

# **Trends in the Utilization of Erythropoiesis Stimulating Agents among Medicare Patients with Kidney Disease**

---

Acumen AHRQ DEcIDE Center

CKD/ESA MedCAC

March 24, 2010

# Acknowledgments

---

- This study is done under the following AHRQ contract: HHS A29020050010I, Task Order (TO) #2 for “Broad-based Support for the DEcIDE Research Network”
- People from the Acumen DEcIDE Center who have worked on this project include: Thomas MaCurdy, Jonathan Gibbs, Karla Lopez de Nava, Azucena Monroy, Michael Wernecke, Sonam Sherpa, Rosalind Gullett, Guan Wang, and Stephanie Young
- None of the people who contributed to this project have any financial, business, or professional conflicts of interest with the Medicare Evidence Development & Coverage Advisory Committee (MedCAC) activities related to erythropoiesis stimulating agents (ESA) or chronic kidney disease (CKD)

# Overview of Practice & Policy Events with Potential Impacts on ESA Use (1 of 2)

---

## Chronic Kidney Disease

- Apr-06 Implementation of Erythropoiesis Stimulating Agents Claims Monitoring Policy (EMP)
- Nov-06 Publication of “Cardiovascular Risk Reduction by Early Anemia Treatment with Epoetin Beta” (CREATE) study by Drueke and “Correction of Hemoglobin Outcomes in Renal Insufficiency” (CHOIR) study by Singh
- Jan-08 Modification of EMP to further restrict payment

# Overview of Practice & Policy Events with Potential Impacts on ESA Use (2 of 2)

---

## Cancer

- Sep-05 Publication of Breast Cancer Erythropoietin Survival Trial (BEST) study by Leyland-Jones
- Apr-07 Posting of proposed National Coverage Determination (NCD) entitled “ESA in Cancer and Related Neoplastic Conditions” (Cancer NCD)
- Jul-07 Posting of final Cancer NCD
- Apr-08 Implementation of claims processing changes for the ESA in Cancer NCD

# Outline

---

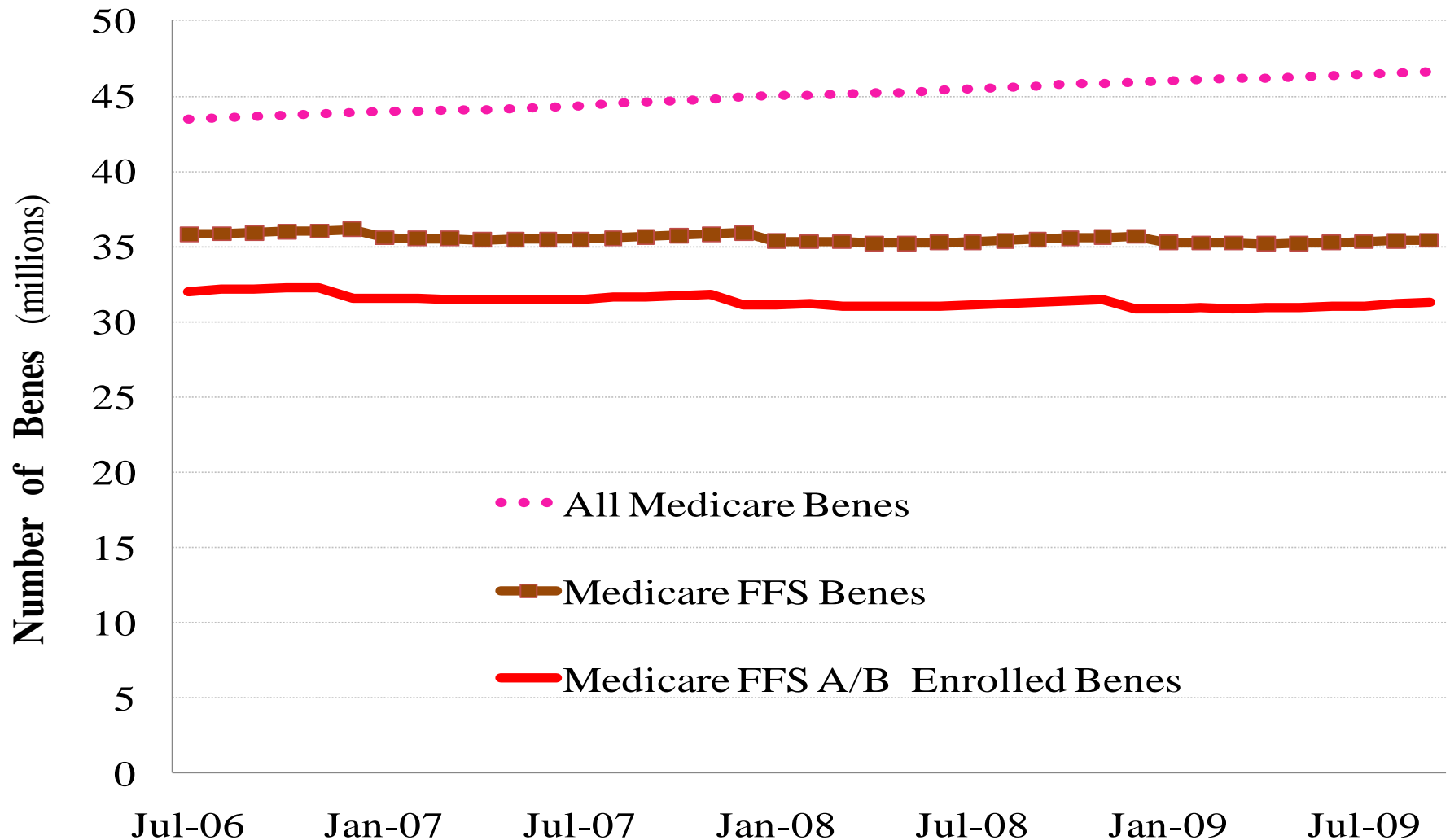
- Utilization of ESA in Medicare's kidney disease populations
- Use of ESA in Medicare's cancer population related to kidney disease
- Role of intermittent kidney disease in the use of ESA
- Relating timing of Practice and Policy events to potential impacts on ESA use

# Outline

---

- Utilization of ESA in Medicare's kidney disease populations
  - Size of pre-dialysis and dialysis populations
  - Trends in ESA use
- Use of ESA in Medicare's cancer population related to kidney disease
- Role of intermittent kidney disease in the use of ESA
- Relating timing of Practice and Policy events to potential impacts on ESA use

# Size of Medicare Fee-for-Service (FFS) Populations



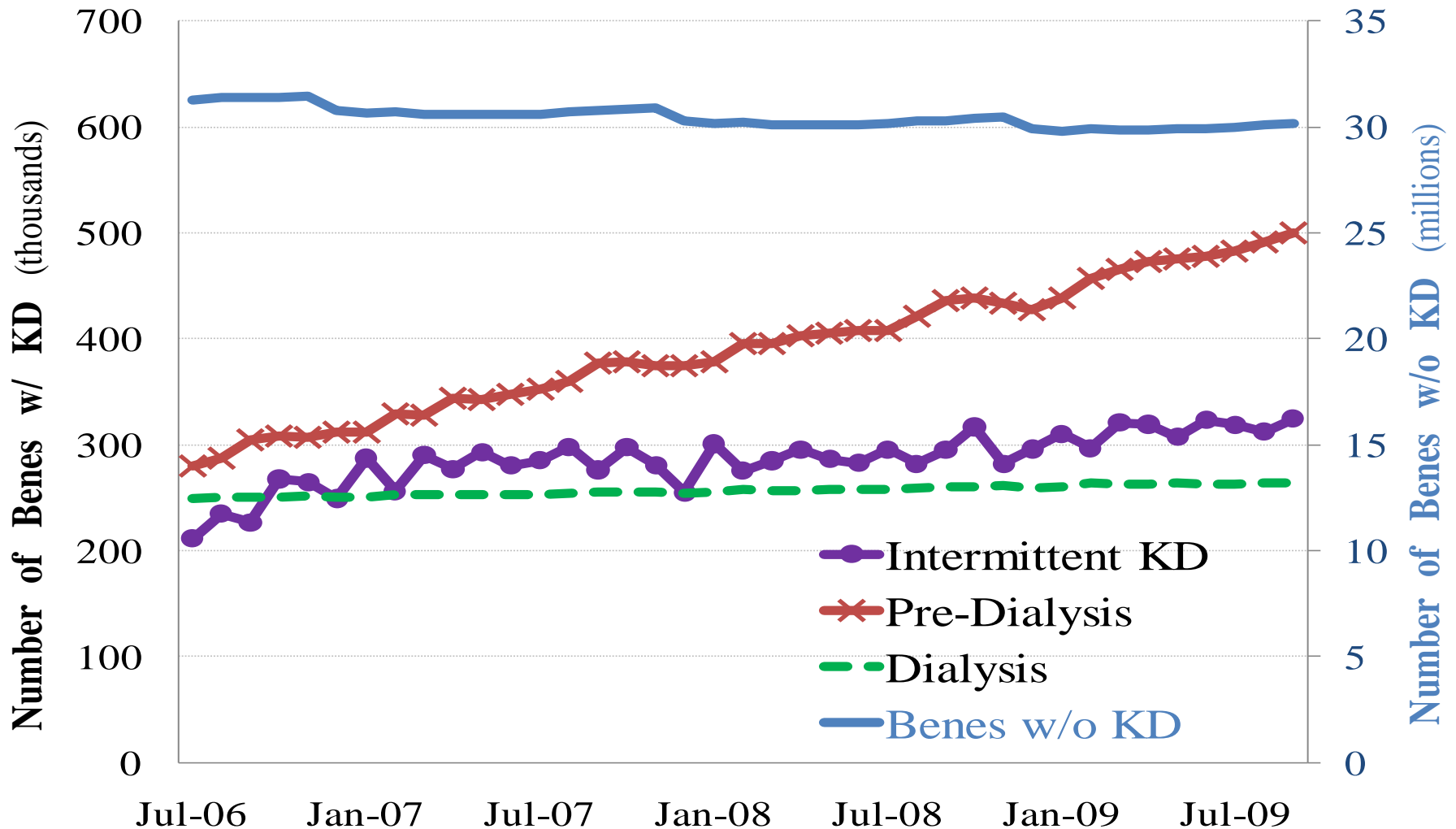
# Classifying Medicare's FFS A/B Enrolled Population by Kidney Disease (KD) Status

---

- **Benes w/o KD:** All beneficiaries with no indications of KD
- **Intermittent KD:** Beneficiaries with occasional diagnoses indicating KD
- **Pre-Dialysis:** Beneficiaries with CKD (chronic kidney disease) not on dialysis
- **Dialysis:** Beneficiaries with CKD on dialysis
- Four groups are mutually-exclusive and exhaustive



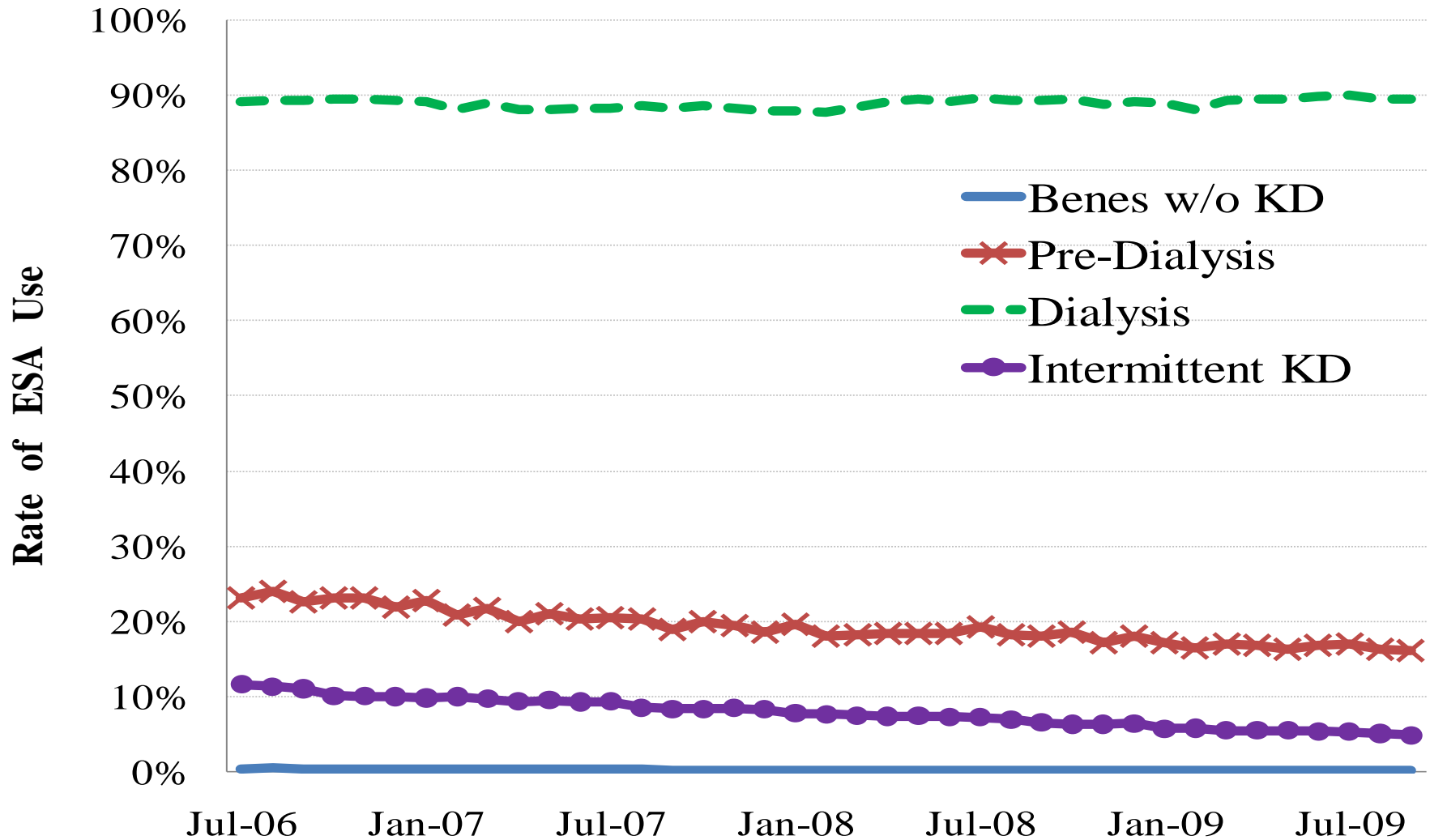
# Size of FFS Populations by KD Status



# Size of Populations by Stage of CKD

Date	Number of Benes by Stage of CKD				
	Stage I	Stage II	Stage III	Stage IV	Dialysis
Jul-06	11,130	19,504	125,092	77,694	249,501
Sep-09	11,229	28,472	286,928	124,353	263,748
Difference	99	8,968	161,836	46,659	14,247

# Rate of ESA Use by KD Status

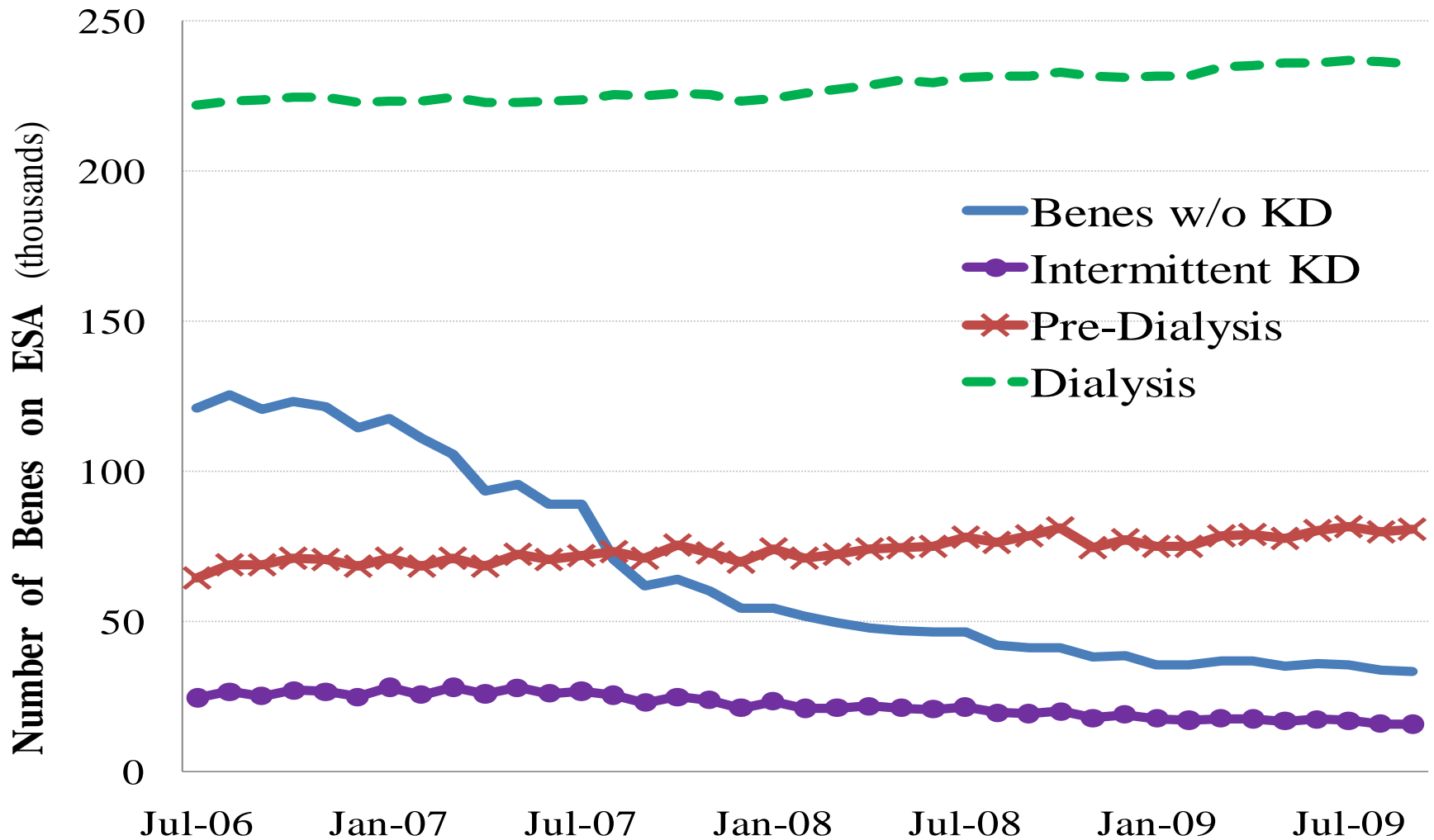


# Rate of ESA Use Falls for All Stages of Pre-Dialysis, Remains Constant for Dialysis Group

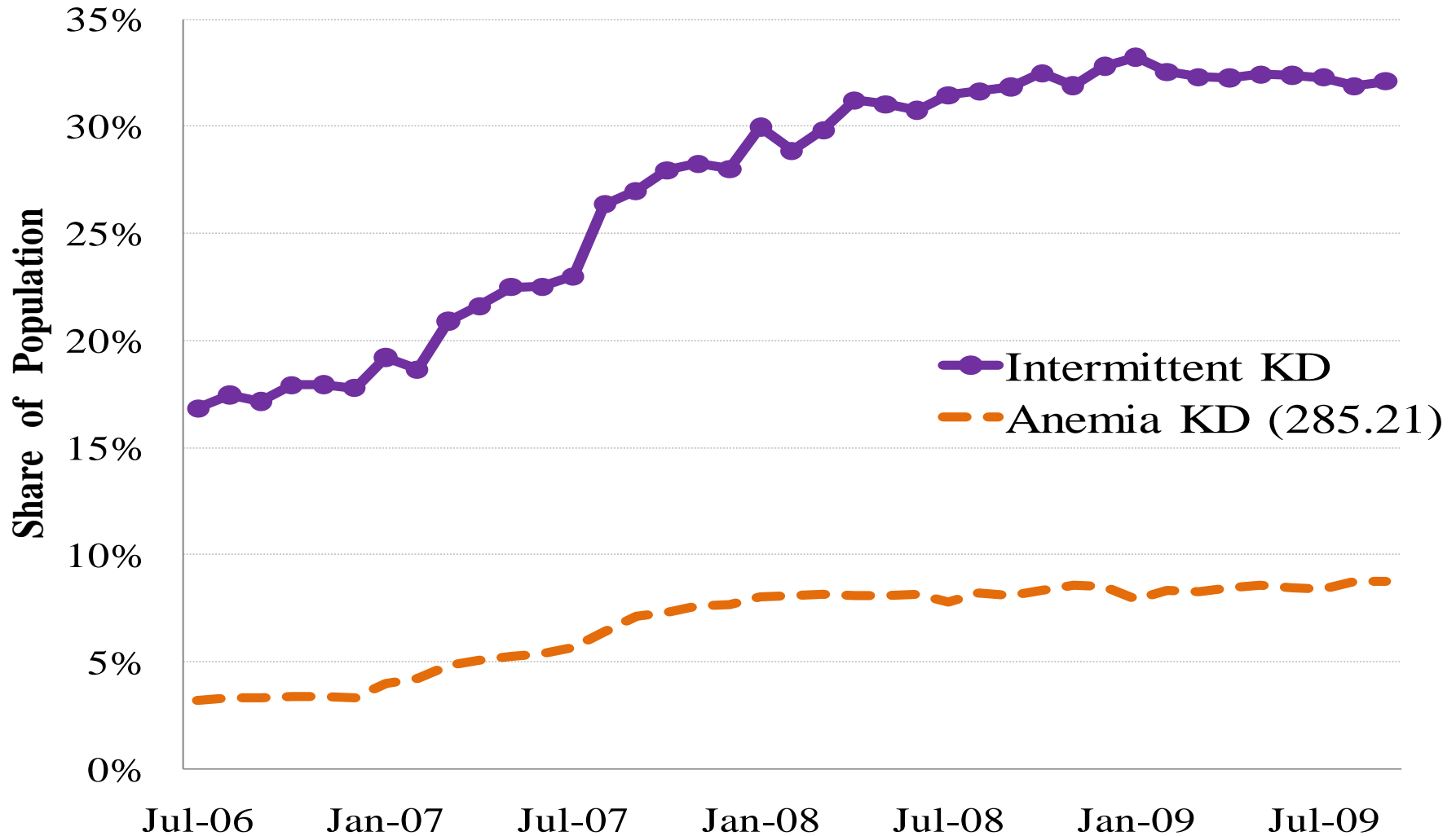
**Rate of ESA Use by CKD Stage (per 100 benes)**

Date	Rate of ESA Use by Stage of CKD				
	Stage I	Stage II	Stage III	Stage IV	Dialysis
Jul-06	17%	13%	23%	35%	89%
Sep-09	8%	7%	16%	27%	89%
Difference	-9%	-7%	-7%	-8%	0%

# Size of ESA User Populations by KD Status



# Share of ESA Users Without CKD Reporting Intermittent KD



# Summary of Findings for KD Populations

---

- Rates of ESA use declined 7 percentage points for the pre-dialysis and intermittent KD groups, but remained stable for the dialysis group
- Change in composition of ESA users:
  - Dialysis group grew from 51% to 65%
  - Pre-dialysis group grew from 15% to 22%
  - Intermittent KD group fell from 6% to 4%
- Benes w/o CKD:
  - 145K ESA users in July 2006 and 49K ESA users in September 2009
  - $\frac{3}{4}$  of these ESA users have cancer

# Outline

---

- Utilization of ESA in Medicare's kidney disease populations
- Use of ESA in Medicare's cancer population related to kidney disease
  - Size of cancer populations by KD status
  - Trends in ESA use
- Role of intermittent kidney disease in the use of ESA
- Relating timing of Practice and Policy events to potential impacts on ESA use

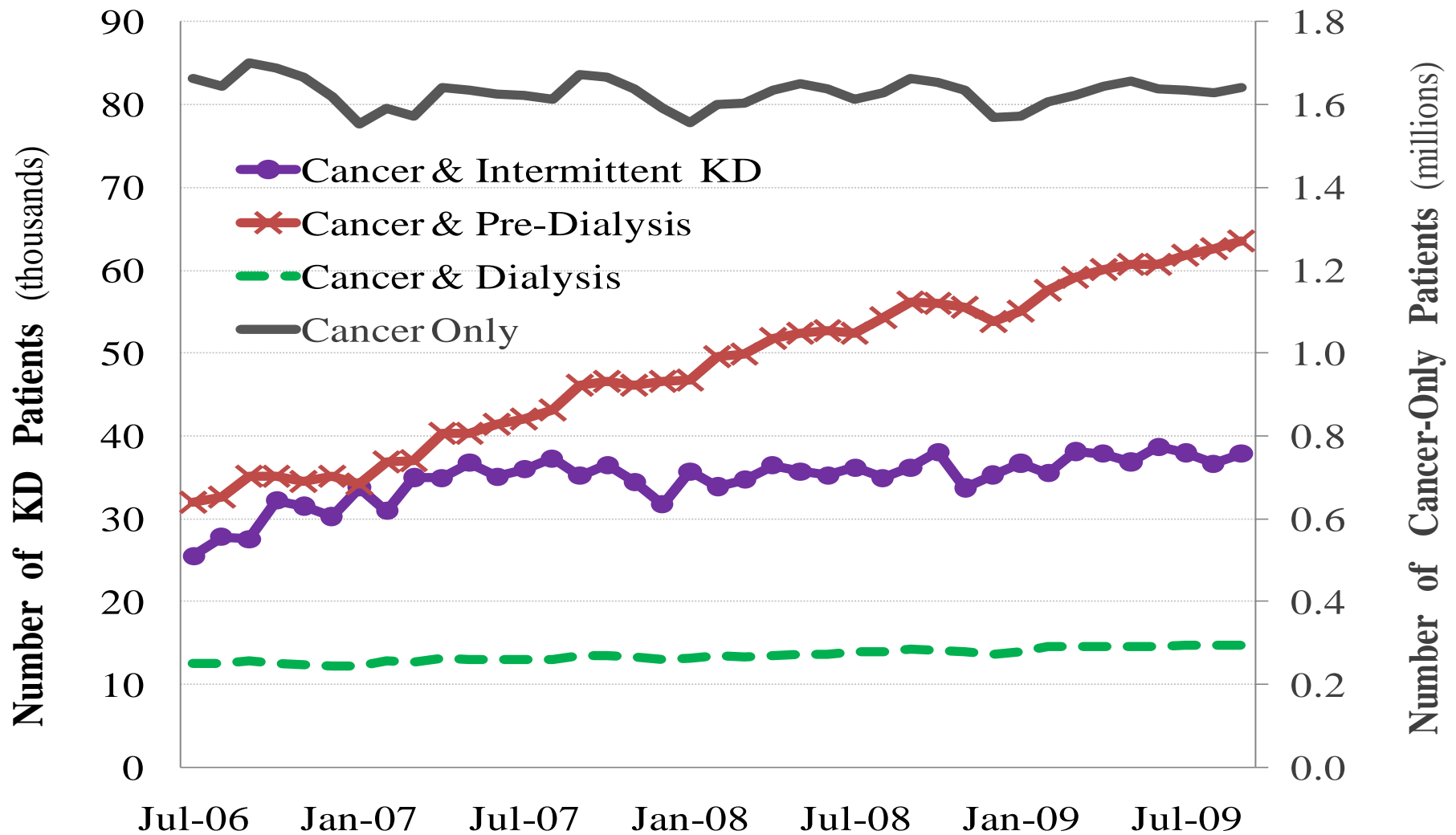


# Classifying Medicare's FFS A/B Enrolled Cancer Population by KD Status

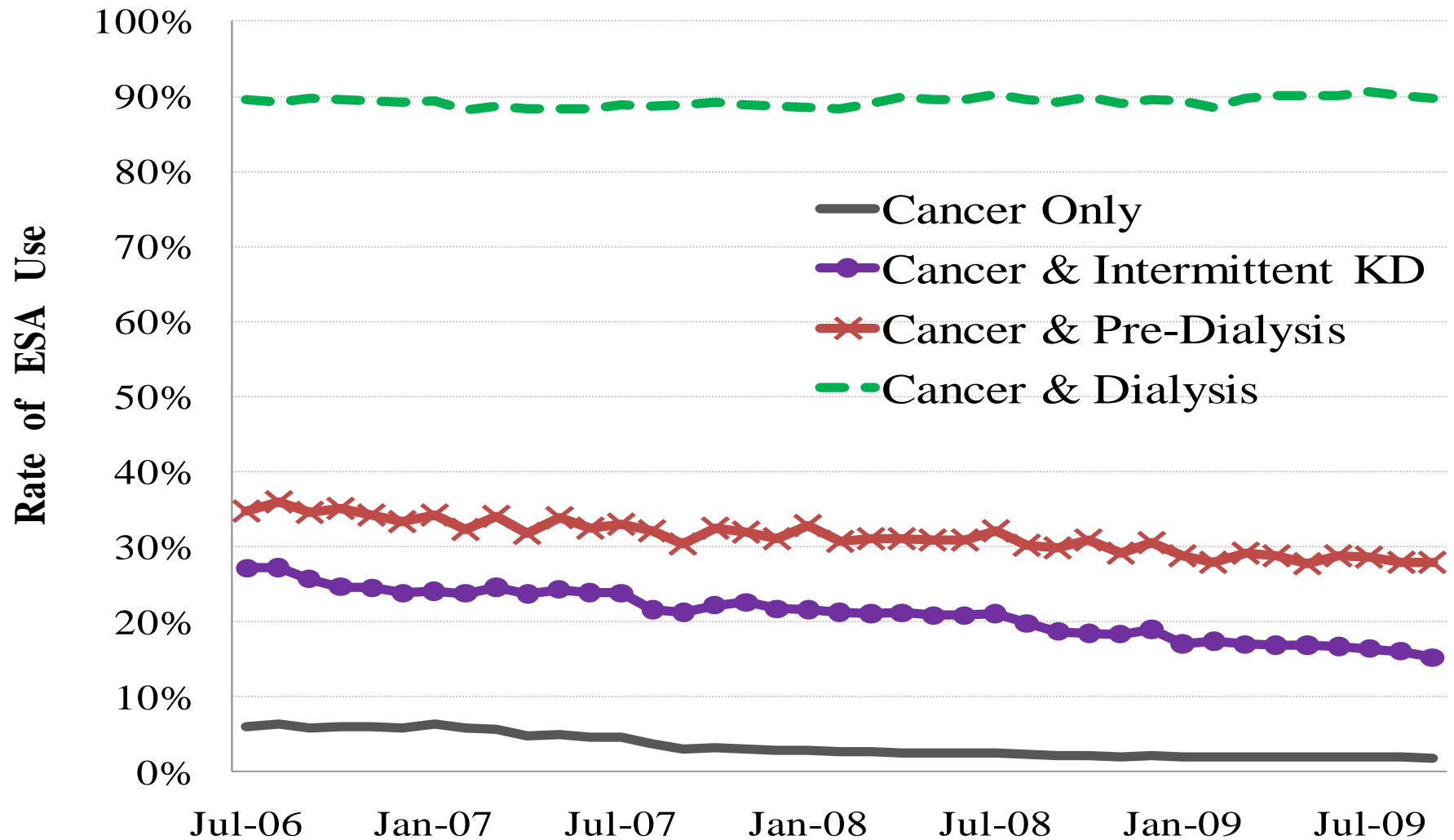
---

- **Cancer Only:** Patients with cancer with no indications of KD
- **Cancer & Intermittent KD:** Cancer patients with occasional KD diagnoses
- **Cancer & Pre-Dialysis:** Cancer patients with CKD not on dialysis
- **Cancer & Dialysis:** Cancer patients with CKD on dialysis
- Four groups are mutually-exclusive and exhaustive

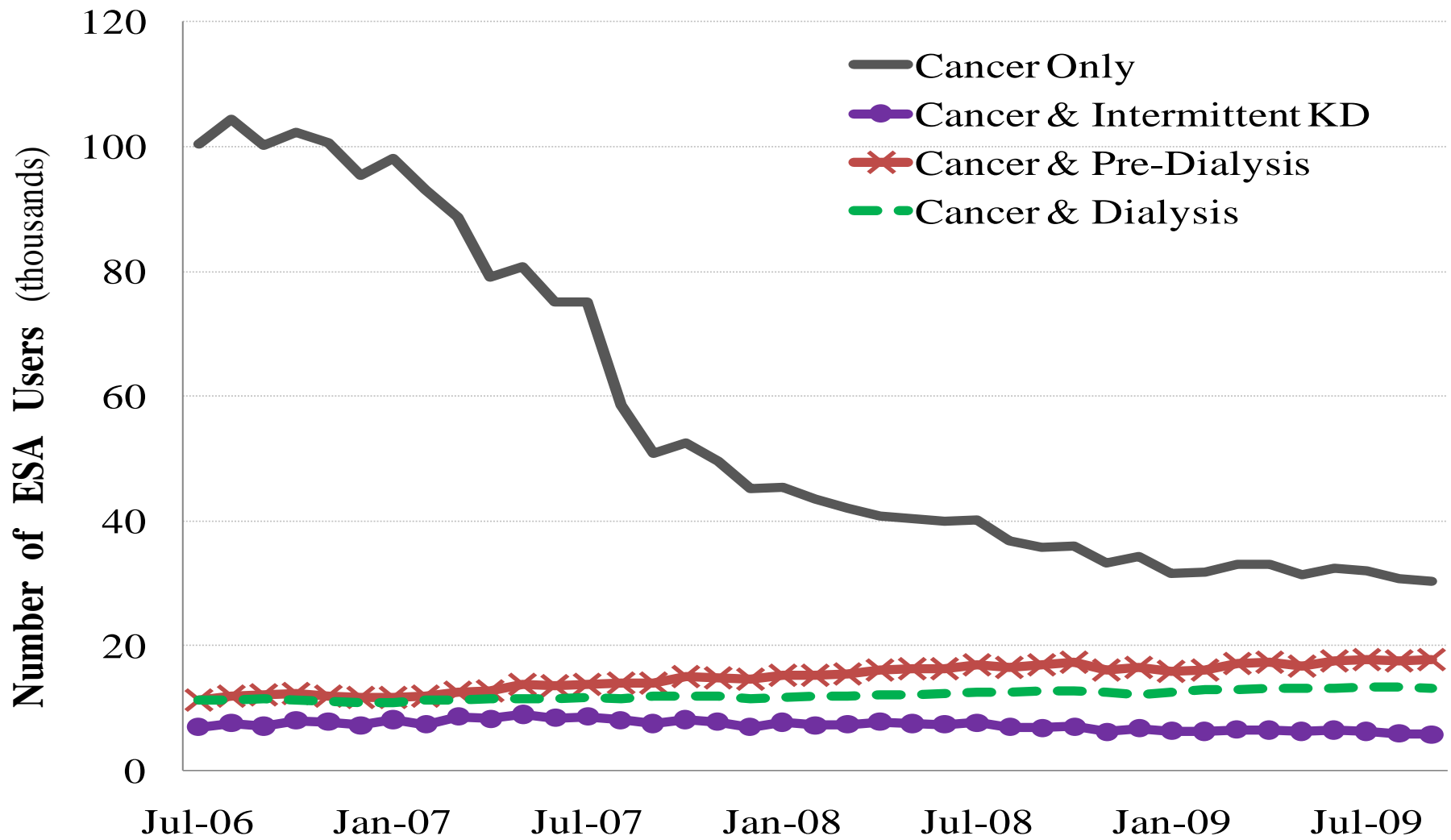
# Size of Cancer Populations by KD Status



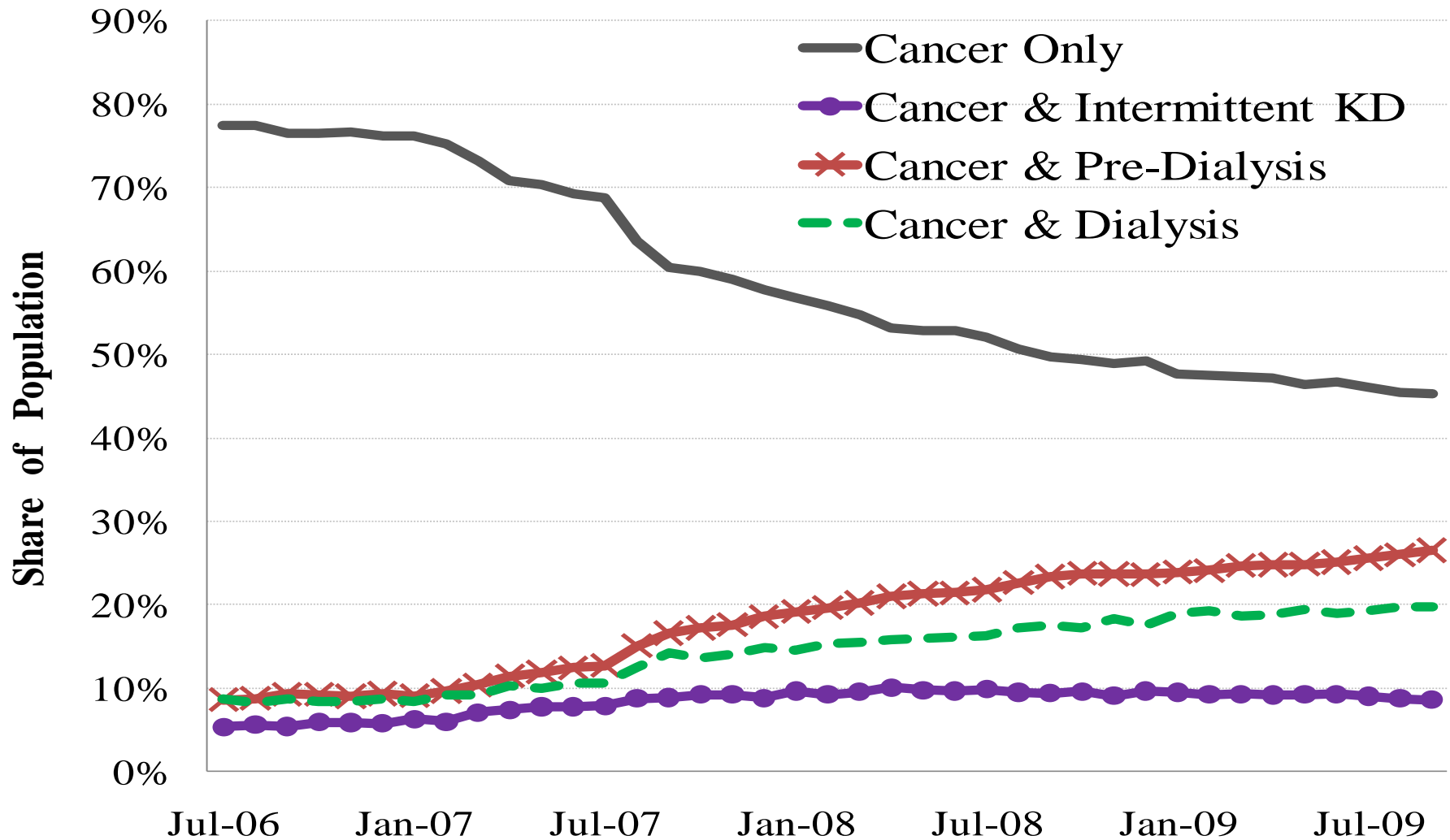
# Rate of ESA Use Falls for All Groups Except for the Cancer & Dialysis Group



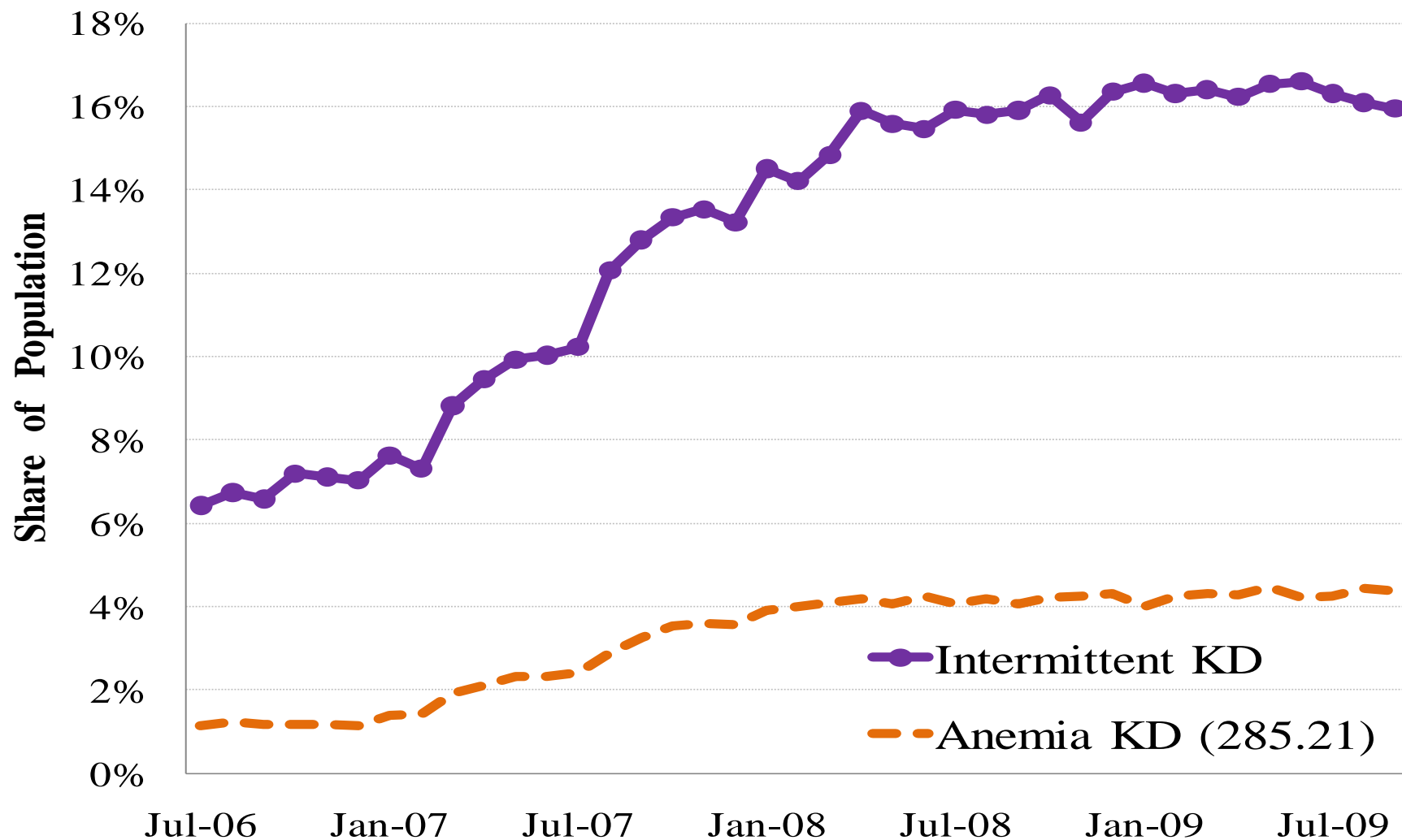
# Size of ESA User Populations with Cancer by KD Status



# Share of Cancer Patients on ESA by KD Status



# Share of Cancer ESA Users Without CKD Reporting Intermittent KD



# Summary of Findings for Cancer Populations

---

- Changes in rates of ESA use for cancer patients with KD mirrors the changes seen for the KD groups overall
- KD groups grew sharply as a share of the cancer population using ESA:
  - Dialysis group grew from 9% in 2006 to 20% in 2009
  - Pre-dialysis group grew from 9% to 27%
  - Intermittent KD group grew from 5% to 9%
- Share of ESA users w/o CKD reporting intermittent KD:
  - Grew from 6% to 16% for those with cancer
  - Change similar to 17% to 32% growth seen for all ESA users w/o CKD

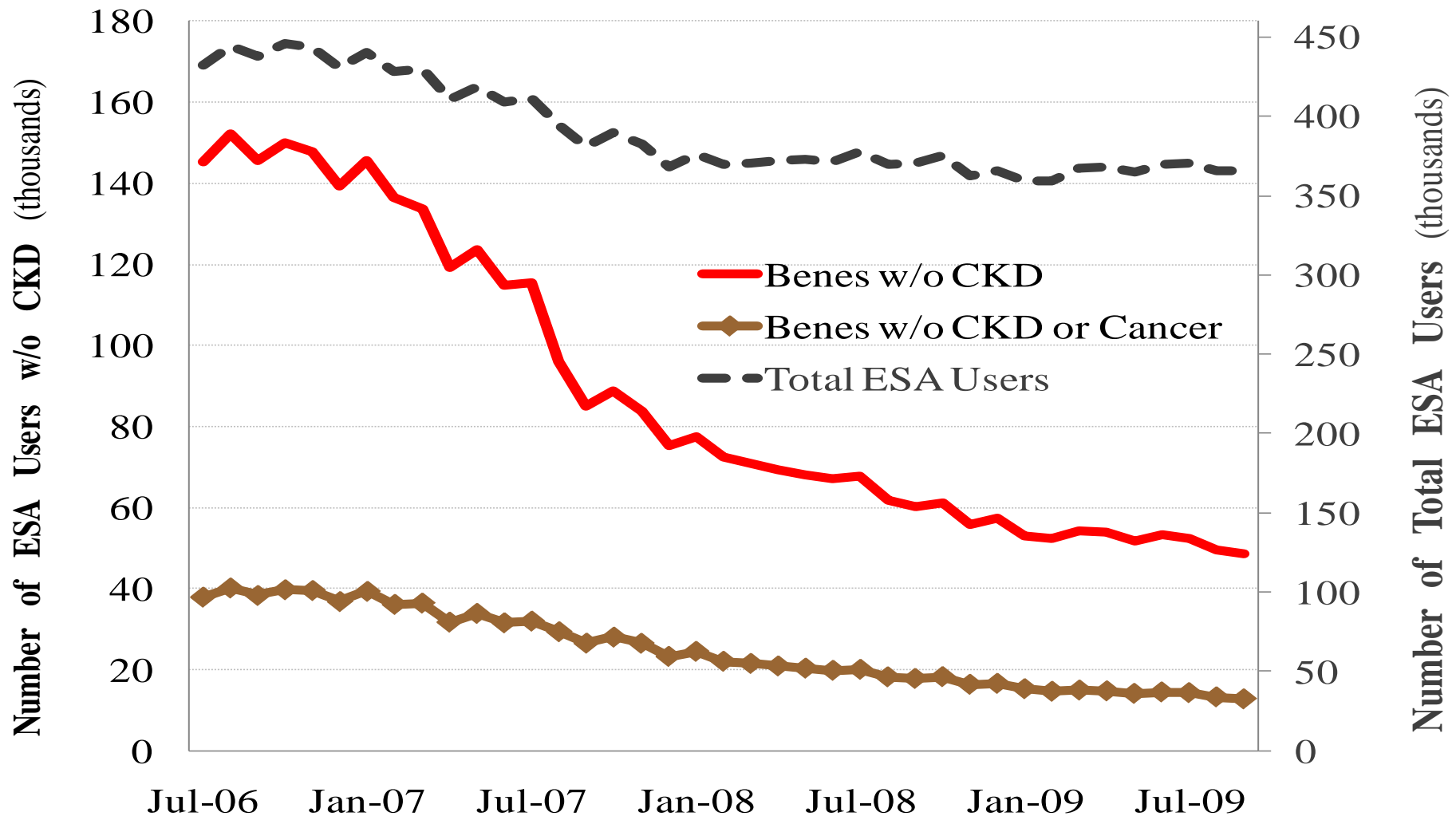
# Outline

---

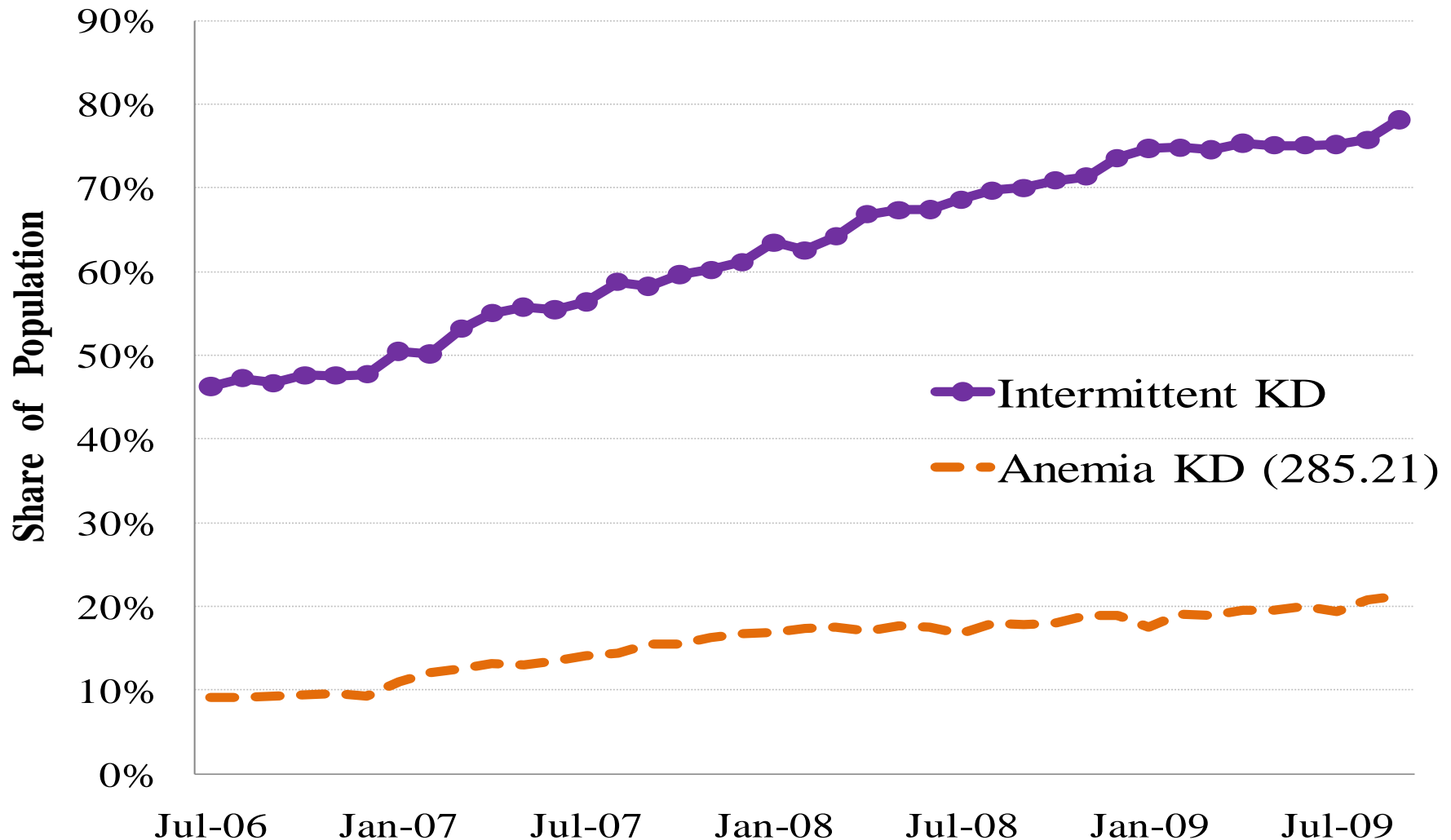
- Utilization of ESA in Medicare's kidney disease populations
- ESA Use in Medicare's cancer population with kidney disease
- Role of intermittent kidney disease in the use of ESA
- Relating timing of Practice and Policy events to potential impacts on ESA use



# Size of ESA User Populations Without CKD or Cancer



# Share of ESA Users Without CKD or Cancer Reporting Intermittent KD

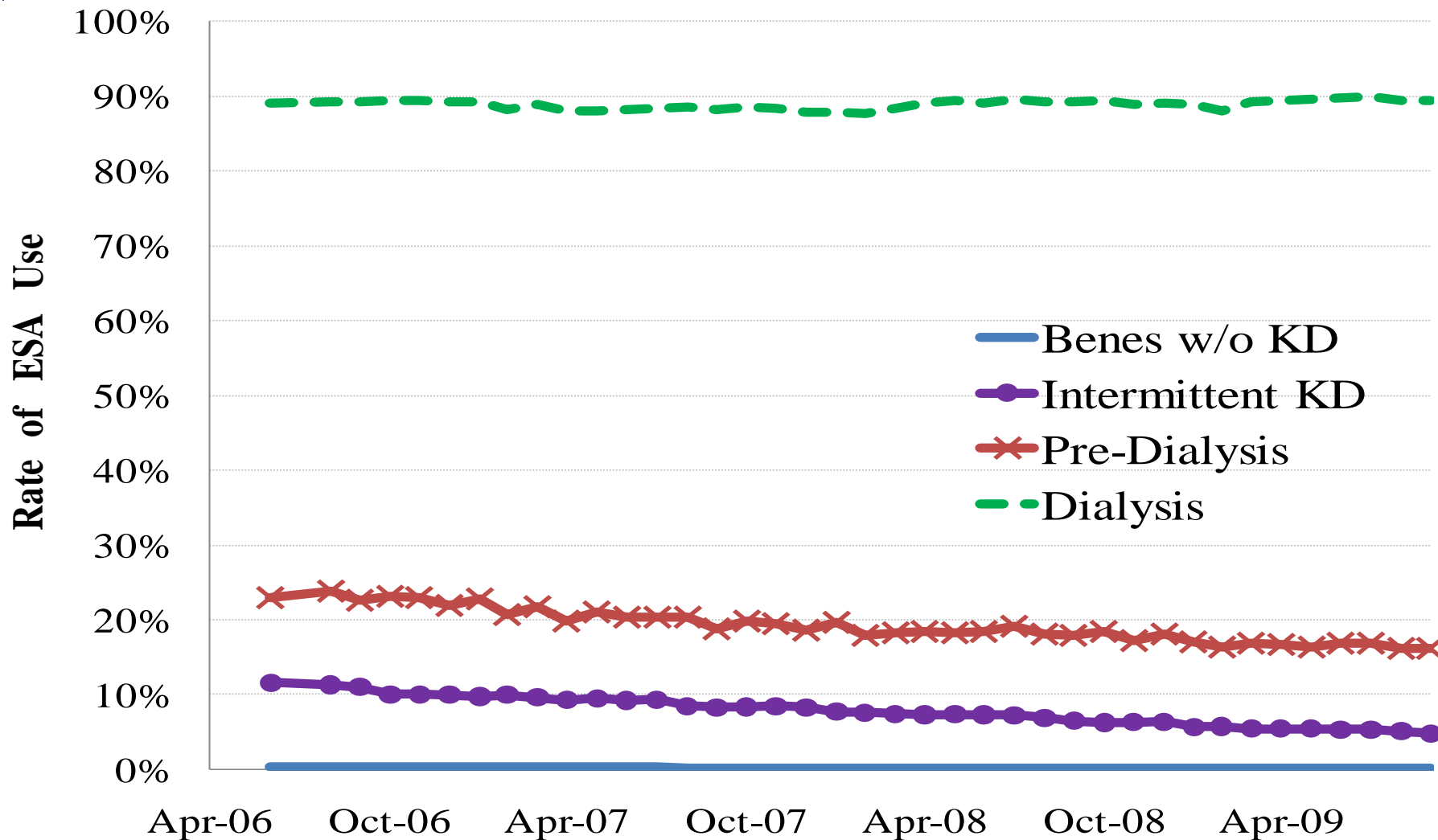


# Outline

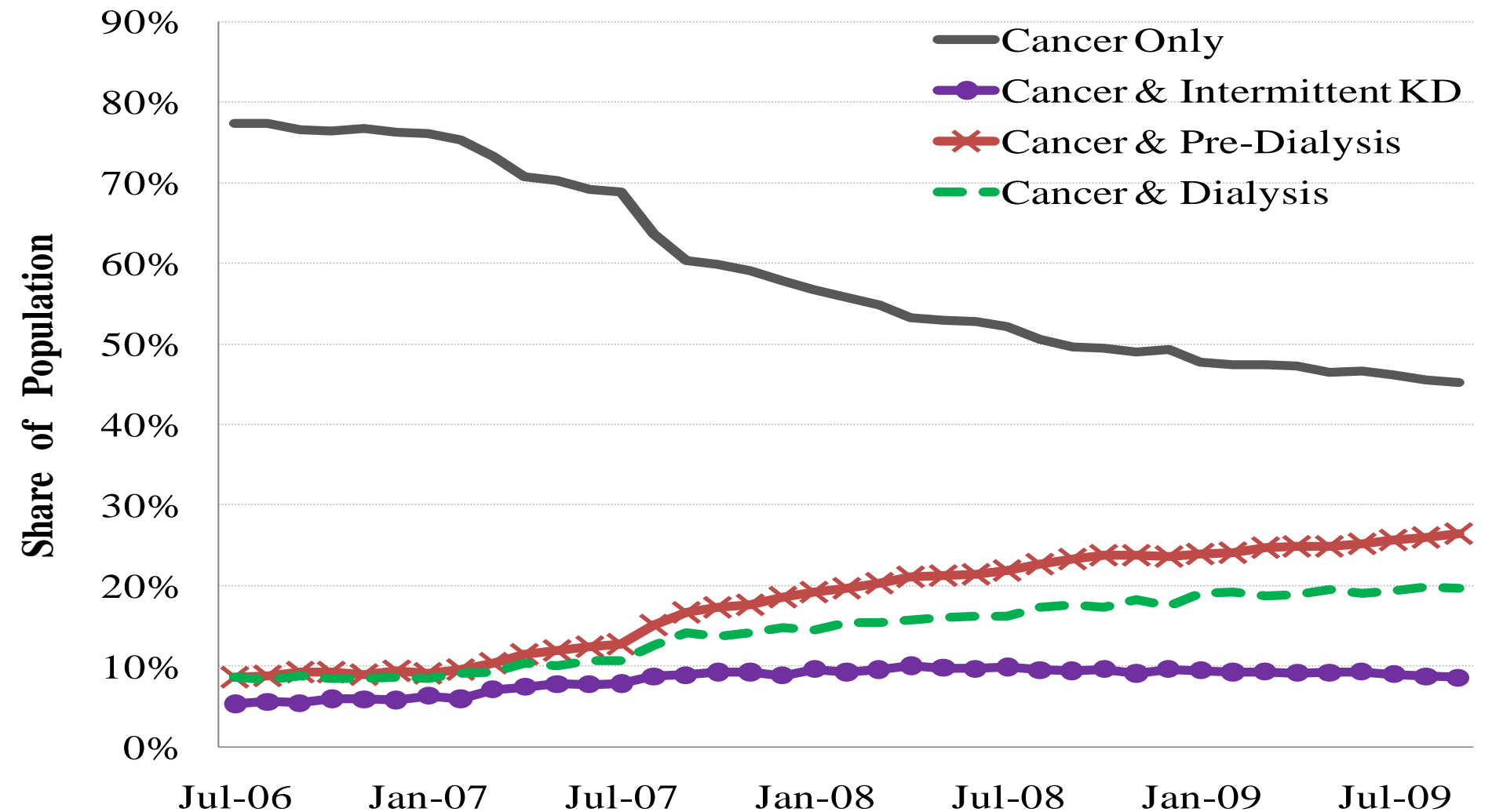
---

- Utilization of ESA in Medicare's kidney disease populations
- ESA Use in Medicare's cancer population with kidney disease
- Role of intermittent kidney disease in the use of ESA
- Relating timing of Practice and Policy events to potential impacts on ESA use

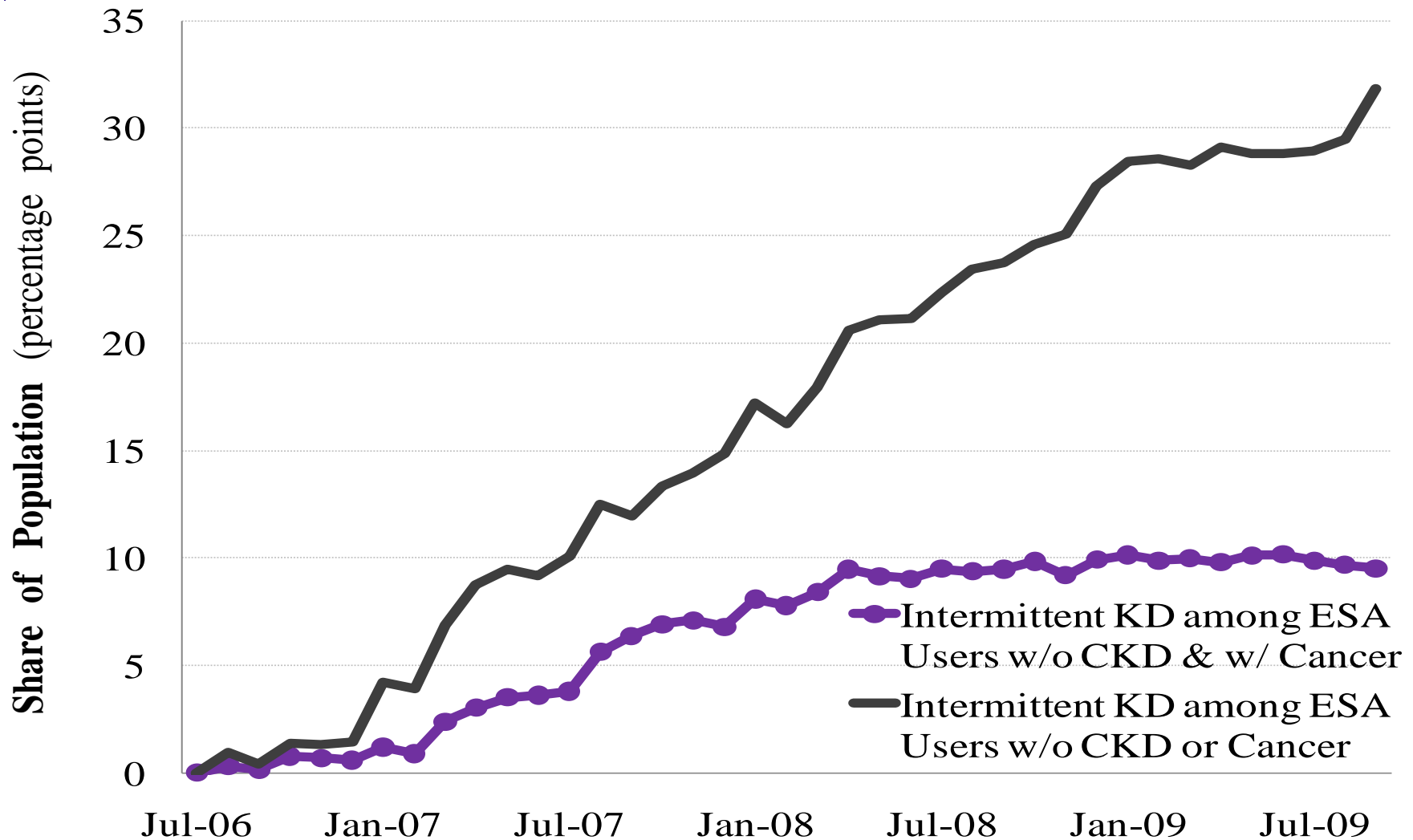
# Timeline of Practice & Policy Events and Rates of ESA Use among KD Patients



# Timeline of Practice & Policy Events and Share of Cancer Patients on ESA by KD Status



# Growth of Share of ESA Users Without CKD Reporting Intermittent KD



# End

---

---

# Appendix



# ICD-9 Codes Used to Identify KD Populations

ICD-9 Diagnosis Code	Description
585	Chronic kidney disease (CKD)
585.1	Chronic kidney disease, Stage I
585.2	Chronic kidney disease, Stage II (mild)
585.3	Chronic kidney disease, Stage III (moderate)
585.4	Chronic kidney disease, Stage IV (severe)
585.5	Chronic kidney disease, Stage V
585.6	End stage renal disease
585.9	Chronic kidney disease, unspecified
285.21	Anemia in chronic kidney disease

# Definitions of Kidney Disease Populations

## (1 of 2)

---

- **Dialysis:**
  - Individuals with dialysis procedure code(s) on Inpatient (IP), Outpatient (OP) or Carrier claims in the current month, the previous month and the next month
  - Except for benes who die or have kidney transplant in next month
- **Pre-Dialysis:**
  - Individuals with diagnosis code(s) 585.1-585.6 on IP, OP or Carrier claims in 2 months of the 3 months centered on the current month (i.e., current, previous, and next month)
  - Excludes benes classified on dialysis

# Definitions of Kidney Disease Populations

## (2 of 2)

---

- **Intermittent KD:**
  - Individuals not classified as dialysis or pre-dialysis
  - Individuals with diagnosis code(s) 585.x or 285.21 on IP, OP or Carrier claim during current month
  - Individuals solely with a 285.21 diagnosis code, classified as Anemia KD (285.21), which is a subset of Intermittent KD