USRDS 2013 Annual Data Report
Overview

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Disclosures

• Institutional Grants and Contracts: NIH, HRSA, NKF, Amgen, Keryx, BMS, DaVita, Novartis, NxStage, Zoll,
• Board of Directors: Kidney Health Australia, The Kidney Foundation Karachi, IKEA-J KEEP, KDIGO, KDPN,
• Advisory Boards: NxStage, Keryx, Amgen, ZS Pharma
• Consulting Epidemiology and clinical trial design: Amgen, Keryx, DaVita Clinical Research, NxStage, ZS Pharma
Overview of the US ESRD population

• Growth of the population
• Care at initiation of dialysis
• Trends in dialysis modalities under the new PPS
• Changes in Hb levels and transfusions
• Hospitalizations, infections and readmissions
• Trends in mortality
Incident cases decreased in 2011 and sustained in 2012! Growth in the prevalent dialysis population is driven by lower death rates!
Incident & December 31 point prevalent ESRD patients; peritoneal dialysis consists of CAPD & CCPD.
Adjusted incident rates of ESRD & annual percent change

Figure 1.2 (Volume 2)


USRDS 2013 ADR
Counts of new & returning dialysis patients

Figure 2.6: Counts of new & returning dialysis patients

Patients returning from tx

Patients restarting dialysis

CMS Annual Facility Survey.

USRDS 2013 ADR
Incidence of ESRD

• Incident case fell on a absolute level for the first time in 30 years
• Incidence rates are clearly down
• Growth in the prevalent population is driven by lower death rates
• Returning transplant patients have dramatically declined
• How about dialysis modalities?
Monthly Medicare Prevalent Counts - All HD ESRD Patients with OP dialysis claims

HD Growth Jan 10-Oct 12: 9.6%

Incomplete data

Monthly Medicare Prevalent Counts - All PD ESRD Patients with OP dialysis claims

PD Growth Jan 10-Oct 12: 24.0%
Trends in PD vs HHD training runs

ASN 2013 Abstract
Trends in transplantation: unadjusted rates, wait list, & total & functioning transplants

Figure 7.1 (Volume 2)

Unadjusted incident & transplant rates: limited to ESRD patients age 20 & older, thus yielding a computed incident rate higher than the overall rate presented elsewhere in the Annual Data Report.

Wait list counts: all patients listed for a kidney or kidney-pancreas transplant on December 31 of each year. Wait time: all patients entering wait list in the given year.

Transplant counts: all patients known to the USRDS.

Functioning transplant: annual status of all patients who received a kidney or kidney-pancreas transplant, regardless of transplant date.
Changes in Dialysis under the new Prospective Payment System

• PD growth is consistent with the incentives for home dialysis therapy incorporated into the PPS Bundle
• Transplant wait listings grow and total transplants appear to be stable
• Patients returning from a failed graft have been flat for several years
Access use at first outpatient hemodialysis, by pre-ESRD nephrology care, 2011

Figure 1.22 (Volume 2)

Incident hemodialysis patients, 2011.
Dialysis catheters still needs to be addressed!

- The high use of catheters has been documented by USRDS since 2008 yet little has changed
- What has happened with the implementation of the CKD education benefit to promote earlier access placement?
Cumulative probability of receiving the CMS Kidney Disease Education System benefit, 2010-2011

Figure 7.26 (Volume 1)

The CKD education benefit is underutilized

Cumulative Percent

0.0 0.5 1.0 1.5 2.0

CKD patients, stage 4+
Pre-ESRD patients age 67+

Months from either stage 4 claim or 12 months prior to ESRD initiation

General Medicare patients with CKD age 65 & older, & Pre-ESRD patients age 67 or older at initiation of ESRD.
Mean hemoglobin at initiation, by pre-ESRD ESA treatment

Figure 1.23 (Volume 2)
Mean monthly hemoglobin & mean EPO dose per week: hemodialysis patients

Figure 2.3 (Volume 2)

Period prevalent hemodialysis patients.
Patient distribution, by mean monthly hemoglobin (g/dl): hemodialysis patients

Figure 2.2 (Volume 2)

Period prevalent hemodialysis patients.
Hemodialysis patients receiving transfusions, by race

Figure 2.7 (Volume 2)

Incident hemodialysis patients. (Each month includes patients with a claim for hemodialysis.)

Incomplete counts of incident Pts and IBNR* hospitalizations

*IBNR: Incurred But Not Reported
Adjusted all-cause hospital admission rates & days, by modality

Figure 3.2 (Volume 2)

2011
Under the Bundle, hospitalizations declined

Change in adjusted all-cause & cause-specific hospitalization rates, by modality

Figure 3.1 (Volume 2)


Hemodialysis
- Infection (42.9%)
- Cardiovascular (-7.3%)
- All-cause (-3.0%)
- Vascular access (-56.6%)

Peritoneal dialysis
- Infection (-1.8%)

All-cause (-14.0%)
Cardiovascular (-21.9%)
Dialysis access (since 1999: -28.3%)

USRDS 2013 ADR
Patients receiving intravenous antibiotics under Medicare Parts B & D pre- & post-dialysis bundle, by unit affiliation.

Figure 6.14 (Volume 2)

Point prevalent Medicare enrollees alive on January 1.
Patients receiving oral antibiotics under Medicare Parts B & D pre- & post-dialysis

Penicillins

- 2010
- 2011

Quinolones

Cephalosporins

Macrolides

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Point prevalent Medicare enrollees alive on January 1.
Adjusted infection & cardiovascular hospital days, by modality

Figure 3.3 (Volume 2)

Hospitalizations for infections: considering primary vs secondary complications

• Hospitalizations in the past have focused on the Principle Diagnosis codes

• Coding drift noted for infectious complications such as Sepsis led the CC to consider infections in either the principle position or secondary positions on claims

• The 2013 ADR compares hospitalizations **For** infection from the principle position verses **With** infection by including the secondary positions
Adjusted rates of hospital admissions, by modality & diagnosis code type: infection

Figure 3.4 (Volume 2)

All-cause rehospitalization or death within 30 days after live hospital discharge in patients age 66 & older, by population, 2011
Figure 3.20 (Volume 2)

January 1, 2011 point prevalent Medicare patients age 66 & older on December 31, 2010; for the CKD & no CKD cohorts during 2010, CKD is defined & patients are continuously enrolled in Medicare Parts A & b with no HMO coverage & without ESRD.
All-cause rehospitalization or death 30 days after live hospital discharge, by age, 2011

Figure 3.14 (Volume 2)

Period prevalent hemodialysis patients, all ages, 2011; unadjusted.
Includes live hospital discharges from January 1 to December 1, 2011.

USRDS 2013 ADR
Re-hospitalizations are highest in the hemodialysis population

• The Medicare system is holding all hospitals to a quality improvement program to reduce readmission rates for AMI, CHF and Pneumonia
  • In October of 2012 a 1% penalty was imposed for up to same level above the national average
  • In October 2013 it is up to 2%
  • In October 2014 it will be up to 3%

• The dialysis population accounts for a disproportionate readmission rate across all CVD and infection domains

• Hospitals may discuss these high rates with the nephrology physicians
Hospitalization are the central issue in morbidity that remains under addressed

- Infections remain high and unaddressed in both HD and PD patients
- High antibiotic use confirms the infection burden in the dialysis population
- PD patients have high hospital infection rate that have not changed since 1993
- The source of the infections in HD may have shifted from catheters to “Button Holes” and should be investigated
- Perhaps better procedures are needed to reduce infection across all dialysis modalities!
Adjusted all-cause mortality rates (from day 90), by modality & year of treatment

Figure 5.1 (Volume 2)

Incident based Death rates are down again in 2011!
Adjusted all-cause mortality in prevalent hemodialysis patients, by vintage

Figure 5.4 (Volume 2)

Period prevalent dialysis patients defined on day one or day 90 of dialysis. Adj: age/gender/race/primary diagnosis. Ref: incident hemodialysis patients, 2010.

Prevalent Death rates are down again in 2011!
Summary

- Incident cases have declined for the first time in decades
- Some aspects of care have changed under the new Bundle
- Hospitalizations and mortality continue to decline
- Infections continue to be a major concern
- Overall, patient-related outcomes continue to improve