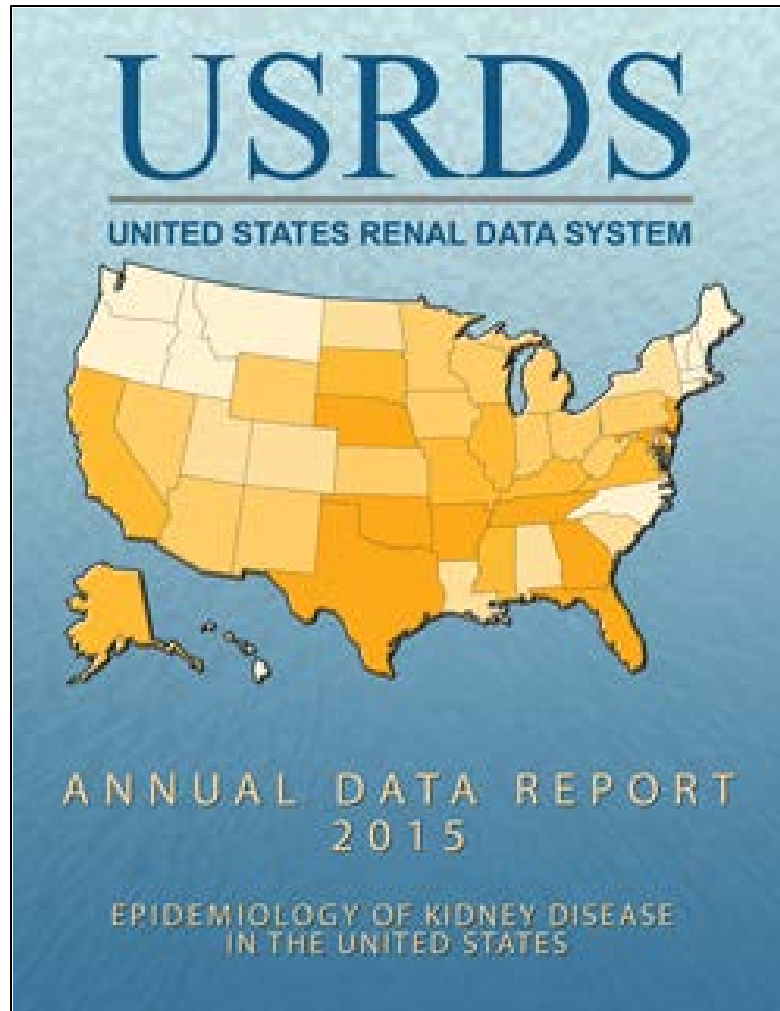
- **Theme 1:** Medical care for patients with advanced kidney disease is complex and fragmented across settings, providers and over time
- **Theme 2:** Lack of a shared understanding and vision of ACP and its relationship with other aspects of care
- **Theme 3:** Unclear locus of responsibility and authority for ACP
- **Theme 4:** Lack of active collaboration and communication around ACP

Based on 32 providers at VA Puget Sound Healthcare System who care for patients with advanced kidney disease
O'Hare et al. *Clin J Amer Soc Nephrol.*, 2016 [in press]



End-of-life Care for Patients with End-Stage Renal Disease: 2000-2012

<http://www.usrds.org/>



National
Kidney
Foundation®

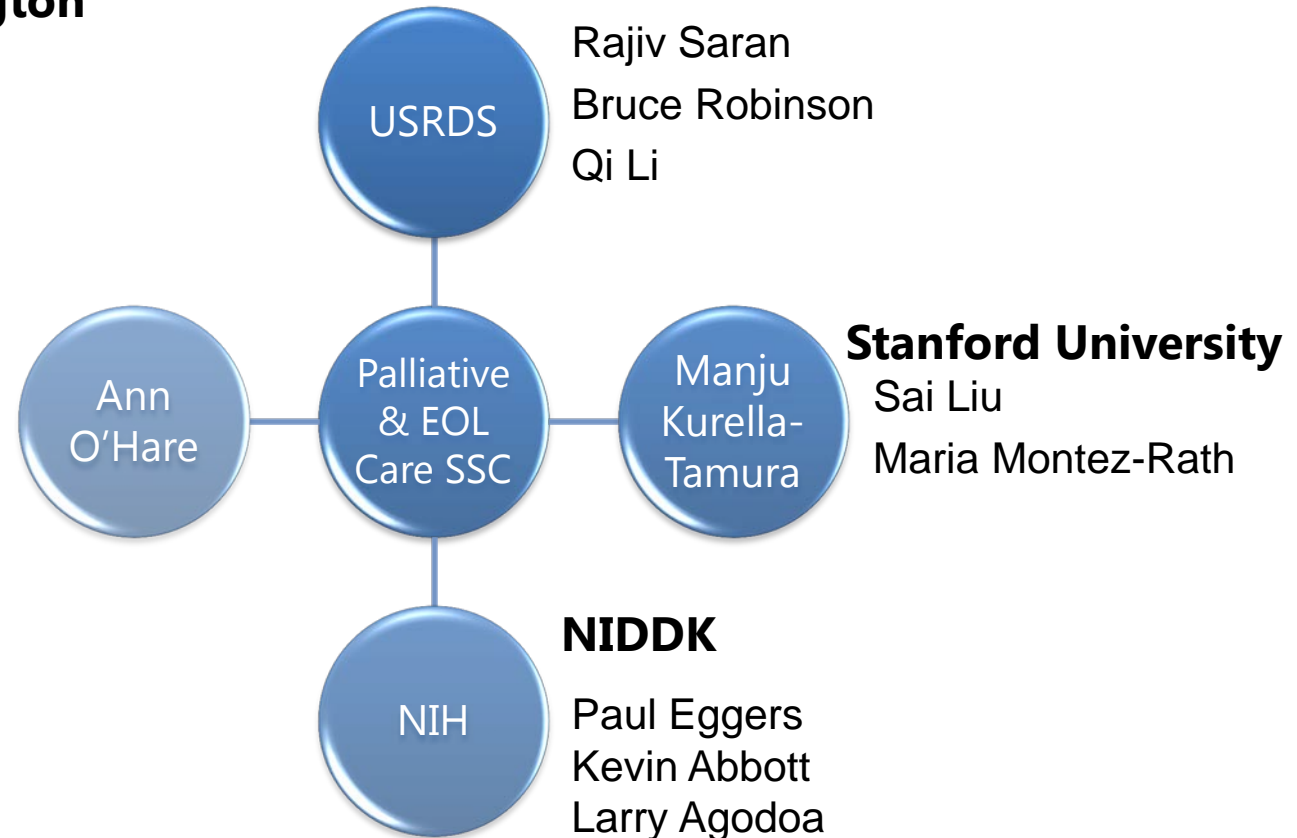
USRDS Special Studies Center on Palliative and End-Of-Life Care

University of Washington

Sue Hailpern
William Kreuter
Linda Manahan
Laura Bender
Yoshio Hall
Paul Hebert
Ronit Katz
Randy Curtis
Ruth Engelberg
Danielle Lavalley
Lisa Vig

University of Michigan Arbor Research

Rajiv Saran
Bruce Robinson
Qi Li



Stanford University
Sai Liu
Maria Montez-Rath

NIDDK

Paul Eggers
Kevin Abbott
Larry Agodoa

