The epidemiology of aeromedical retrievals for trauma in Queensland: The Emergency Medicine Foundation gathers basic statistics to support research

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Background:

Fixed wing and rotary wing aeromedical retrievals play a vital role in trauma response in rural and remote regions. EMF has committed >$250,000 towards aeromedical retrievals research. (An example, is research by A/Prof Richard Franklin below.)

Objective:

This analysis of publicly available data describes trauma retrievals. The aim of this poster is to raise awareness of work EMF is doing in this area.

Methods:

Publicly available data from Retrieval Services Queensland was obtained covering July 1, 2015-June 30, 2016. "Illness assessment" was used to categorise aeromedical retrievals for trauma ("trauma", "fracture fixation", "MAX/FAX" spinal injuries, plastics, and "burns"), vs other retrievals. Chi-square tests comparing retrieval types were performed using SPSSv23.0. Hospital and Health Service (HHS) populations projected for 2016 were sourced from Queensland Government.

Conclusions:

Approximately seven aeromedical trauma retrievals occur in Queensland daily. Trauma retrievals are more often critical in nature, performed by rotary wing aircraft, and for male patients. A disproportionate burden of trauma retrievals occurs in some very sparsely populated regions.

Results:

13,355 retrievals

72% fixed-wing

28% rotary

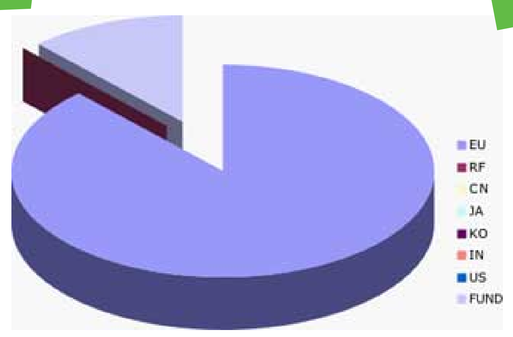

Figure 1: 12% retrievals were trauma

Trauma retrievals had a higher mortality^ (2.7% vs 0.5%) & constituted 41% of all deaths (O.R. = 5.1 (3.7 – 7.0))

^Survival data was incomplete

Figure 2.: Trauma retrievals were significantly different from other retrievals (p<.001):

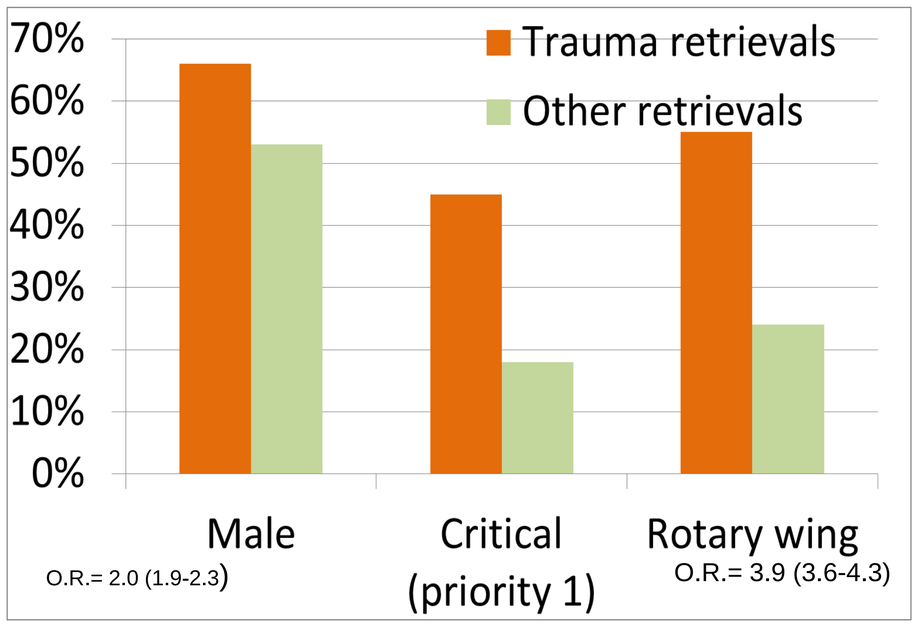

Table 1: Although the Brisbane area received most trauma retrievals, the remote areas of Torres and NorthWest Queensland received eight times the expected number.

Hospital & Health Service District	# Traumas Received
Metro North	320
Darling Downs	280
Townsville	265
Metro South	243
Cairns and Hinterland	227
Central Queensland	161
Children's Health Queensland	137
North West	128
Wide Bay	117
Mackay	115
Sunshine Coast	103
Torres and Cape	39
South West	29
Gold Coast	27
Central West	5
West Moreton	3

Looking to the future: expanding EMF through national collaboration

The future

EMF is committed long-term to improving emergency medicine research capacity in all Queensland hospitals as well as building multisite and multidisciplinary collaborations. To achieve this, the organisation has implemented a State-wide Research Support Network (RSN), which is also plans to expand nationally. To continue running the RSN and to expand it, EMF must secure further State-based and Commonwealth funding. The RSN expansion could involve a national retrieval hub. A national program would also underpin an increase in emergency medicine research capability and capacity; coordination of data collection for multisite, national research projects; and reduce duplication of effort and impact on project deliverables and timeframes.

Emergency Medicine Foundation