The risk of peritonitis was lower for CAPD than for CCPD (relative risk, 0.939; 95% confidence interval, 0.883 to 0.998). Other significant risk factors included age ≤44 years, black race, [diabetes](https://www.sciencedirect.com/topics/medicine-and-dentistry/diabetes-mellitus) as primary [ESRD](https://www.sciencedirect.com/topics/medicine-and-dentistry/end-stage-renal-disease) diagnosis, peritonitis during the entry period, greater than 4 entry-period hospital days, and congestive heart failure.

Risk of first peritonitis was 26% higher in blacks than in whites; 13% higher in patients with than in those without diabetes as their primary ESRD diagnosis; 18% and 16% higher, respectively, in those with 5 to 10 and ≥11 than in those with no entry-period hospital days; 2.15 times higher in patients with than in those without peritonitis during the entry period; and 10% higher in patients with than in those without congestive heart failure.

On average, the first peritonitis episode occurred 3.5 months earlier for black than for white patients (14.2 and 17.7 months until first peritonitis, adjusted, respectively)

Despite higher rates of peritonitis in blacks and diabetics, the percentages of patients receiving CCPD in these groups were similar to the percentages in other groups. Patients receiving CCPD were more likely to be men and younger than patients receiving CAPD; these findings are consistent with those of another study

<https://www.sciencedirect.com/science/article/pii/S0272638604014076?via%3Dihub>

Eleven studies found differences between ethnicities such as a higher risk in aboriginal ethnicity (IRR 1.93; 1.63–2.28) [[13](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B7)] and HR 1.78; 1.45–2.19 [[39](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B8)], Maoris (OR 1.64; 1.43–1.87) [[13](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B7)], First Nation Canadians (*P* = 0.012) [[16](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B9)], and black ethnicity in comparison to Caucasians (HR 1.255; 1.178–1.338, IRR 2.2; *P* < 0.01; HR 1.5; 1.2–1.8; IRR 1.629; *P* = 0.004; and IRR 1.37; 1.00–1.88) [[14](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B10), [28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B11), [30](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B13), [37](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B12), [40](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B14)]. Lim et al. [[15](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B15)] reported not only an increased risk for peritonitis in indigenous people who lived far away from their treatment center (“remote”), but also a higher risk for technique failure, all-cause and peritonitis-related mortality. African Americans also had a higher risk for peritonitis (IRR 1.36; 1.04–1.77) [[20](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/#B16)].

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539329/>

The time to the initial

episode was 21 months for African Americans versus 32 months for whites

(P <

0.001).

Even after adjusting for other factors, African Americans

were significantly more likely to develop peritonitis (1.5; 1.2 to 1.8). Thus,

the increased risk of peritonitis of African American patients treated by

CAPD is independent of other demographic, socioeconomic and comor-

bid characteristics.

. Afri-

can-Americans were 60% (RR =

1.6)

more likely than whites to

develop peritonitis. The time to an initial episode of peritonitis

was 21 months for African-American and 32 months for white

patients (P C 0.001).

Most of the pat

<https://reader.elsevier.com/reader/sd/pii/S0085253815586912?token=3805DDFA89CB9125C1A82E755016EC3876FC55082B2C76966266DDB8D36D8517F819CE9D6D05875A1C80CE56BD9B6480>

Information from USRDS

In 2016, there were 124,675 newly reported cases of ESRD; the unadjusted (crude) incidence rate was 373.4 per million/year

On December 31, 2016, there were 726,331 prevalent cases of ESRD; the crude prevalence was 2,160.7 per million in the U.S. population

The number of prevalent ESRD cases has continued to rise by about 20,000 cases per year, but this is mostly due to people living longer -- only a small percentage is due to the increase in diagnosis of ESRD

In 2016, 87.3% of incident individuals began renal replacement therapy with hemodialysis (HD), 9.7% started with peritoneal dialysis (PD), and 2.8% received a preemptive kidney transplant

Note - HHD was about 2-3%

According to the executive order, the goal is to have 80% of new ESRD patients receiving home dialysis is 2025

Assuming our new yearly ESRD population in 2025 is 125K

100K of these patients will be receiving some type of home dialysis.

A PD-assimilated population

PD is the dominant form of home dialysis,

Only about 2-3% of new patients choose HHD.

Let us assume that approximately 90% of home dialysis patients choose PD

Final patient populating choosing PD as their first RRT is **~90K** assuming ESRD rates are constant

In a PD-assimilated population, there may be more than 500K using PD

Versus the current number of PD patients @ 50K

Peritonitis rates

0.4 to 0.7 occurrences of peritonitis per patient per year, or only every 17-30 months

As the PD patient population grows, so will the number of patients that experience Peritonitis

In a PD-assimilated population, there may be as many as 200K-350K prospective cases of Peritonitis every year

Versus the current number of peritonitis occurrences at 20K-35K

Represents a 10-fold possible increase

This is a team assignment. This should be submitted as a set of PowerPoint slides starting with the slide you prepared for the session with Jody Reyes. Based on your preliminary literature search, your discussions and interviews with practitioners, and specifically in response to comments made in class this week, expand on your initial indications of incidence and prevalence of the clinical concerns that justify your project selection. I am looking for further refinement using any relevant variables that will help you more precisely target your solution technology. This could be demographic, cultural, economic, history, regional, or even international (ie lower incidence of PD infections in Taiwan). Please add at least one slide that lists specific questions you want to ask our UVA data systems. Also, indicate your primary or secondary sources for each set of data. I am hoping there will be at least 5-10 citations. I hate pie charts, but pie charts actually work pretty well here. Be sure to include clear legends and citations on each chart. Include a UVA logo or footer on each slide. Also, include a full title slide with the course, the team, and the Project Title (new). Something like, "Reduced Peritonitis in Peritoneal Dialysis Patients". No minimum or maximum on the number of slides. Let's see what you can do here!

* full title slide with the course, the team, and the Project Title (new)
  + Something like, "Reduced Peritonitis in Peritoneal Dialysis Patients"
* UVA logo or footer on each slide
* start with the slide you prepared for the session with Jody Reyes
* expand on your initial indications of incidence and prevalence of the clinical concerns that justify your project selection
* demographic, cultural, economic, history, regional, or even international (ie lower incidence of PD infections in Taiwan)
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  + 5-10 citations

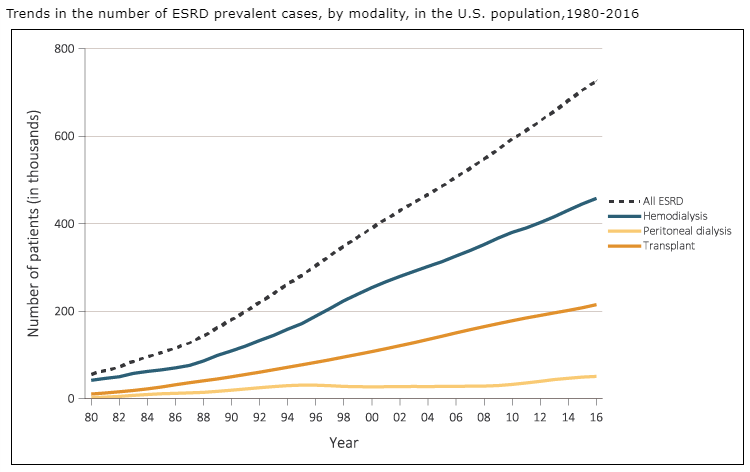
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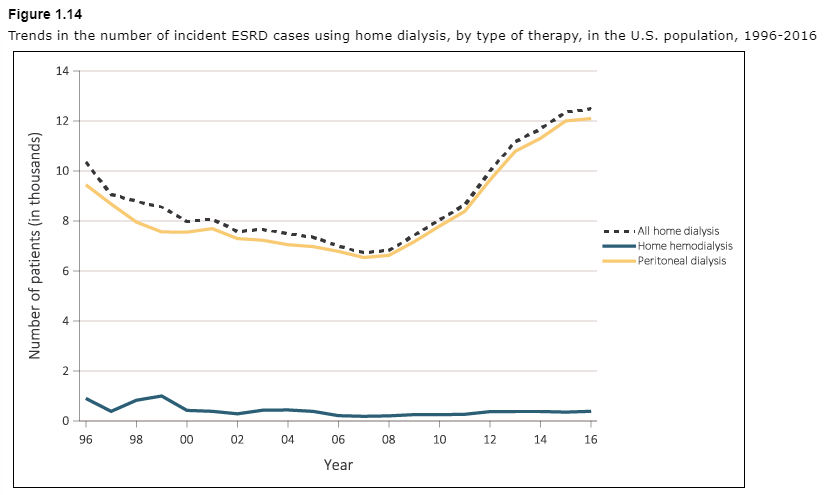
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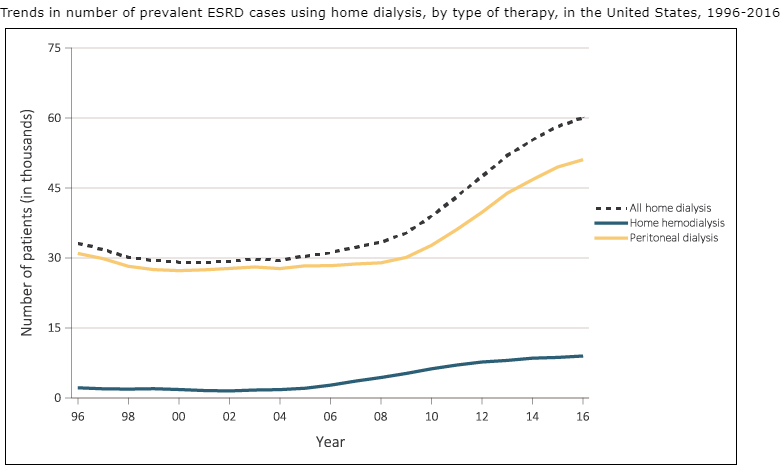
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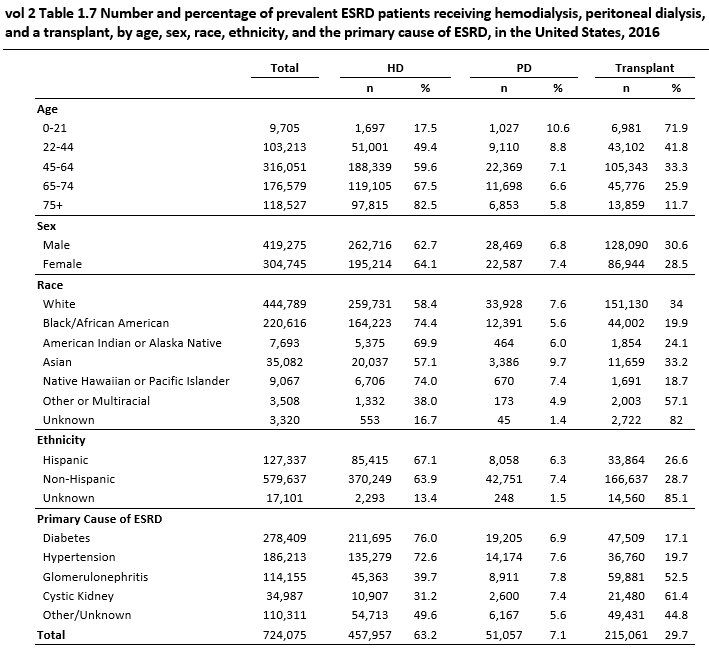
ESRD Incidence and Prevalence

PD Prevalence over the last decades

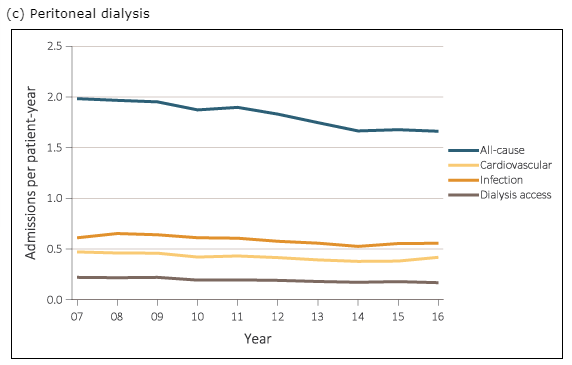


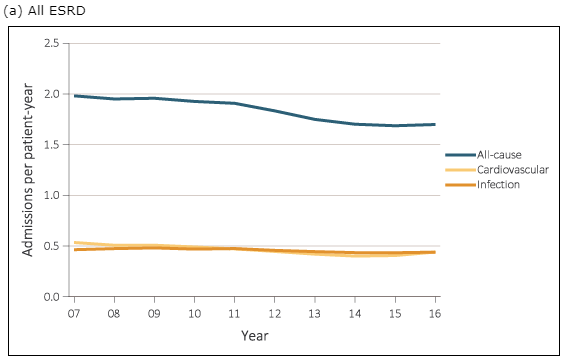






Peritonitis Prevalence over the last decades





Current PD Prevalence

Current Incidence of Peritonitis

The “Timeline” of a PD patient throughout their ESRD treatment

Bacteria Species Responsible for Peritonitis

Forecast of PD in the United States

Peritonitis by bacteria type <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6001843/>

Current state of PD <https://jasn.asnjournals.org/content/27/11/3238>

USRDS <https://www.usrds.org/2018/view/Default.aspx>