The burden of walking disability in U.S. dialysis and CKD patients

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Introduction

- The ability to walk is a deceptively simple but robust measure of physical function and independence.
- Although CMS Medical Evidence Form 2728 measures the prevalence of “inability to ambulate” at dialysis initiation, the incidence of walking disability after initiation is unknown.
- We estimate the incidence and prevalence of walking disability in the dialysis population using multiple measures, and compare them to those of the CKD and general Medicare populations.

Methods

- Incident dialysis patients are those who are age 67+ at initiation during 2005 with 2 years of prior Medicare eligibility for comorbidity adjustment. Form 2728 identifies the percent “unable to ambulate.” Walking disability diagnoses and assistive devices are identified from claims during first year of incidence. New walking disabilities in the first year include only those listed as “able to ambulate” on the 2728 form and without walking disabilities prior to initiation.
- Prevalent dialysis patients are those prevalent on January 1, 2005 who survive and remain on dialysis for the whole year. Patients are also required to be Medicare eligible for 2 years prior for comorbidity adjustment. Medicare claims during 2005 are searched for walking disability diagnoses and assistive devices.
- General Medicare patients 65+ on January 1, 2005 who survive all of 2005. Medicare claims during 2005 are searched for comorbidities, walking disability diagnoses, and assistive devices.
- Walking disability diagnoses include ICD9-CM codes 782.1 “abnormal gait,” 719.7 “difficulty walking,” *15.88 “history of fall,” or an E-code indicating a fall.
- Assistive devices (canes, walkers, and wheelchairs) are identified from Durable Medical Equipment (DME) claims, and represent the presence of a bill for all or part of the device.

Results

- About 10% of incident dialysis patients are unable to walk at dialysis initiation. In addition, 19% have a walking disability claim during the first year after initiation, of which about half are Medicare claims for falls (Table 1).
- Among incident dialysis patients, those who are older, female, black and on HD are more likely to have walking disabilities.
- 23% of incident dialysis patients are in a wheelchair and 14% use a walker (Fig 1).
- CHF and diabetes are associated with higher odds (AOR 1.39 and 1.25) of developing new (incident) walking disabilities than stroke CVA (AOR 1.14) during the first year of dialysis; PD pts have an AOR of 0.6 vs. HD pts (Table 2, Fig 2).
- About 17% of the prevalent CKD population uses an assistive device, compared to 5% of the non-CKD Medicare population (Figure 3a and 3b).

Conclusions

- The burden of walking disability in the U.S. dialysis population is almost 3-fold greater than in the non-CKD population, as measured by inability to walk, difficulty walking, falls, and use of assistive devices or wheelchairs.
- Over 22% of the incident HD population is in a wheelchair.
- Among incident 2005 dialysis patients 67 yrs and older, 9.8% were unable to walk at initiation; the frequency was highest in older, female, black, and HD vs. PD. An additional 38% developed incident walking disability within one year after dialysis initiation.
- CKD Medicare patients carry 2 times the burden of walking disability and use of assistive devices than non-CKD patients.
- Further work is needed to identify ways of preventing incident disability in CKD and dialysis populations, targeting patients with history of CHF, diabetes, and stroke.