

Does delayed systemic therapy affect survival after Stage IV colorectal cancer resection?

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Background

Colorectal cancer (CRC) is common in Australia, with over 15,000 cases reported yearly. Surgery and adjuvant chemotherapy remain mainstays for treatment. After surgery for stage IV colorectal cancer, recovery can delay systemic therapy. Whether this delay is associated with poorer survival remains clinically important. We aimed to examine whether failure to commence systemic therapy within 42 days of discharge was associated with subsequent overall survival, with 60- and 90-day landmarks as secondary analyses.

Methods

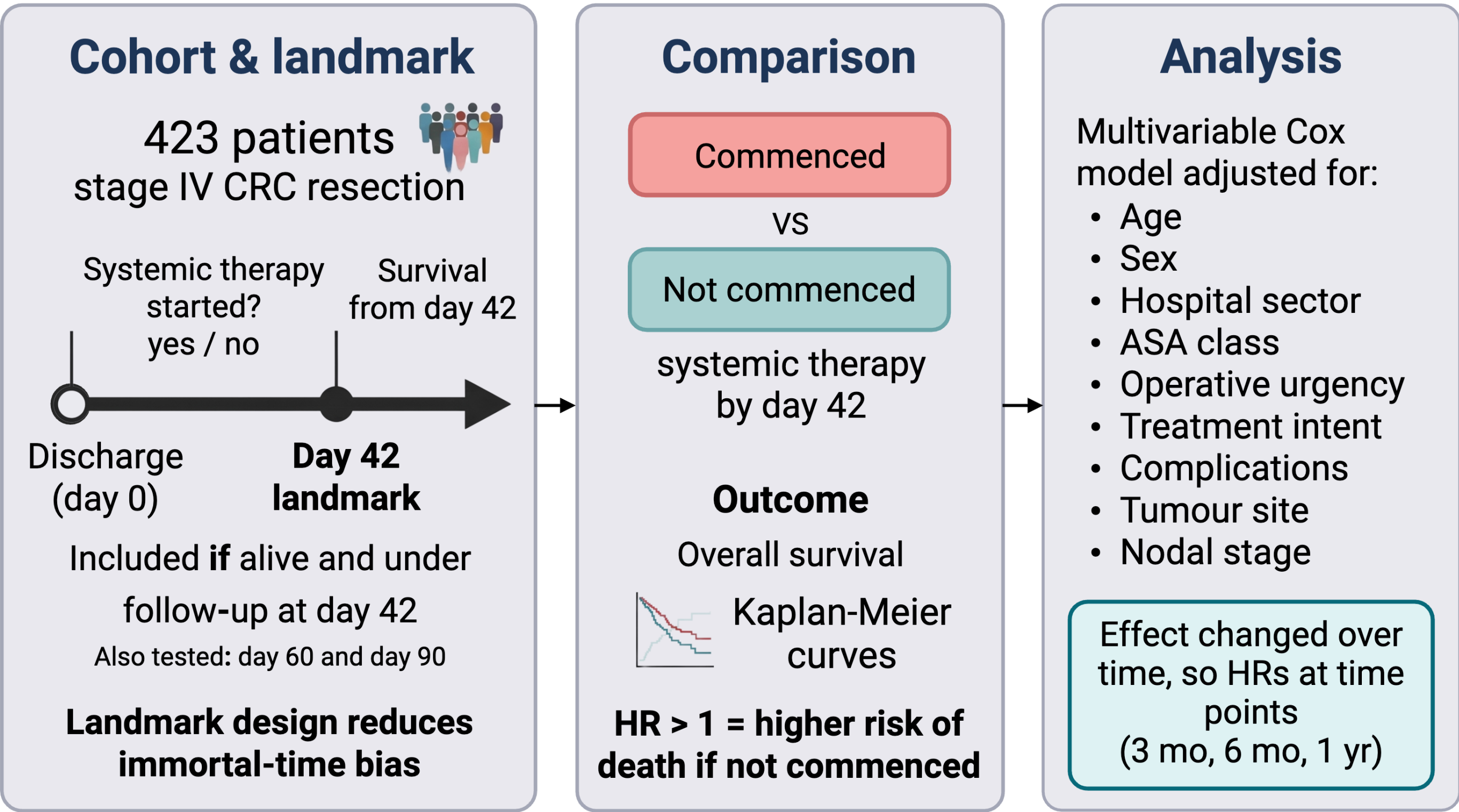


Figure 1. Overall survival from the 42-day post-discharge landmark by systemic-therapy commencement status.

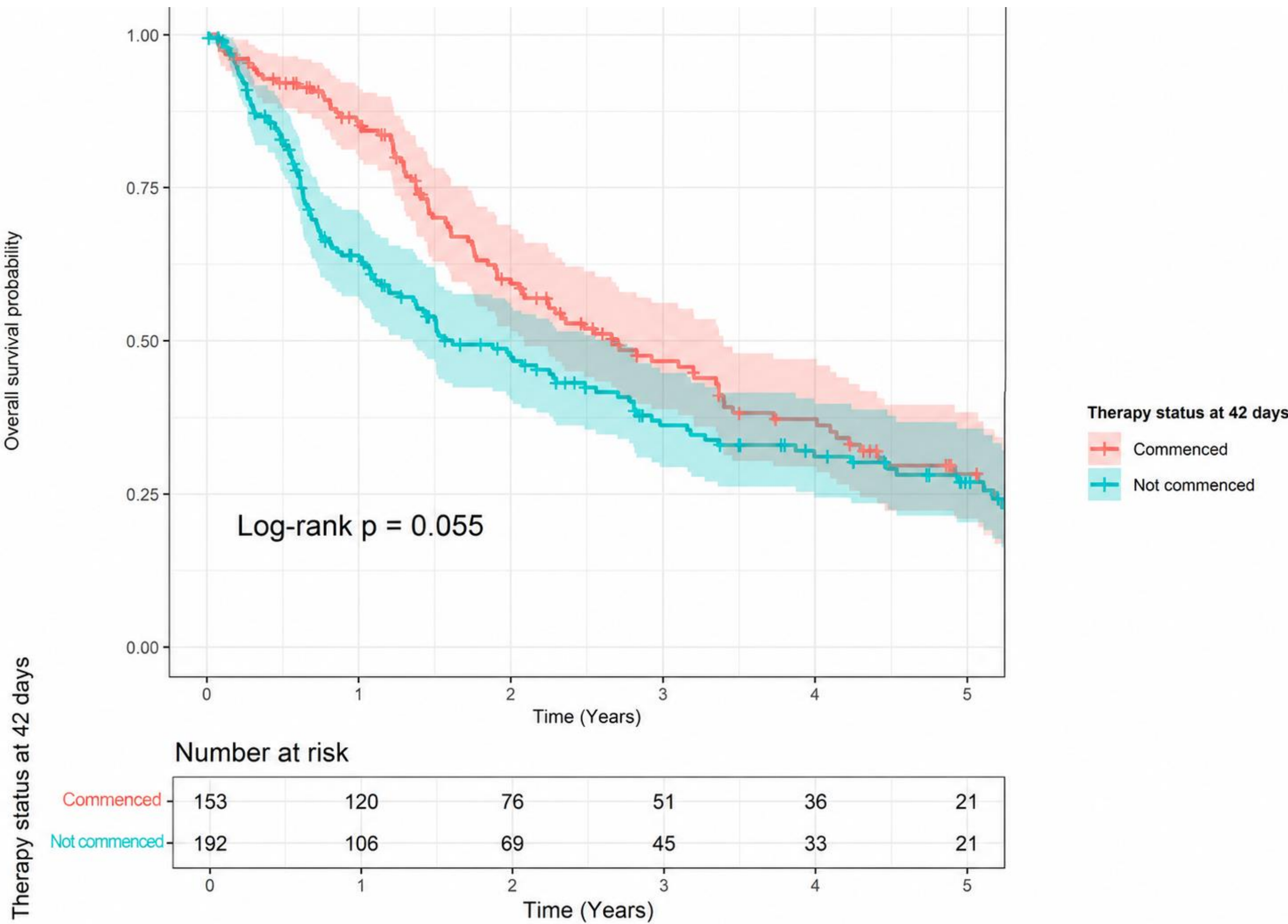
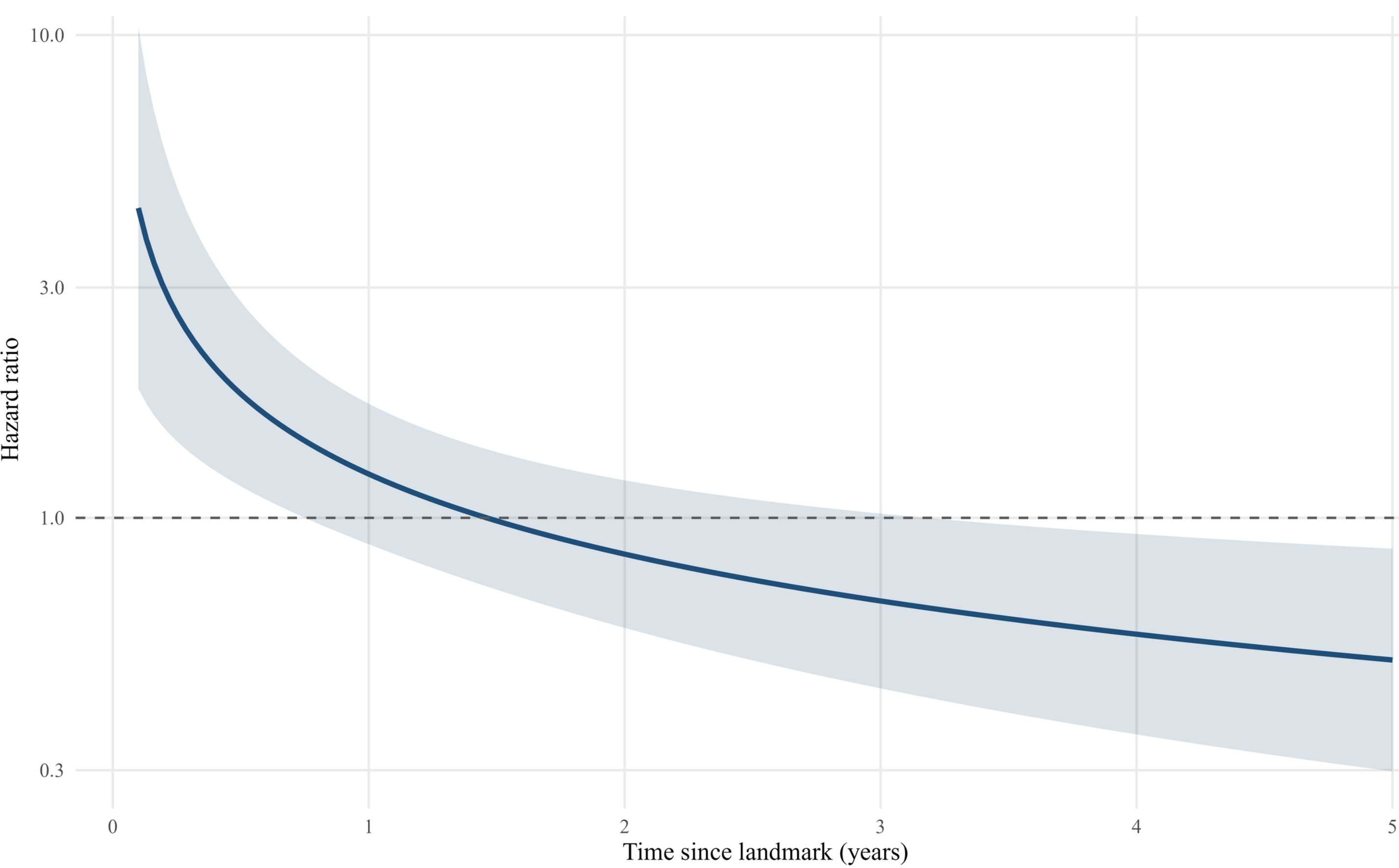


Figure 2. Time-varying association between failure to commence systemic therapy by day 42 and subsequent mortality.



Results

At day 42, 192 of 345 patients (56%) had not commenced systemic therapy; these patients were older and had higher ASA grades. Not commenced was associated with higher early mortality (adjusted HR 2.65 at 3 month; 1.81 at 6 months), attenuating by 1 year. (Figures 1-2) Secondary 60- and 90-day landmarks showed the same pattern, with stronger early associations.

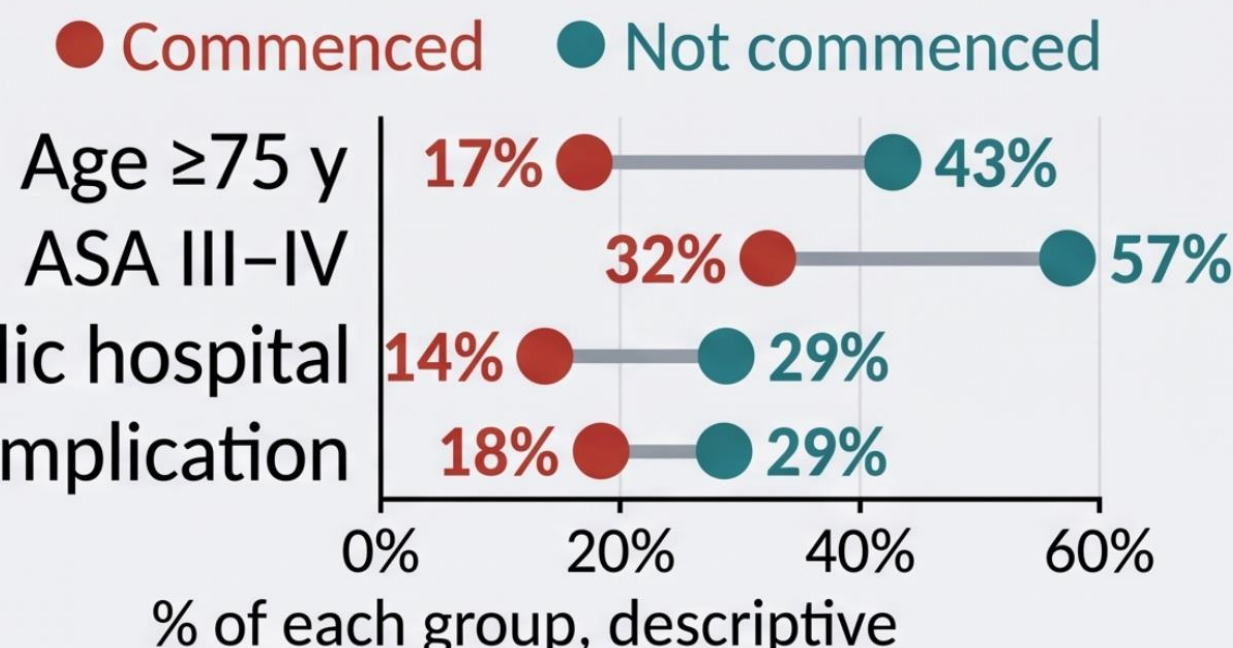
Cohort at day-42 landmark

423 resected → 345 eligible at day 42
78 died or left follow-up before day 42

153 (44%) Commenced 192 (56%) Not commenced

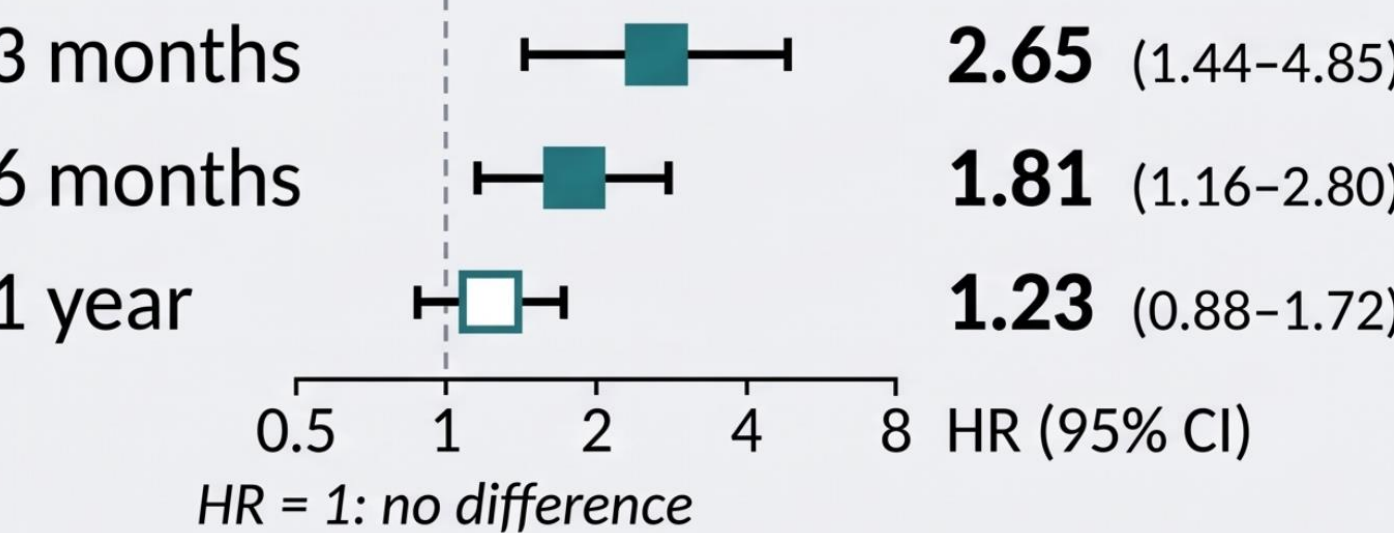
systemic therapy by day 42 after discharge

Who had not started?



Adjusted hazard of death

not commenced vs commenced, over time



1-year survival

86% Commenced 64% Not commenced

Same early pattern at later landmarks

Day 60 HR 2.51 Day 90 HR 3.73

adjusted HR at 3 months after each landmark

Conclusions

Failure to commence systemic therapy within 42 days of discharge was associated with substantially higher early mortality after resection of stage IV colorectal cancer. These findings support early postoperative recovery, timely oncology review and coordinated transition to systemic therapy, while recognising that treatment timing may also reflect complications, disease burden and patient fitness.

Acknowledgements

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Illustrations created in BioRender. Goodall, K. (2026) <https://BioRender.com/k1pkqxe>