A REVIEW OF HIGH FLOW NASAL OXYGEN DURING AEROMEDICAL RETRIEVAL BY LIFEFLIGHT

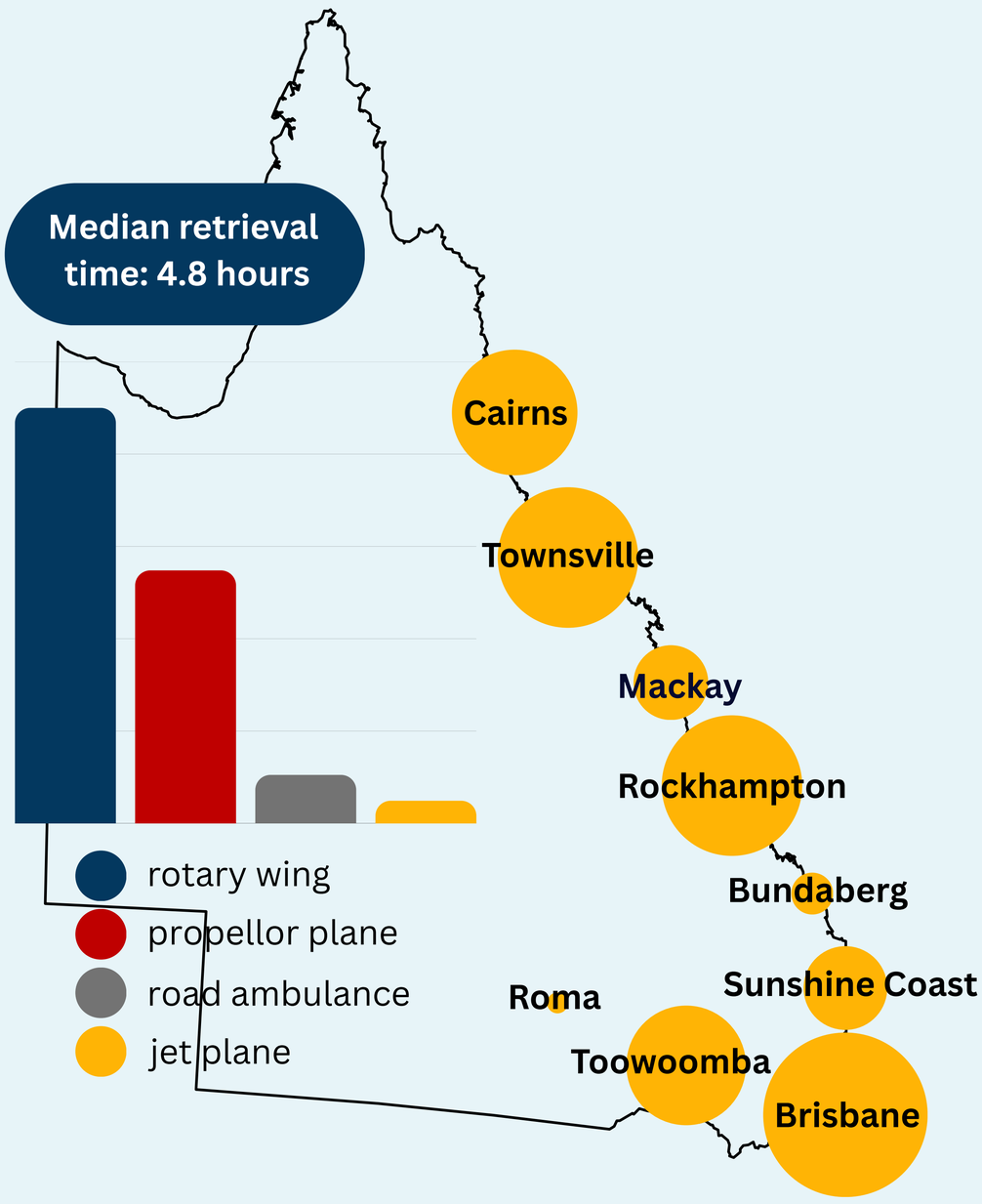
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BACKGROUND

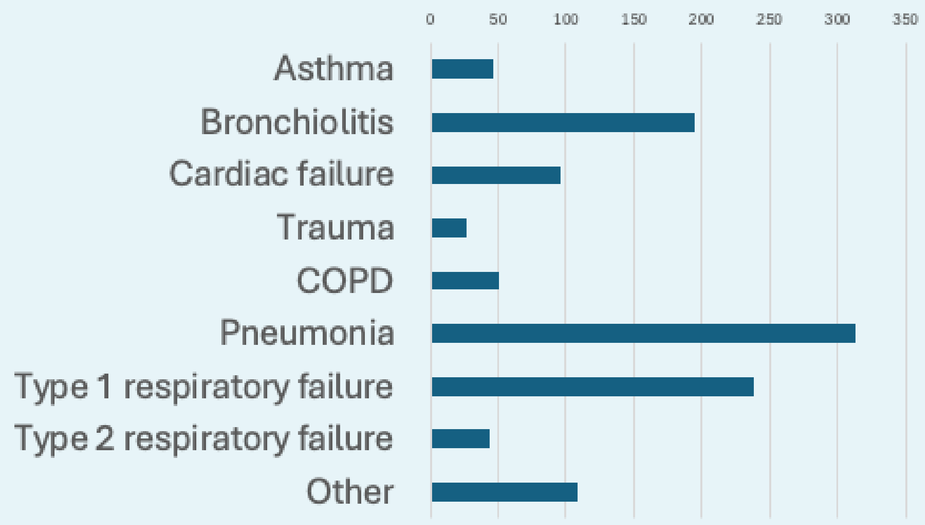
LifeFlight is an aeromedical retrieval service based in Queensland, Australia, with over 8000 missions a year on a variety of retrieval platforms including helicopter, fixed wing aircraft and road ambulance.
Although high flow nasal oxygen (HFNO) is now ubiquitous across Emergency Departments and critical care settings, its pre-hospital use is still largely limited. This paper reviews the use of HFNO in the retrieval setting, informing current practice models, demonstrating feasibility, and facilitating future care provision planning.

METHODS

A review of de-identified electronic records of patients who received HFNO during their retrieval between 2018-2025 was conducted. 1,607 patients were included, investigating operational and clinical characteristics.



Distribution of bases across Queensland with circle size representing proportion of retrievals.

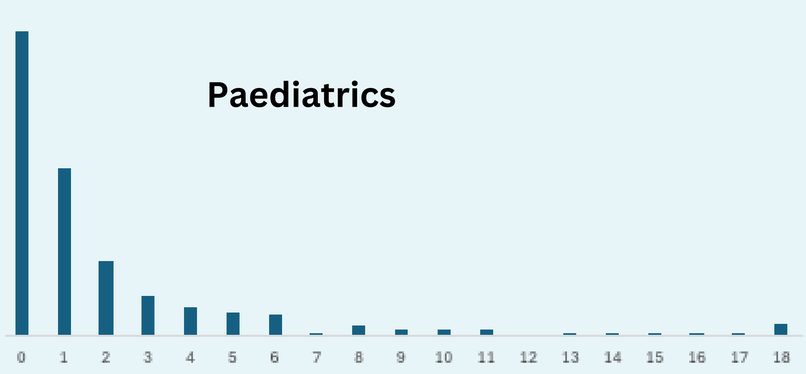


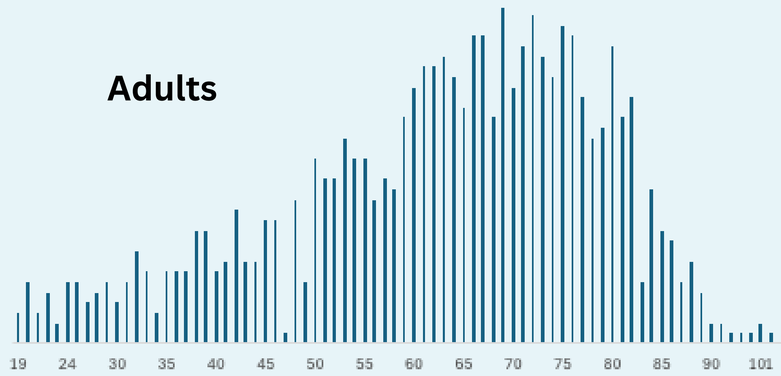
Clinical indications for oxygenation and retrieval



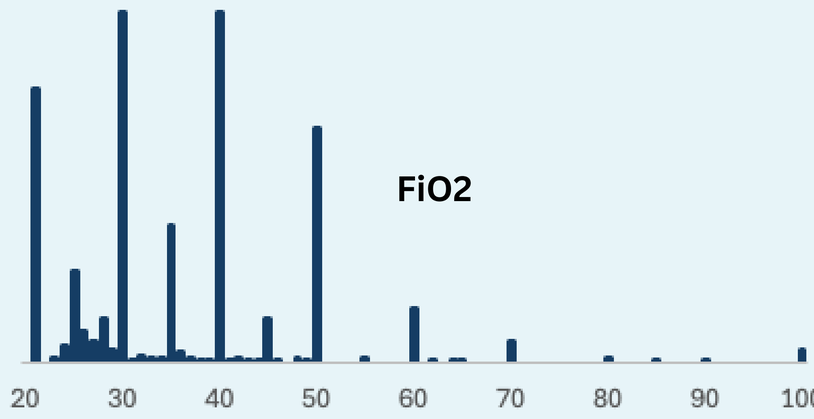


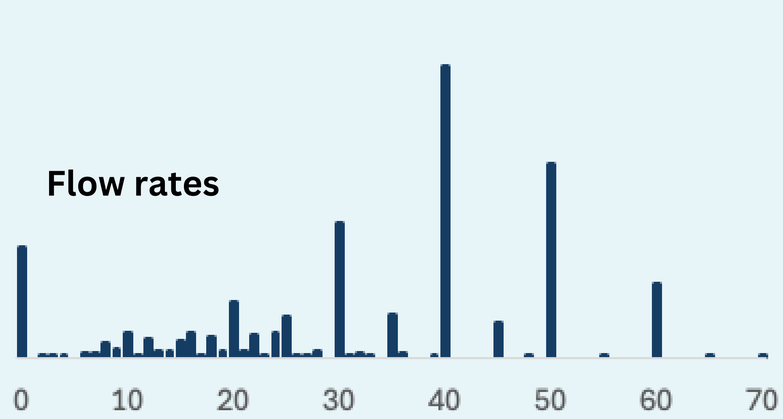
Fisher & Paykel 950 humidifier is used. It uses a Hamilton T1 as a source, and is compatible with adult and neonatal circuits.





A bimodal distribution of ages is seen - in very young children and older adults.





HFNO flow rates and FiO2 at end of retrieval. These are similar to those found in critical care settings. 85% of patients on HFNO during the retrieval were already on HFNO at the time of retrieval team arrival. 90% continued on HFNO for the duration of their retrieval. 7% down-titrated to low flow nasal cannula, 4% required escalation to NIV, and 1% required intubation.

CONCLUSION

HFNO has been part of standard clinical care provided by LifeFlight clinicians over the last 8 years. It is a feasible, safe, and effective means of providing enhanced respiratory support in the pre-hospital and retrieval setting. Future research will focus on granular clinical decision making and clinical characteristics during the duration of the patient transfer.

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