

The Use of High-Cost Medicines in English NHS Hospitals: A HERON-UK Study

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Background: Spending on medicines is a major contributor to overall healthcare costs. High-cost medicines account for a significant proportion of total expenditure in many NHS hospitals in England, and their costs have steadily increased over the past decade. Despite their importance, data on the real-world use of high-cost medicines remain limited, and little is known about which drugs are being used or who receives them.

Methods: Data were obtained from four NHS hospital trusts in England:

- Barts Health NHS Trust (**Barts**)
- Great Ormond Street Hospital NHS Foundation Trust (**GOSH**)
- Lancashire Teaching Hospitals (**IDRIL**)
- University College London Hospitals (**UCLH**)

High-cost medicines of interest were identified from the NHS England high-cost drugs commissioning list.

We created cohorts of new users using the R package **CohortConstructor**. We characterised out study population, including age, sex, and conditions of interest, using the R package **CohortCharacteristics**.

The study period was January 1st 2022 to end of data capture.

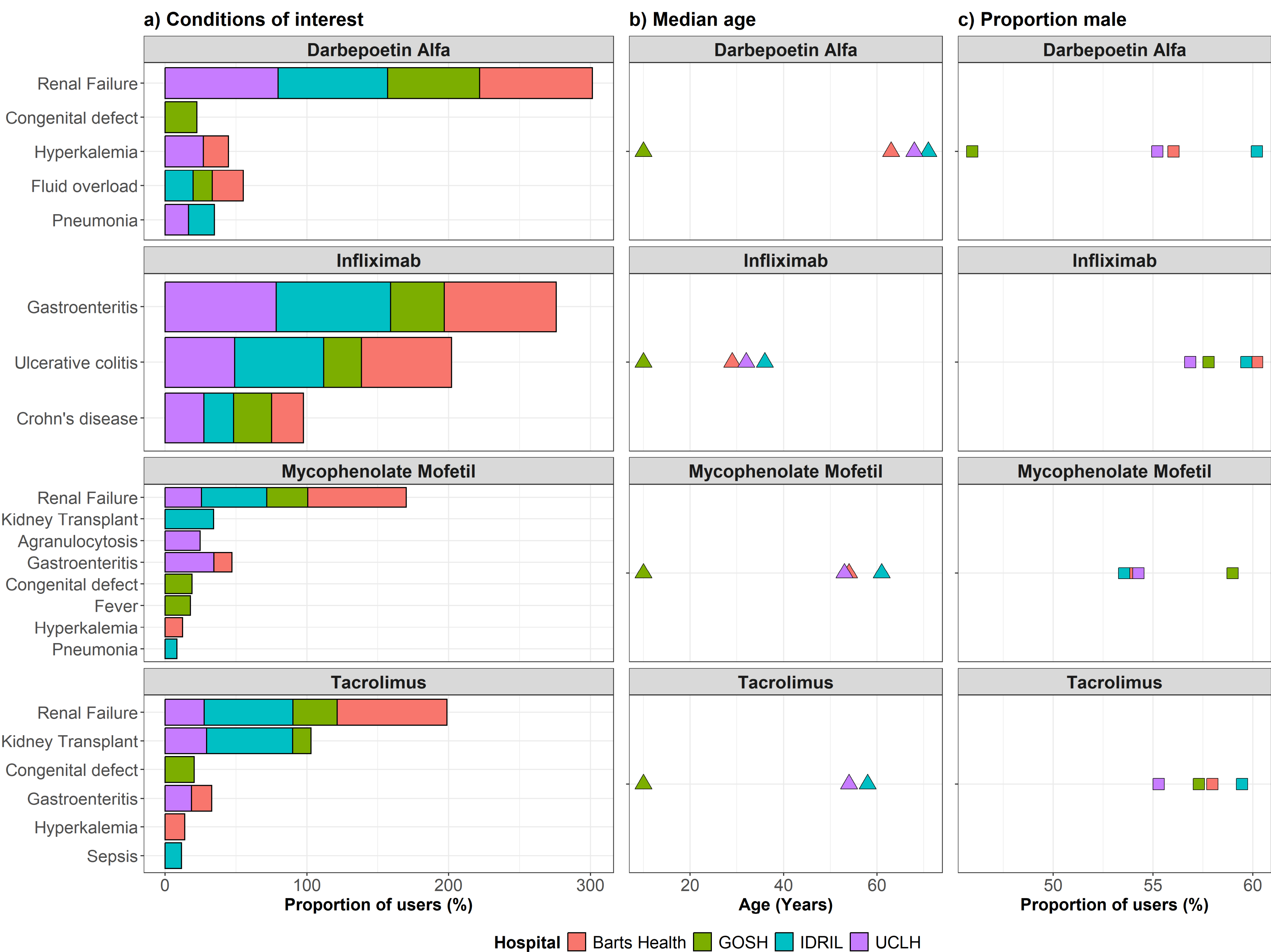
Objective: Describe the use of high-cost medicines in English NHS hospitals and characterise the patients receiving them.

Table 1. Top 10 high-cost medicines by number of new users

Rank	Barts	GOSH	IDRIL	UCLH
1	Darbepoetin Alfa (1,356)	Mycophenolate Mofetil (398)	Darbepoetin Alfa (502)	Tadalafil (2,870)
2	Mycophenolate Mofetil (1,299)	Rituximab (387)	Mycophenolate Mofetil (240)	Ritonavir (2,808)
3	Tacrolimus (1,291)	Caspofungin (348)	Tacrolimus (225)	Tacrolimus (2,565)
4	Micafungin (629)	Tacrolimus (294)	Azathioprine (203)	Sildenafil (2,389)
5	Basiliximab (502)	Infliximab (204)	Caspofungin (135)	Rituximab (1,566)
6	Azathioprine (478)	Pegaspargase (204)	Octreotide (73)	Adalimumab (1,435)
7	Cyclosporine (428)	Cyclosporine (201)	Tocilizumab (64)	Emtricitabine (1,182)
8	Infliximab (378)	Sildenafil (188)	Infliximab (62)	Mycophenolate Mofetil (1,032)
9	Colistin (368)	Basiliximab (147)	Rasburicase (56)	Ofatumumab (1,009)
10	Octreotide (342)	Darbepoetin Alfa (145)	Colistin (54)	Tenofovir Disoproxil (988)

Medicines in top 10 among at least three databases are shown in bold.

Figure 1. Conditions of interest, median age, and proportion of male users for the four most prescribed high-cost medicines



Conclusion: The use of high-cost medicines spans a wide range of therapeutic areas and treatment indications. Considerable heterogeneity was observed across hospitals, although further work is needed to explore geographical and case-mix variation in practice.

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