



An audit of critical care activity at the Rotunda Hospital in 2023

S. Ring ¹, E Elshabrawy ¹, M Kennelly ^{1,2,3}, T. Drew ^{1,4,5}

¹ Rotunda Hospital, Dublin. ² The Mater Hospital, Dublin. ³ UCD school of Medicine and Health Sciences, Dublin. ⁴ Beaumont Hospital, Dublin. ⁵ RCSI University of Medicine and Health Sciences, Dublin.



Introduction

- ❖ Maternal critical care presents a unique challenge when placed in a standalone hospital ^{1,2}
- ❖ The Rotunda in the **oldest functioning maternity hospital in the world**; with 8,442 deliveries and 3,700 gynaecology cases in 2023
- ❖ The Rotunda High Dependency Unit (HDU) : specialised facility on the gynaecology ward
- ❖ Operating at a **Level 2** critical care unit
- ❖ A huge increase in **clinical complexity** in the Rotunda and HDU admissions over recent years
- ❖ The aim of this audit was to review high dependency unit activity in 2023

Methods

- ❖ A review of HDU activity in 2023; through use of manual and electronic records of admission
- ❖ A total of **353 patients** were admitted
- ❖ All admissions were included; both obstetric (**325**) and gynaecological (**28**)
- ❖ We recorded HDU admissions along with primary diagnosis, re-admission rates, invasive line requirements, inter-hospital transfers and HDU occupancy rates

Results

	2018	2019	2020	2021	2022	2023
Obstetrics	199	258	249	272	288	325
Gynaecology	1	11	4	13	15	28
Total	200	269	253	285	303	353

Table 1: Number of HDU admissions by specialty

Results

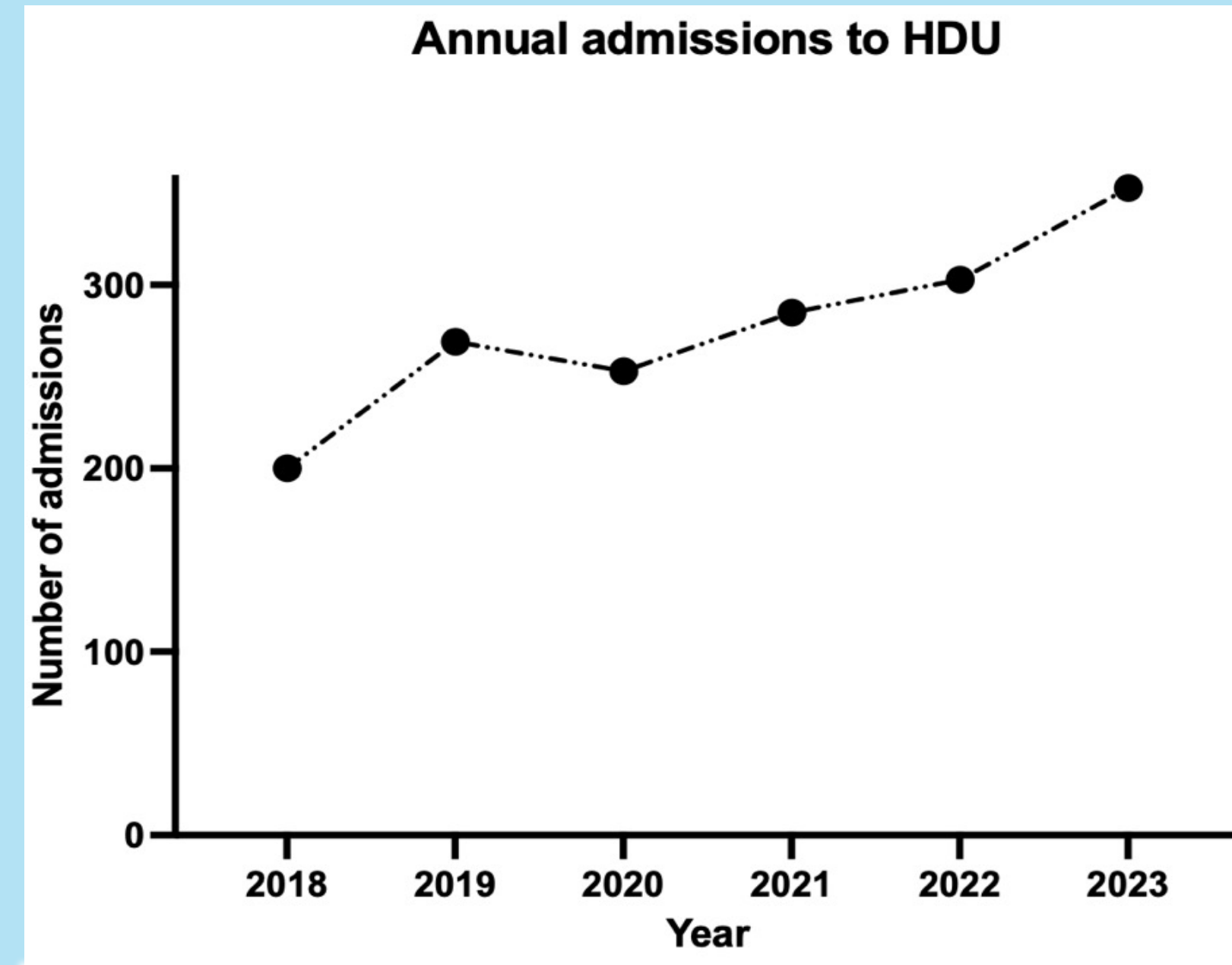


Figure 1: Number of annual HDU admissions

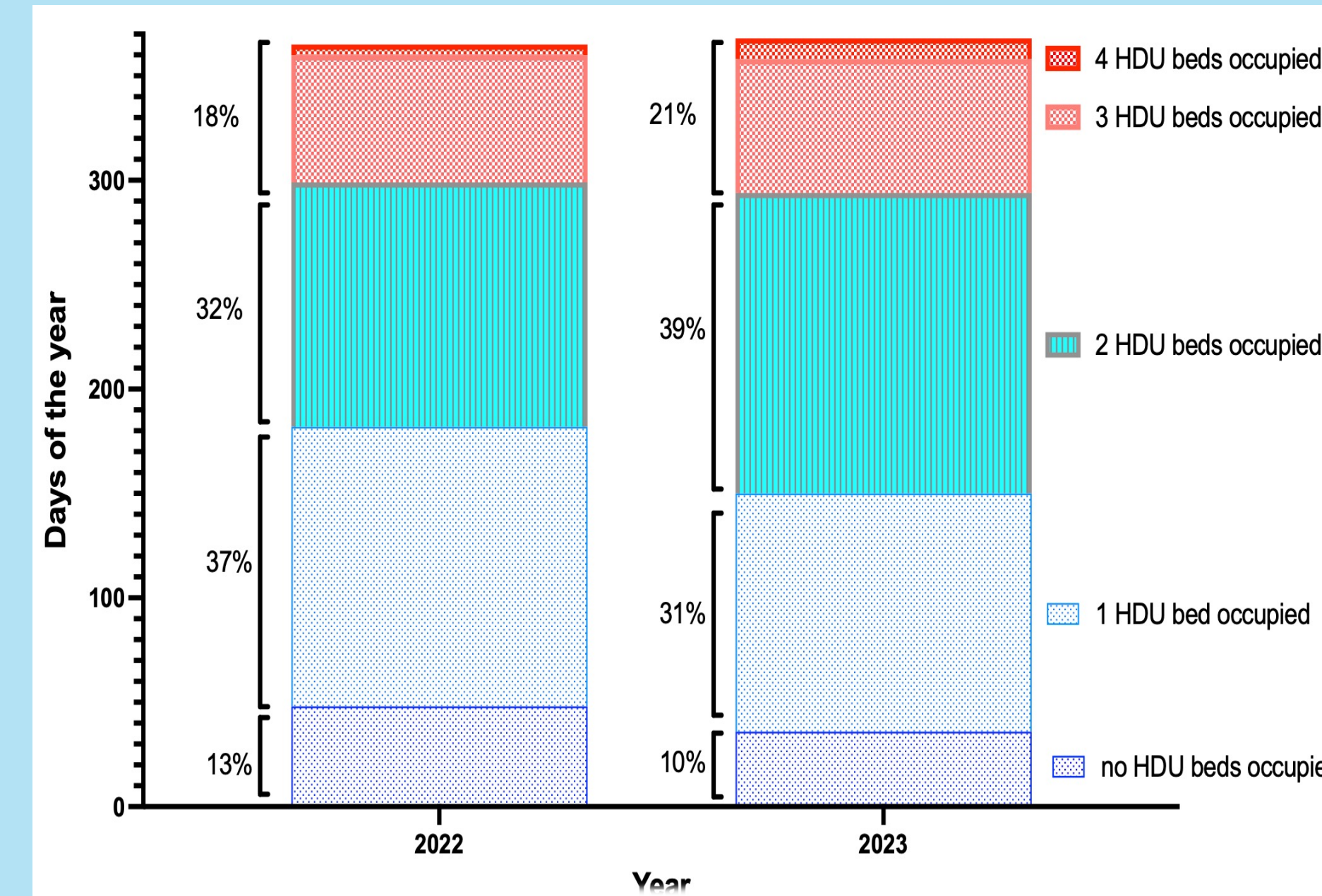


Figure 2: HDU bed occupancy 2022 vs 2023

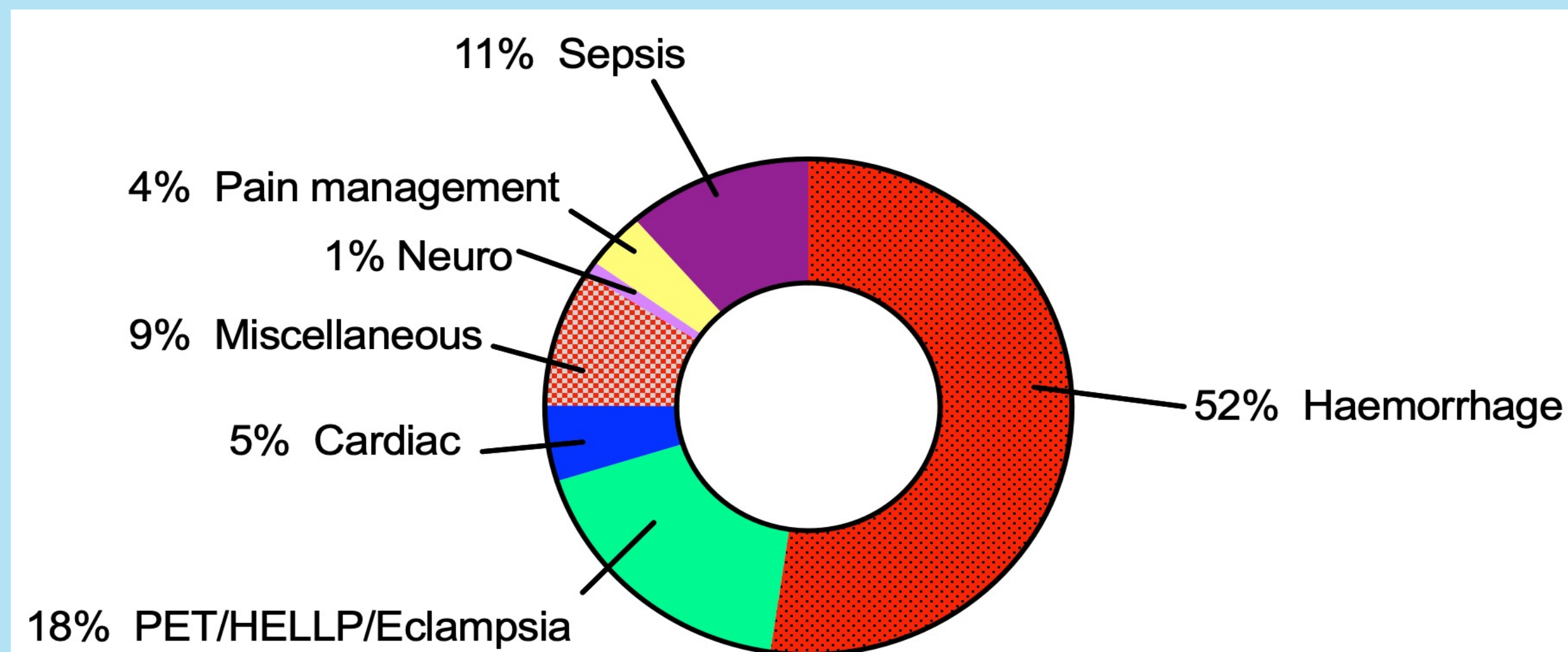


Figure 3: Obstetric HDU admissions by primary reason for admission

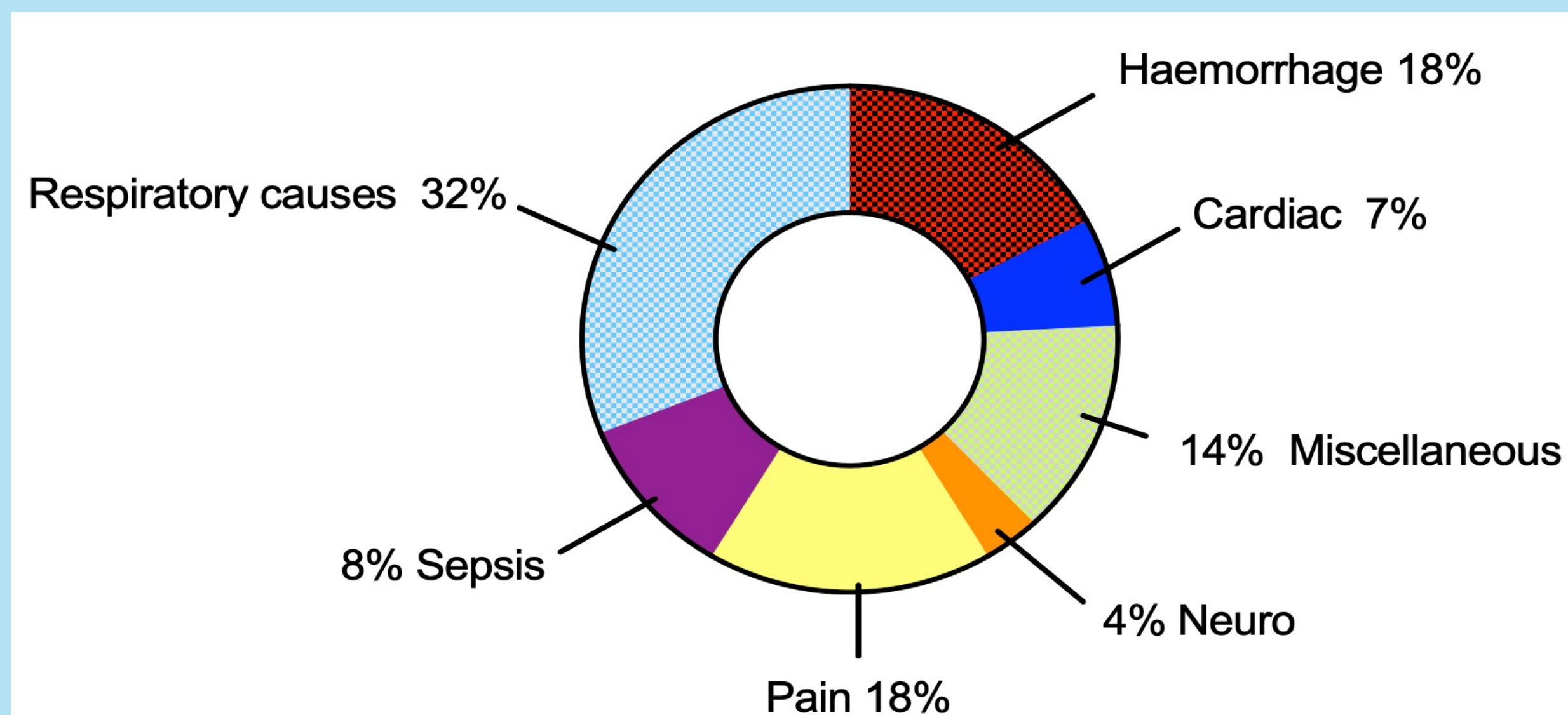


Figure 4: Gynaecology HDU admissions by primary reason for admission

Results

Characteristics of women admitted to HDU	N= 353
BMI (mean [range])	27.5 [15.6-47.5]
Age (mean [range])	34.5 [18-69]
Length of stay, days (mean [range])	1.8 [1-6]
Arterial lines (n[%])	82 [23%]
Central venous lines (n[%])	8 [2%]
Supplemental oxygen therapy (n [%])	134 [38%]
Post caesarean hysterectomy (n [%])	7 [1.9%]
Transfer for diagnostic investigation/surgical intervention (n[%])	5 [1.5%]
Transfer for higher level (level 3) ICU or specialist surgical care (n[%])	14 [4 %]

Table: 2 Characteristics of women admitted to the Rotunda HDU in 2023

Discussion

- ❖ Admission rates **increased by 76% since 2018**; surpassing capacity
- ❖ HDU requirements are increasing annually (**15-20%**)
- ❖ To cope with demand HDU level care is often delivered in adjacent gynaecology rooms
- ❖ Growing reliance on advanced diagnostics; leading to increased transfer
- ❖ Development of an **interhospital transfer protocol**
- ❖ Tailored critical care nursing course developed and conducted twice in 2023 with 26 participants
- ❖ HDU requirements are predicted to continue to rise

References

- Guidelines for the Critically Ill Woman in Obstetrics Obstetric & Gynaecology, Anaesthetic and Critical Programmes Clinical Strategy & Programmes Division Health Service Executive.; 2014. Accessed November 20, 2024.
- Confidential Enquiries into Maternal Deaths in the United Kingdom. Saving Mothers' Lives; Reviewing maternal deaths to make motherhood safer 2006-2008. BJOG 2011;118, pp. 2006–2008.