New-Onset ESRD in Adults Secondary to Reflux Nephropathy Has Decreased in Incidence Since 1995

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Background

- **Reflux nephropathy (RN)**: renal deterioration related to focal or diffuse renal scarring

- Children with **vesicoureteral reflux (VUR)** are known to have 2.6x risk of having renal scarring
  - ~1% prevalence of VUR in childhood
  - grades 3 and higher having 2.1x more scarring than grades 1-2.

- Management of VUR has evolved over the past decades
  - No specific management has been proven to reduce renal scarring in children

- The risk of ESRD secondary to RN is not well described in children *or adults*

Objective

- We sought to evaluate whether the RN ESRD incidence has shown changing trends over recent decades.

Hypothesis

- We hypothesized that the incidence of RN ESRD would decrease over recent decades *and* that age of diagnosis would increase

Materials, Methods

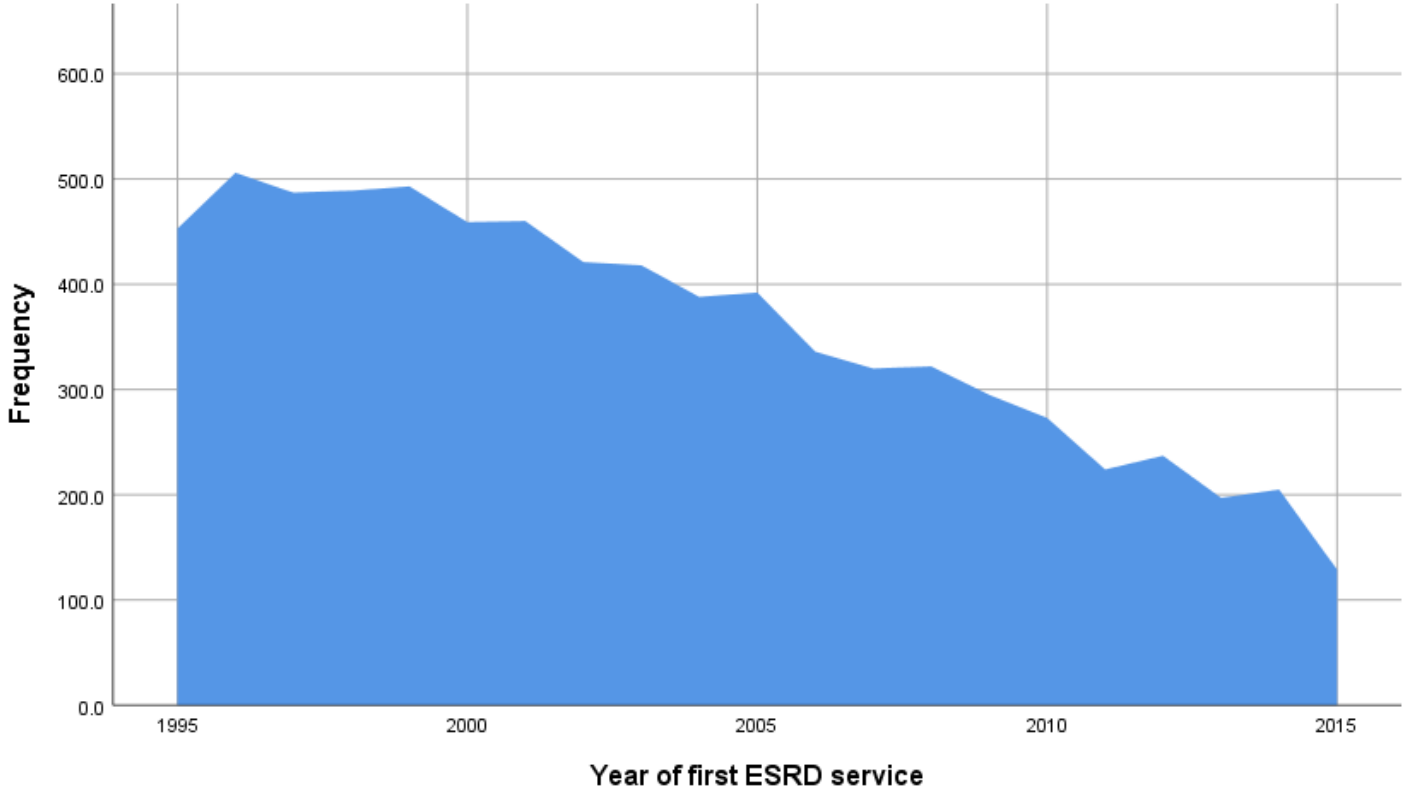
- **United States Renal Data System (USRDS)**:
  - National data system that collects information about chronic kidney disease and ESRD
  - Since 1995, the USRDS has mandated that all dialysis centers enroll and submit data on new-onset ESRD patients
  - *Over 2.5 million patients enrolled since 1995*

- Reflux Nephropathy diagnosis codes filtered
  - 1995-2015

Results

- 7,505 patients with ESRD attributed to Reflux Nephropathy

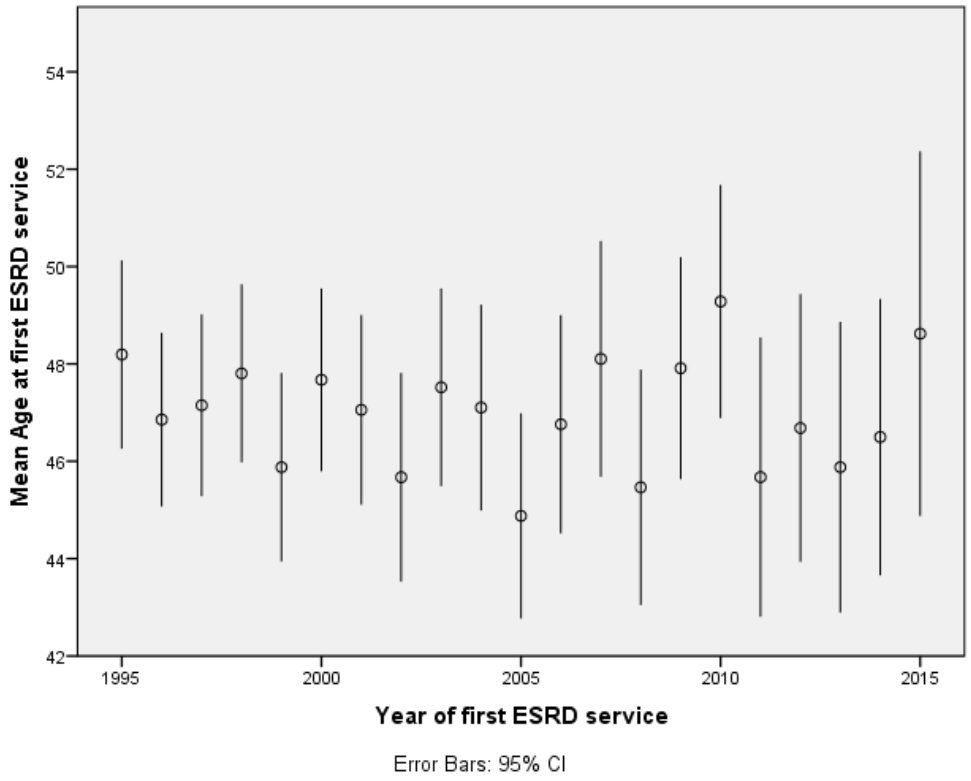
- The incidence has decreased
  - 1996: 1.9 per 1,000,000
  - 2014: 0.6 per 1,000,000



ESRD attributed to Reflux Nephropathy

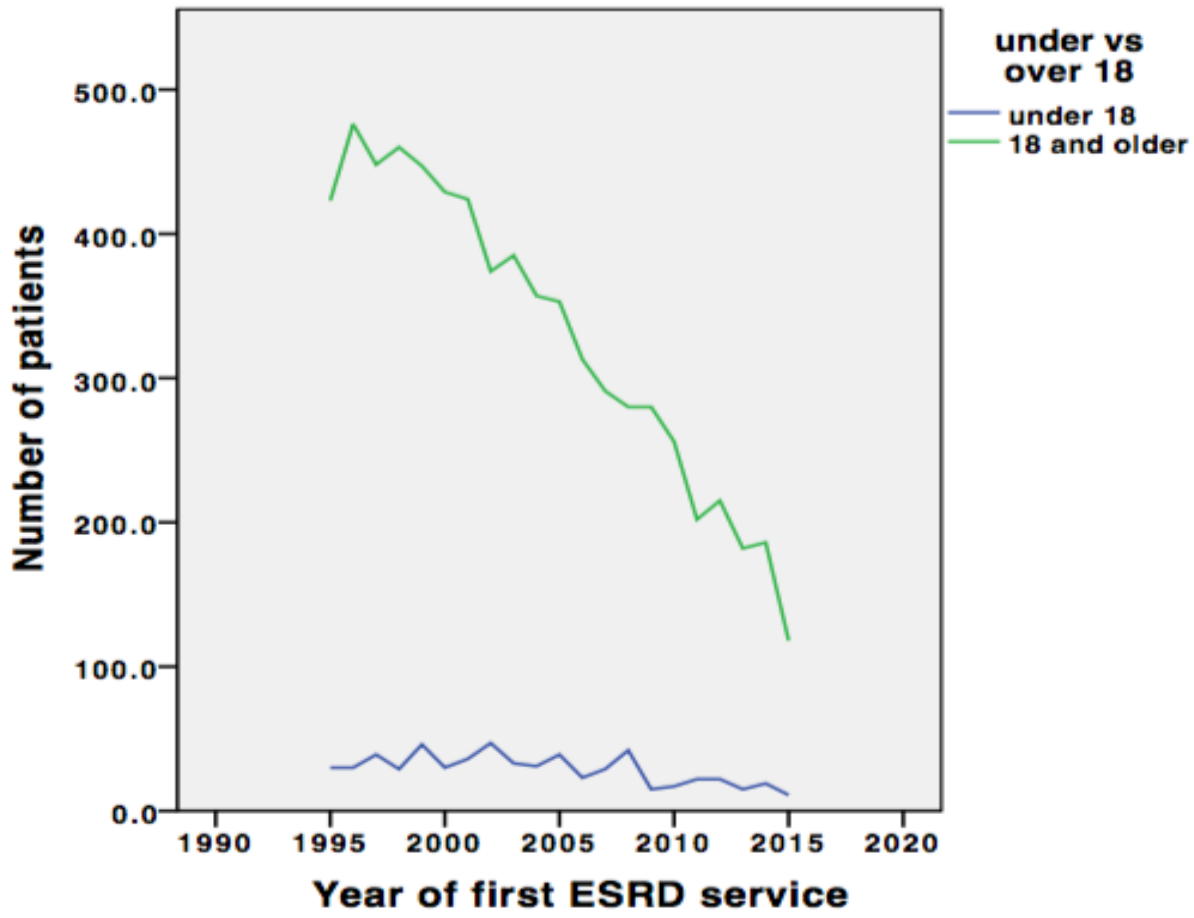
- Mean age at diagnosis was 47 years (IQR 30-65)
  - Mean age *did not change* over time
- 58.8% female, 87.2% white

- 66.8% with hypertension
- 73.4% did not need dialysis at ESRD dx
- 44.5% received transplant
- Mean mortality at age 62 (IQR 50-76)



ESRD attributed to Reflux Nephropathy

- Has pediatric incidence changed?:
  - The change in incidence in children is not as prominent
  - Difference approaches significance (p=0.053)



Conclusions

- ESRD attributed to reflux nephropathy is a rare entity, and has gradually decreased in incidence from 1995 to 2015

- The mean age at reflux nephropathy ESRD diagnosis has not changed

Thank you