

Bridging the Gap: Delivering a PPCI pathway for patients on the Isle of Man

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ST-segment elevation myocardial infarction (STEMI) is one of the leading causes of death in the UK. The cornerstone of treatment is emergency reperfusion therapy and preferably primary percutaneous coronary intervention (PPCI).

Despite a nationwide increase in Cardiology centres providing 24/7 care some patients are denied access due to geographical constraints. These patients have been treated by thrombolysis historically.

Our aim is to evaluate the safety and efficacy of a primary percutaneous coronary intervention (PPCI) pathway at Liverpool heart & Chest Hospital (LHCH) for STEMI patients on the Isle of Man (IOM) which lies 146km from the English mainland.

OBJECTIVES

1. To evaluate the safety of air ambulance transfers of STEMI patients from the IOM to LHCH for PPCI
2. To evaluate the effect on patients' outcomes and staff working patterns
3. To work collaboratively to deliver an appropriate reperfusion strategy for IOM patients

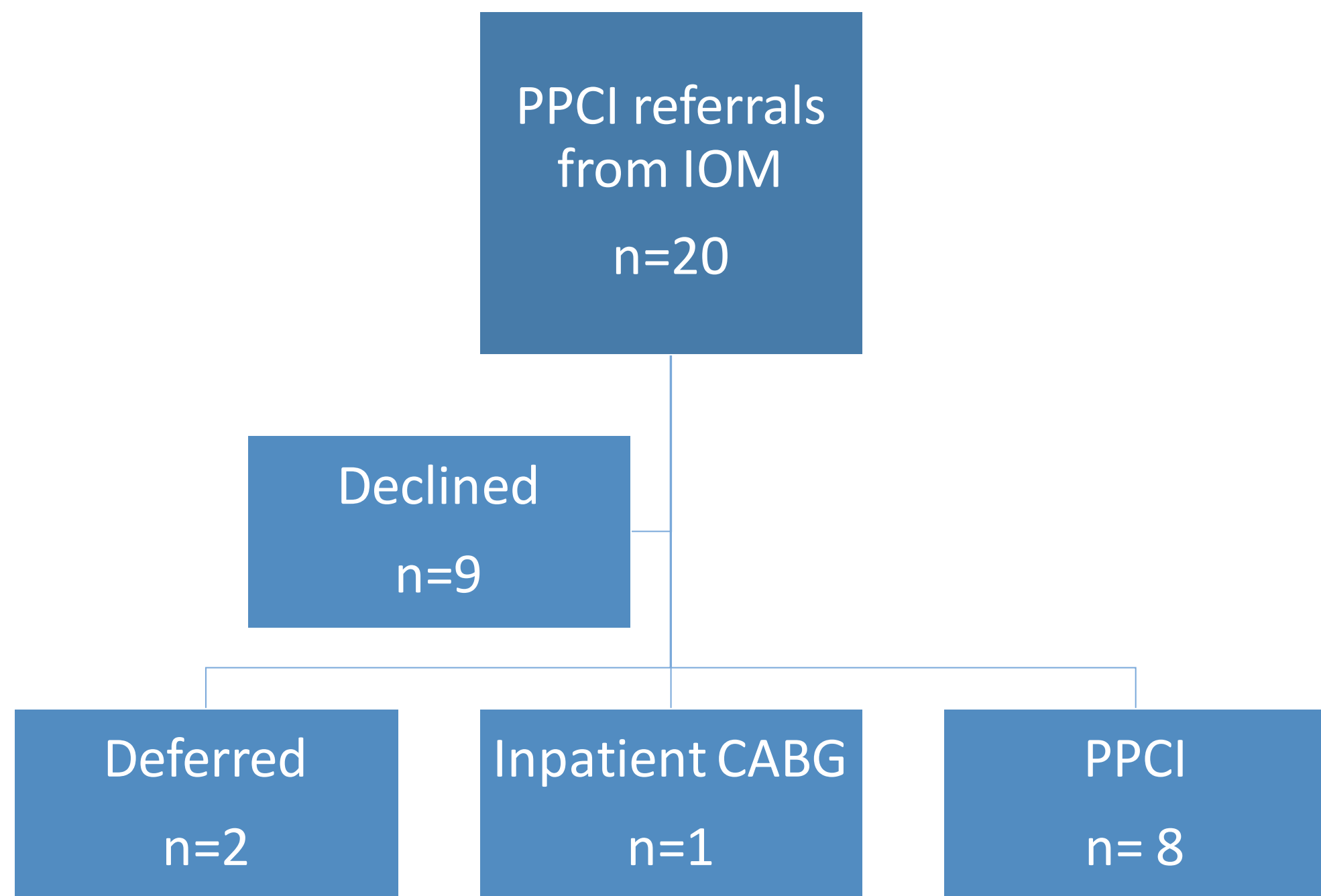
METHODS

We collaboratively designed a service improvement project to deliver a PPCI pathway for IOM patients. After discussion with Manx Care, IOM Air Ambulance and LHCH

All suspected STEMI patients presenting to emergency services in IOM within 12 hours over an 11-month period were included. Patients were remotely evaluated and transferred via air ambulance for consideration of PPCI where appropriate,

Retrospect data collection was used to identify call to balloon, transfer times and clinical outcomes.

Feedback from Air ambulance crews, stakeholders and patients was used to evaluate the performance of the service.



	PPCI patients
Number	11
Age (median)	57 years old
Admission length (median)	3 days
Call to balloon time (mean)	213 minutes
STEMI confirmed on arrival	8 (72.7%)

RESULTS

In total 20 patients were referred for consideration of PPCI. A further 11 patients median age 57 years old (Interquartile range 51.5 – 64.5 years) were accepted and successfully transferred to LHCH. Subsequently eight patients were taken directly to the lab and were treated with PPCI.

However, all eight patients failed to obtain reperfusion therapy, so called call to balloon time within the national target of 150 minutes. This was primarily due to a prolonged “door in and door out times” at Nobles Hospital IOM and unavoidable long transfer times. One patient’s transfer was delayed due to weather conditions, and they were thrombolysed with a pharmcoinvasive (PI) strategy as their ST- segment elevation and pain had resolved and underwent PCI the next day. Two patients on assessment were deemed to have an alternative diagnosis.

The mean admission length for transferred patients was 6.3 days however one patient was treated by inpatient CABG and was admitted for 24 days. The median admission length was 3 days compared to 7.5 days in thrombolysis patients. This equates to a 46.6% (over 3 day) reduction in hospital stay for STEMI patients treated with PPCI vs thrombolysis +/- PCI.

KEY INSIGHTS

Many patients arrived outside of normal working hours. This had a negative effect on working schedules, as elective/ non emergent procedures were deferred whilst awaiting patients with an unclear estimated time of arrival and added pressure on the emergency on-call team. Direct feedback from stakeholders highlighted this as a point of frustration

Despite my initial preference for PPCI, the preliminary data, feedback from stake holders and team meetings identified a clear preference for pharmcoinvasive strategy.

CONCLUSIONS

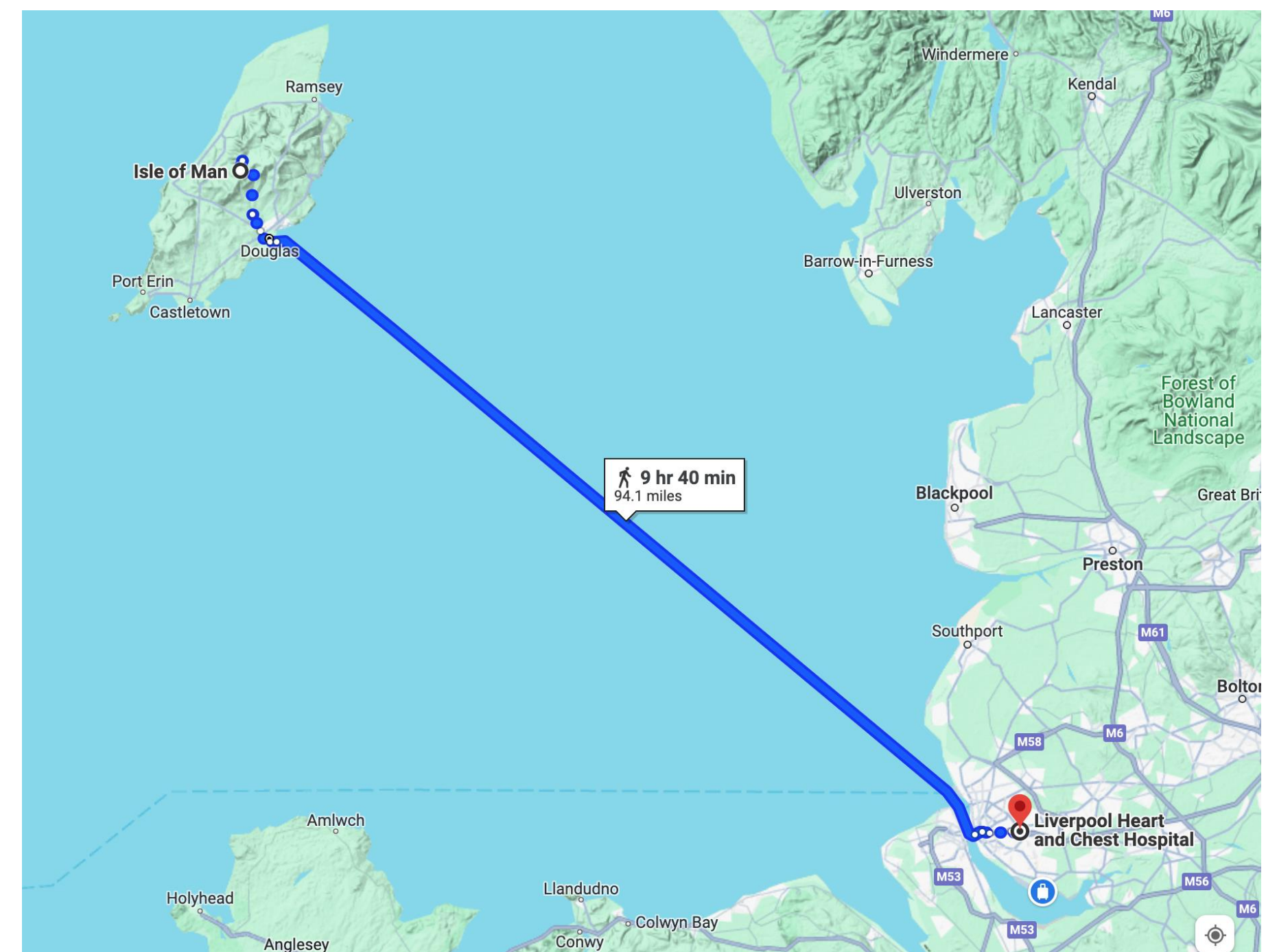
Patients with STEMI presenting in the IOM can be safely transferred to LHCH as an emergency by air ambulance.

Due to the difficulties in identify and transferring patients with STEMI, IOM patients are unlikely to reach the NICE guidance of call to balloon time of 150 minutes.

As a result, we would recommend a pharmcoinvasive strategy where patients are thrombolysed and then transferred to LHCH for PCI. This was performed successfully in one patient whose transfer was delayed due to adverse weather conditions.

REFERENCES

1. Byrne RA, Rossello X, Coughlan JJ, et al. 2023 ESC Guidelines for the management of acute coronary syndromes: *Eur Heart J.* 2023;44(38):3720-3826. doi:10.1093/eurheartj/ehad191



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“a near 50% reduction in admission lengths for STEMI patients “

No Conflict of interests