EE540

Impact of Proteinuria and Declining Kidney Function on the Healthcare Resource Utilisation and Associated Costs of Patients with IgA Nephropathy: A Retrospective analysis in the UK and Spain

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INTRODUCTION

- Immunoglobulin A nephropathy (IgAN) is a rare autoimmune disease with many patients progressing to renal failure with 10–15 years.[1-3]
- Proteinuria is a key factor influencing disease progression, with higher levels linked to faster progression to end-stage renal disease and increased healthcare costs.[4-8]
- The 2025 KDIGO guidelines recommend reducing proteinuria to <0.5 g/day, and ideally <0.3 g/day, lower than the previous <1 g/day target.[9,10]
- Advanced chronic kidney disease (CKD) stages are also associated with higher healthcare resource use (HCRU) and costs.[11]

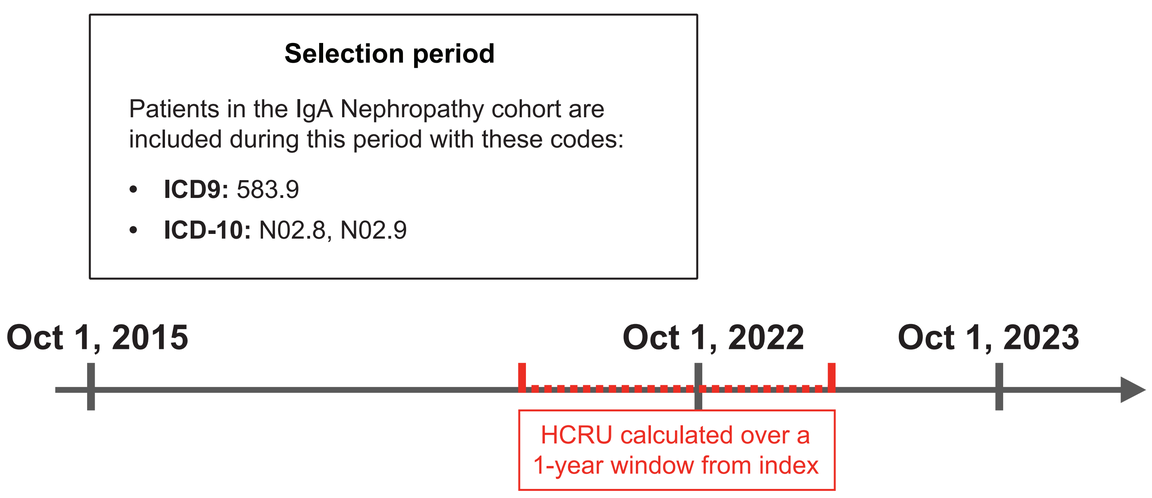
OBJECTIVE

- This analysis examines HCRU and costs, in patients with IgAN, for a range of proteinuria categories that reflect the most recent KDIGO recommendations (<0.5, 0.5–1, 1–<2, and ≥2 g/day) as well as CKD stages in two European countries: the UK and Spain.

METHODS

- This retrospective cohort study utilised data from the TriNetX electronic medical record database.
- The study population comprised patients of all ages diagnosed with nephritis/nephropathy (International Classification of Diseases [ICD]-9 583.9) and/or recurrent or persistent haematuria (ICD-10 N02.8/N02.9) between October 2015 and October 2022 (index date).
- The study period ended in October 2023, ensuring a minimum follow-up duration of one year (**Figure 1**).
- Healthcare resource utilisation (HCRU) data, including inpatient, outpatient, and emergency visits, were analysed descriptively for each country separately.
- HCRU-related costs were obtained from national healthcare databases or published sources for 2020–2022 and adjusted for inflation to reflect 2023 values.
- Results were stratified by visit type, proteinuria levels (<0.5 g/day, 0.5–<1 g/day, 1–<2 g/day, or ≥2 g/day), and CKD stage (1-5, determined from ICD-10 codes and estimated glomerular filtration rate) during the one-year window.

Figure 1. Study design



HCRU, healthcare resource utilisation; **ICD**, International Classification of Diseases; **IgA**, Immunoglobulin A.

RESULTS

- IgAN prevalence (N) in the UK and Spain was 6,940 and 1,080 patients, respectively, based on TriNetX data (**Table 1**).
- Most patients had proteinuria <0.5 g/day and were CKD stage 2 or 3.

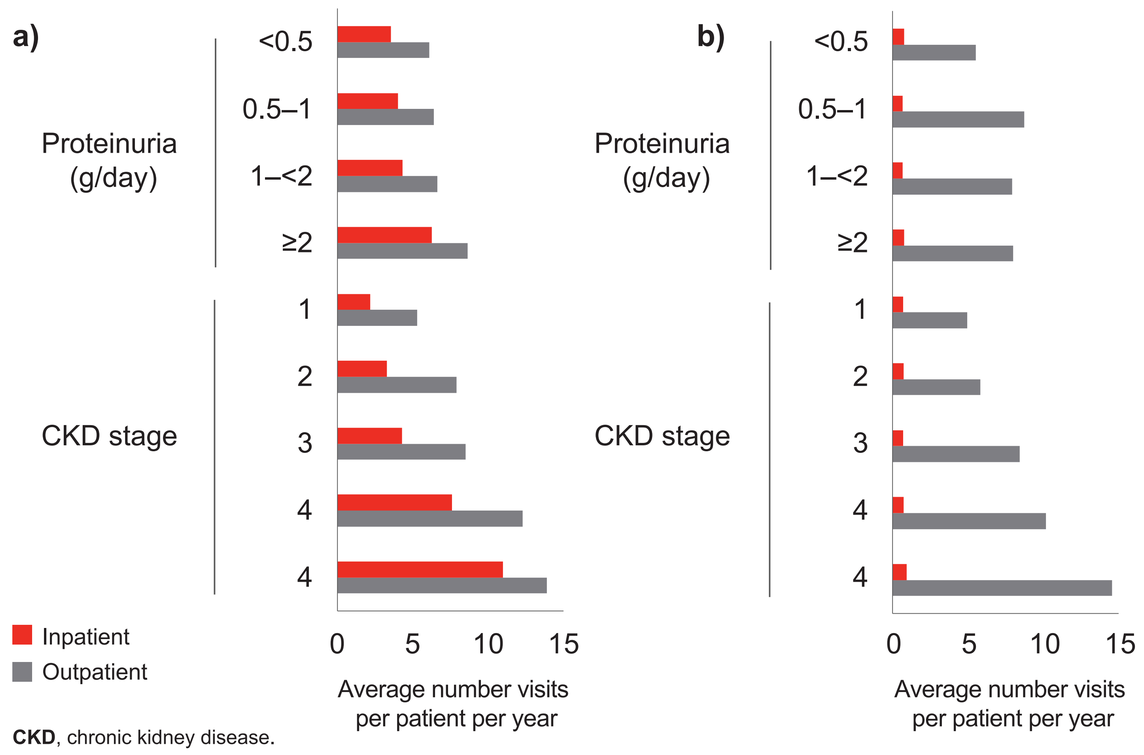
Table 1. Baseline* demographic and clinical characteristics of patients with IgAN

	UK	Spain
Prevalence (N)	6,940	1,080
Age, mean (SD), years	62 (18)	53 (25)
Gender n (%), female	2,960 (43)	370 (34)
Race, n (%)		
Caucasian	4,360 (63)	–
Unknown	2,120 (30)	1,080 (100)†
Asian	230 (3)	–
Other	200 (3)	–
African American	40 (1)	–
Proteinuria (g/day), n‡		
<0.5	1,450	350
0.5–<1	480	260
1–<2	430	240
≥2	380	130
CKD stage		
Stage 1	50	250
Stage 2	390	300
Stage 3	1,430	270
Stage 4	700	130
Stage 5	1,420	130

*Baseline defined as the index date. †Information not collected. ‡Patient counts here are mutually exclusive – patients can only be in one proteinuria category during the study period.
CKD, chronic kidney disease; **IgAN**, Immunoglobulin A Nephropathy; **N or n**, number; **SD**, standard deviation; **UK**, United Kingdom.

- The yearly average number of outpatient visits per patient was increased in those with higher proteinuria levels (<0.5 g/day vs ≥2 g/day) for both the UK (6.1 to 8.6) and Spain (14.8 to 21.3). See **Figures 2a & 2b**. Inpatient visits increased in the UK (3.6 to 6.3), while they remained unchanged in Spain (2.1 to 2.0).
- Similarly, the average number of outpatient visits increased as CKD stage increased in both the UK and Spain. Inpatient visits increased by CKD stage in the UK but not in Spain (**Figures 2a & 2b**).

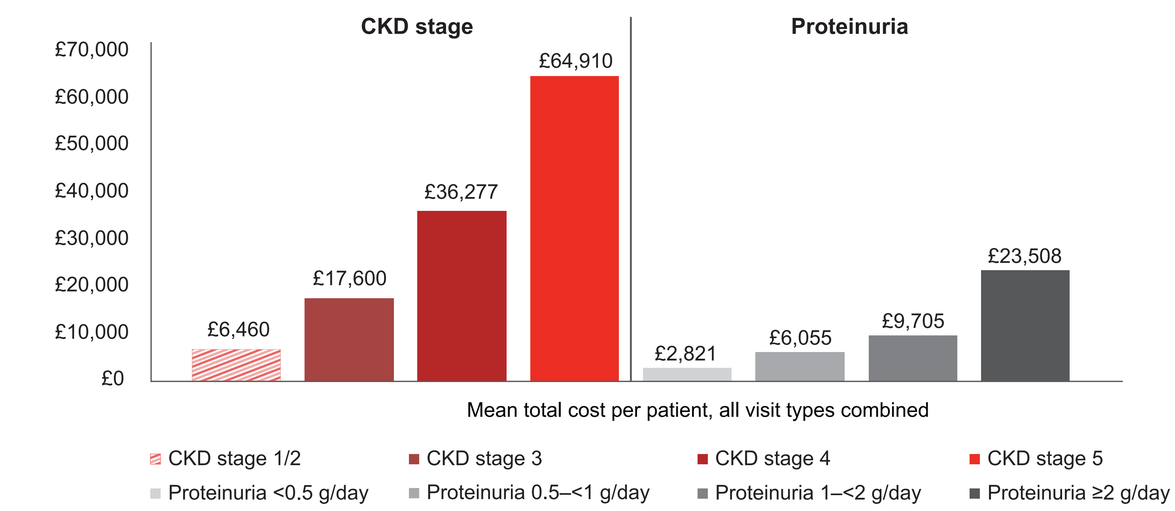
Figure 2. Inpatient and outpatient visits by proteinuria level and CKD stage: a) UK and b) Spain



CKD, chronic kidney disease.

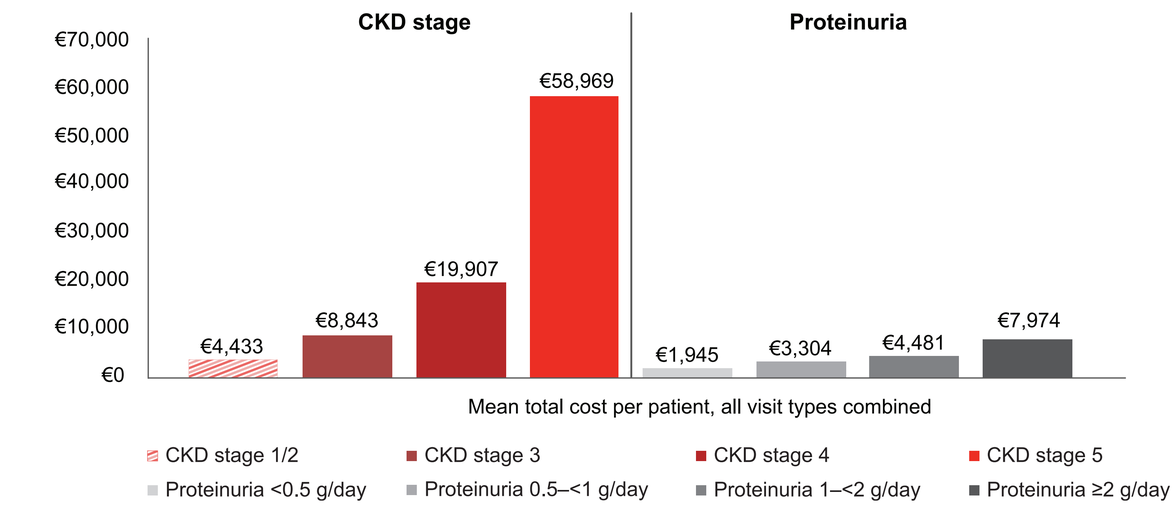
- For all visits, mean yearly total cost per patient increased with proteinuria levels, from £2,820.77 (<0.5 g/day) to £23,507.50 (≥2 g/day) in the UK, and from €1,945.03 to €7,974.31 in Spain, respectively (**Figures 3 and 4**).
- Average total costs for CKD stages were lower for CKD stage 1 & 2 (UK: £6,460.00; Spain: €4,433.00) compared to CKD stage 5 (UK: £64,910.00; Spain: €58,968.89; **Figures 3 and 4**).

Figure 3. Mean total yearly cost per patient for all visit types in the UK. Breakdown by CKD stage and four proteinuria categories*



*Proteinuria categories: <0.5 g/day, 0.5–<1 g/day, 1–<2 g/day, and ≥2 g/day.
CKD, chronic kidney disease; **UK**, United Kingdom.

Figure 4. Mean total yearly cost per patient for all visit types in Spain. Breakdown by CKD stage and four proteinuria categories*



*Proteinuria categories: <0.5 g/day, 0.5–<1 g/day, 1–<2 g/day, and ≥2 g/day.
CKD, chronic kidney disease.

CONCLUSION

Higher proteinuria levels and advanced CKD stages among patients with IgAN were associated with increased HCRU and costs in the UK and Spain.

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