

Title: Focal Segmental Glomerulosclerosis (FSGS) In Adults: A Retrospective Analysis Of US Prevalence And Impacts Of Proteinuria And Kidney Function Decline On Healthcare Resource Utilization (HRU) And Costs

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OBJECTIVES: FSGS is a histologic pattern of glomerular injury with numerous causes, frequently associated with kidney disease progression and kidney failure. We examine the US prevalence of FSGS and the impacts of proteinuria and kidney function decline to end-stage kidney disease (ESKD) on HRU and costs.

METHODS: Descriptive, retrospective analysis based on Optum® de-identified Market Clarity and proprietary Natural Language Processed (NLP) Data (2007-2020). Inclusion criteria: patients with ≥2 FSGS ICD-10 codes (N0x.1) and/or ≥2 FSGS NLP terms within 180 days and ≥30 days apart without associated negation terms. For patients with available claims data (subset of prevalence cohort), HRU/costs analyses were completed (exclusions: pregnancy, cancer, COVID-19). All costs were normalized/discounted and adjusted to 2020 USD using the Consumer Price Index.

RESULTS: Estimated standardized US prevalence of FSGS (2016–2019) is 80.86 per 1,000,000 based on US Census Bureau data. Among 320 patients with proteinuria data in the HRU/cost cohort, 60% and 36% had baseline proteinuria >1.5 or >3.5 g/g, respectively. HRU and costs, all per-patient-per-month (PPPM), increased significantly ($p<0.05$) with proteinuria levels >3.5 g/g; (≤ 1.5 [n=127] vs >1.5–3.5 [n=80] vs >3.5 g/g [n=113]: emergency department (ED), 0.13 vs 0.13 vs 0.23; outpatient, 3.03 vs 3.41 vs 6.01; total costs, mean \$3,026 vs \$4,262 vs \$10,227). Advancing chronic kidney disease stage to ESKD (stage I [n=99] vs stage III [n=238] vs ESKD [n=180]: ED, 0.09 vs 0.13 vs 0.33; outpatient, 2.58 vs 3.46 vs 11.11; pharmacy claims, 3.59 vs 4.15 vs 5.00; PPPM total costs, mean \$1,895 vs \$3,898 vs \$12,603) was also associated with significant increases in HRU and costs ($p<0.05$).

CONCLUSION: For patients with FSGS, worsening proteinuria and progression to ESKD are associated with substantial HRU and costs. Approved therapies for FSGS would improve the lives of patients and reduce substantial burden to the healthcare system.