

One-Year Retrospective Evaluation of Blood Administration Practices within LifeFlight Medicine

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BACKGROUND

- LFM delivers critical care across Queensland by rotary-wing, fixed-wing and road responses,
- LFM has carried packed red blood cells (PRBC) since 2016

METHOD

- All 2024 missions with PRBC administration by an LFM doctor recorded
- Physical review of every chart uploaded to Air Maestro where blood was given
- 141 missions excluded from the non-transfused cohort for incomplete data

OBJECTIVE

Define and compare the incidence, demographics, tasking characteristics and clinical features of PRBC administration within LFM during the 2024 calendar year.



PRBC use was infrequent but essential

7,791
missions flown

226
missions with PRBC (2.9%)

492
units transfused, 3% wastage

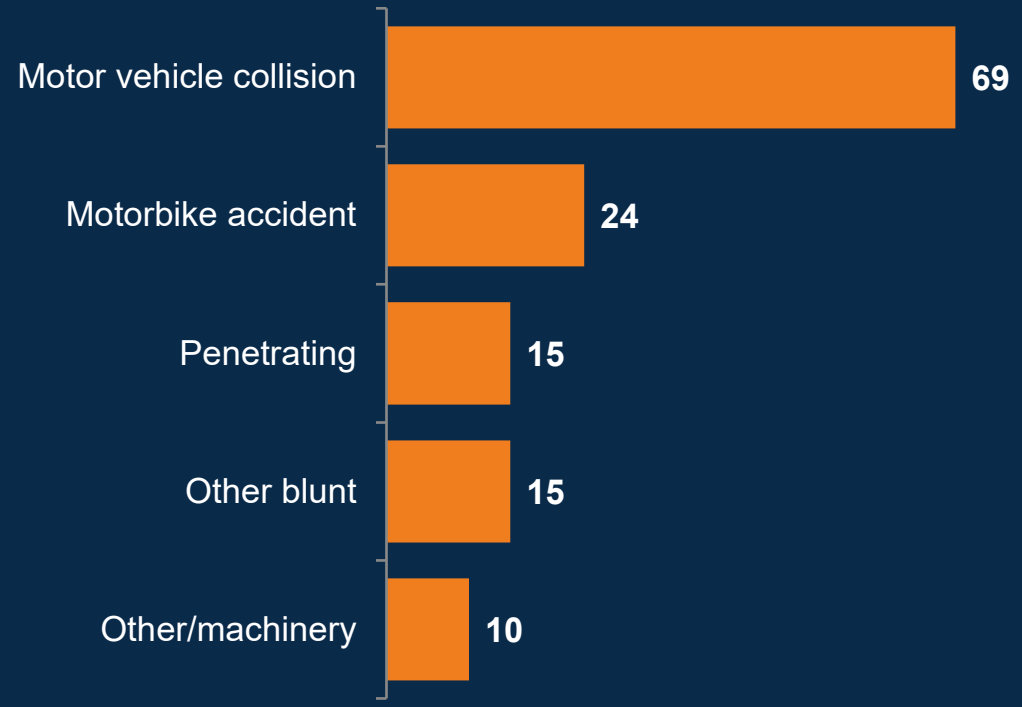
59%
of transfusions were for trauma

- 100 primary missions (7.6% of all primary taskings) and 126 IFT missions (1.9% of all IFTs)
- Rotary-wing and road-based platforms had the highest transfusion incidence (3.6% and 5.9%)
- Gradual increase in PRBC use year on year since 2021

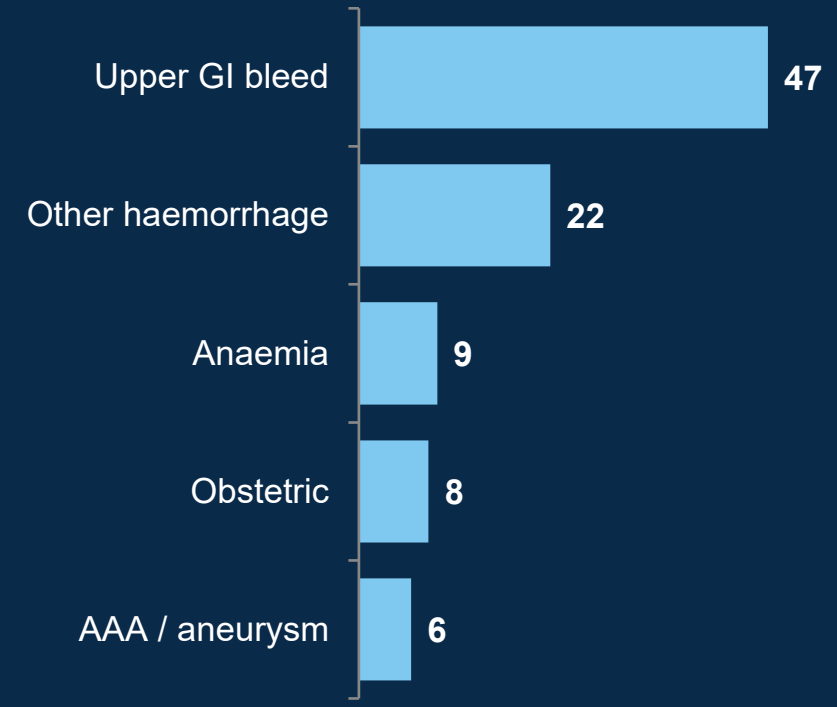
Indications and mechanisms

133 (59%) TRAUMA | 93 (41%) MEDICAL / SURGICAL

Trauma (n=133)



Medical / surgical (n=93)



Demographics and O-negative stock

No significant age difference between matched transfused and non-transfused patients, in either IFT or primary missions (all p>0.05).

Cohort	Transfused	Non-transfused
IFT male	57 ± 18 (n=84)	54 ± 22 (n=3,778)
IFT female	52 ± 22 (n=42)	50 ± 23 (n=2,429)
Primary male	44 ± 20 (n=77)	45 ± 21 (n=823)
Primary female	41 ± 20 (n=21)	45 ± 23 (n=398)

Is 2 units of O-negative enough for primary taskings?

4

of 1,311 primary missions

gave >2 units to a female under 50 years — 0.3% of primary missions, or 1 in 1,948 of all missions flown.

Adjunct Therapy Compliance

Tranexamic acid (overall) 83%



IFT 80% | Primary 89%

Calcium chloride (overall) 85%



IFT 84% | Primary 88%

Warming blood 81%



Compliance was stable across the review period.

SUMMARY

- PRBC administration within LFM is infrequent but essential — 2.9% of missions, 492 units, 3% wastage
- About 60% of transfusions are for primary trauma; rotary-wing and road platforms had the highest incidence
- No significant age differences between matched transfused and non-transfused patients
- Only 0.3% of primary missions needed more than 2 units of O-negative in a female under 50 years
- Compliance with adjunct therapies was stable: TXA 83%, calcium chloride 85%, blood warming 81%

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Emergency Medicine Foundation