

Intensive blood pressure management after endovascular thrombectomy and outcomes in patients with ischemic stroke: a systematic review and meta-analysis



Fundación
Santa Fe de Bogotá



INTRODUCTION

- Despite the success of EVT in AIS due to LVO, opportunities to further optimize clinical outcomes remain.
- Lowering BP after successful reperfusion could decrease cerebral hemorrhagic complications, and edema in infarcted region and reduce brain injury
- Clinical guidelines (AHA/ASA/ESO) recommend keeping BP <185/105mmHg and avoiding sBP <130mmHg.
- Observational studies found lower sBP after thrombectomy is associated with better clinical outcomes.
- Intensive control of BP following EVT was proposed as a modifiable factor that may help further optimize outcomes

OBJECTIVES

- The main objective of the study is to determine the impact of intensive blood pressure control on the clinical results of patients with AIS undergoing EVT.
- The outcomes evaluated:
 - Functional independence at 90 days (mRS score of 0-2).
 - Symptomatic intracerebral hemorrhage
 - Mortality risk at 90 days.

METHOD

- A systematic review and meta-analysis of RCTs was conducted. Search performed on PubMed, Embase, Scopus, and Cochrane Library.
- Selection criteria:** AIS with successful reperfusion (mTICI ≥ 2b)
BP levels: intensive (sBP < 140mmHg) or conventional (sBP > 140)
Outcomes included: 90-day mRS score, sICH, and 90-day mortality.
- Data extraction and quality assessment:** Two researchers screened and extracted literature
Discrepancies resolved by a third party.
Quality assessed by The Cochrane Risk of Bias Tool
- Statistical analysis:** Review Manager (v5.4).
Odds ratio (OR) and 95 % CI, $p < 0.05$ was considered significantly
Heterogeneity: I2 test and a fixed-effect model was used.

RESULTS

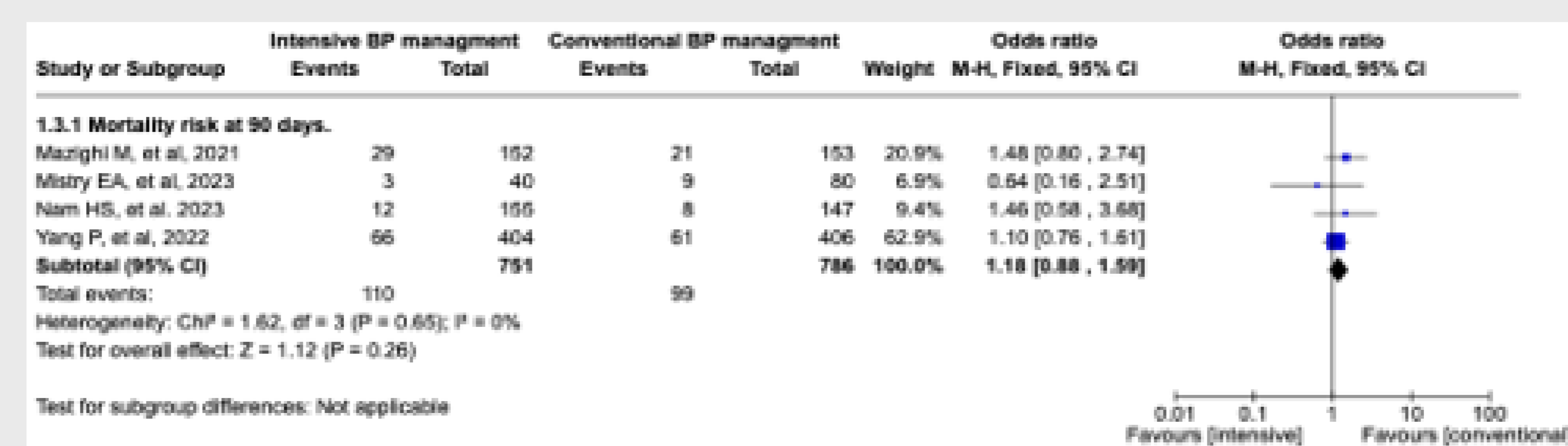
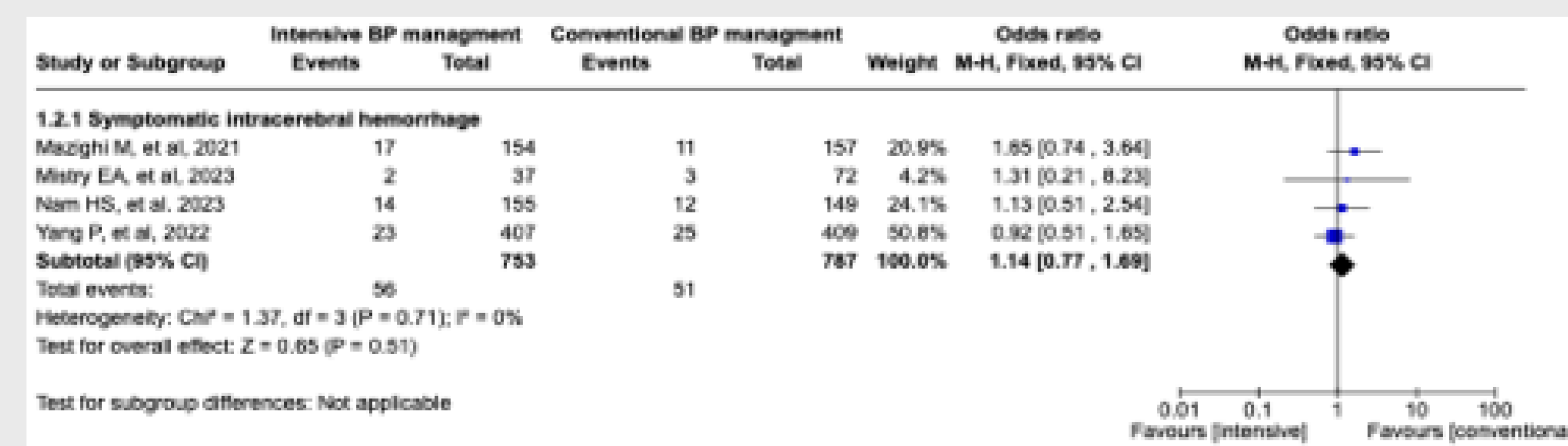
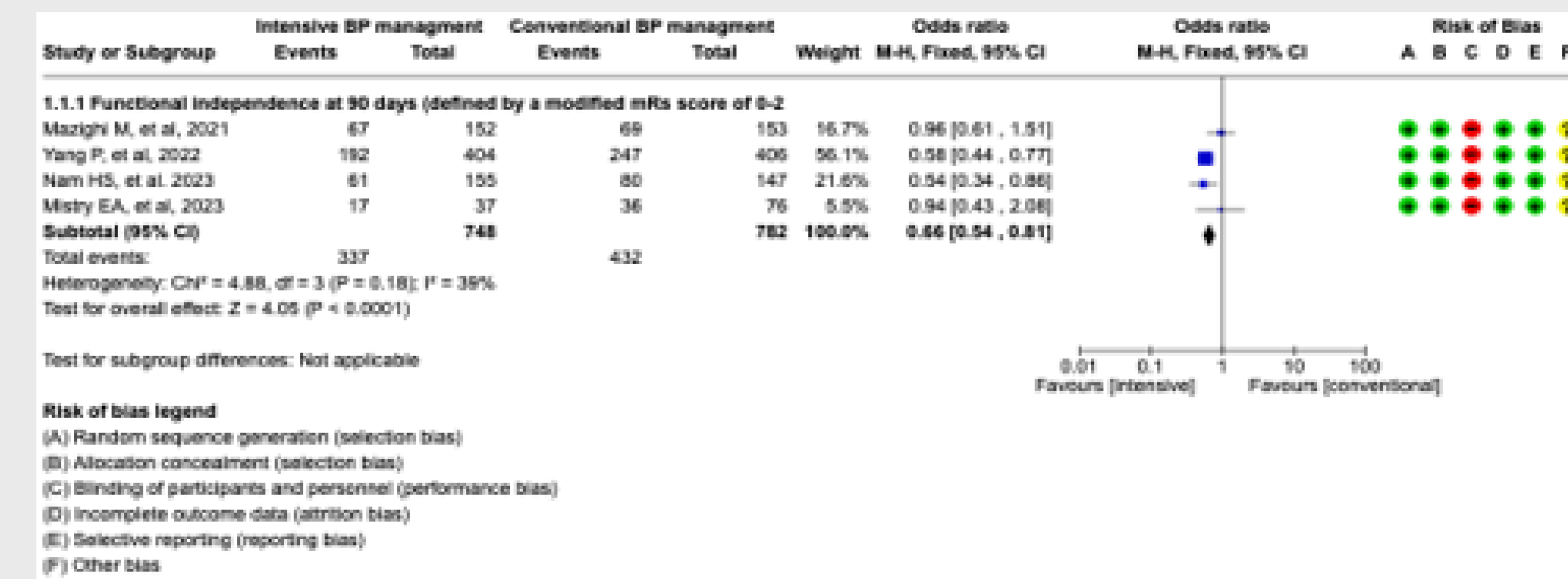
1787 studies identified

4 studies selected for analysis

Total patients: 1559

Mean age: 61 years

Mean NIHSS: 15



CONCLUSION

- These findings suggest intensive BP management for patients with AIS post successful EVT doesn't result in favorable outcomes.
- Patients in the intensive BP arm are less likely to achieve functional independence at 3 months compared to conventional BP management
- It is advised to avoid intensive BP management after successful EVT in acute ischemic stroke cases.
- However, the ideal BP level remains to be defined and it should be personalized.

ACKNOWLEDGEMENTS

Authorship team:
Dr. Diego Camilo Reyes
Dr. Miguel Gomez
Dra. Diana Patricia Perez

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- Nam HS, Kim YD, Heo J, et al. Intensive vs Conventional Blood Pressure Lowering After Endovascular Thrombectomy in Acute Ischemic Stroke: The OPTIMAL-BP Randomized Clinical Trial. *JAMA*. 2023;329(9):832-842.

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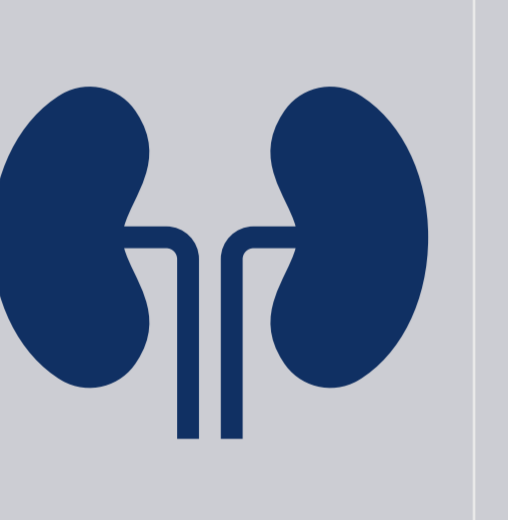
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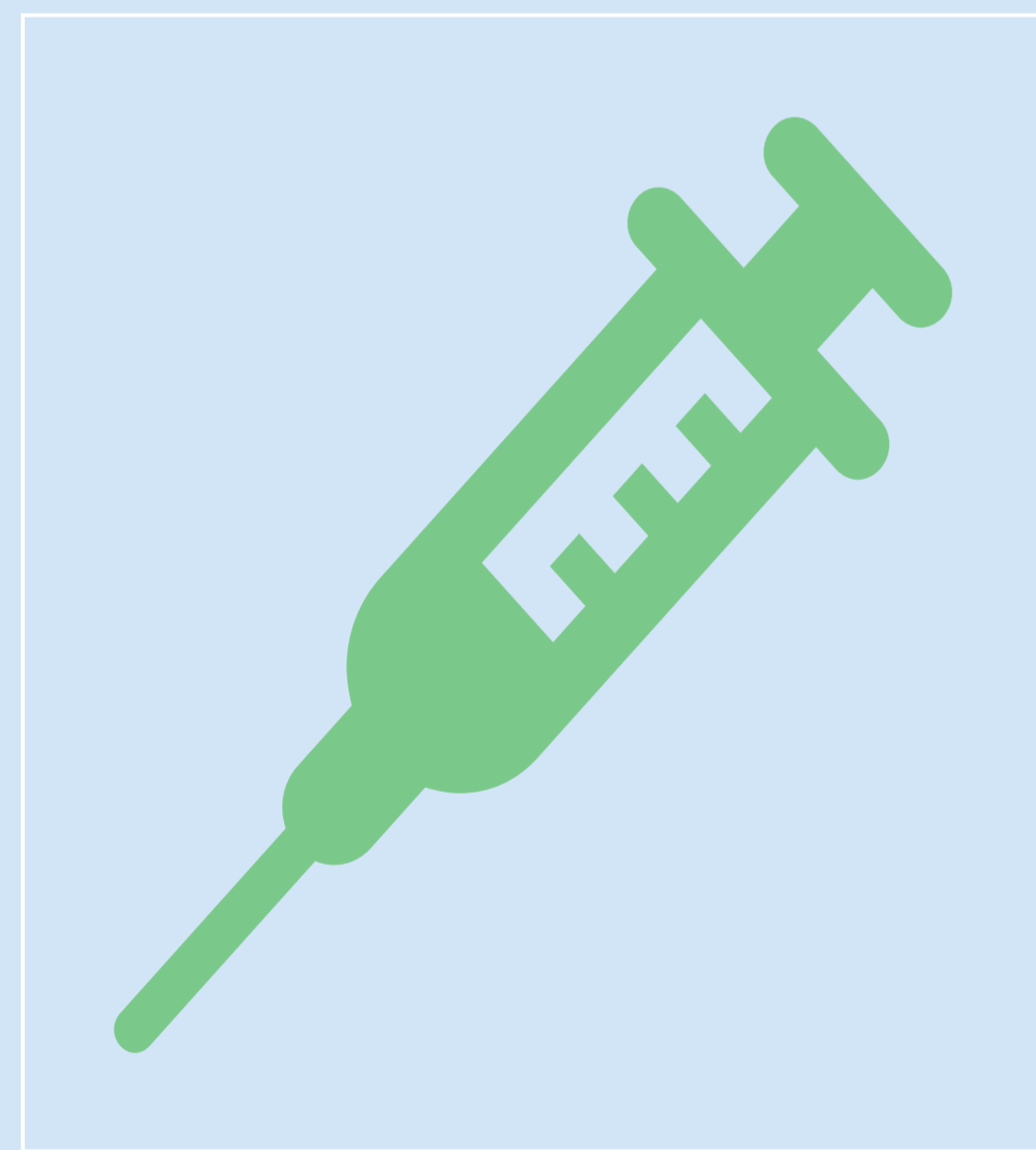
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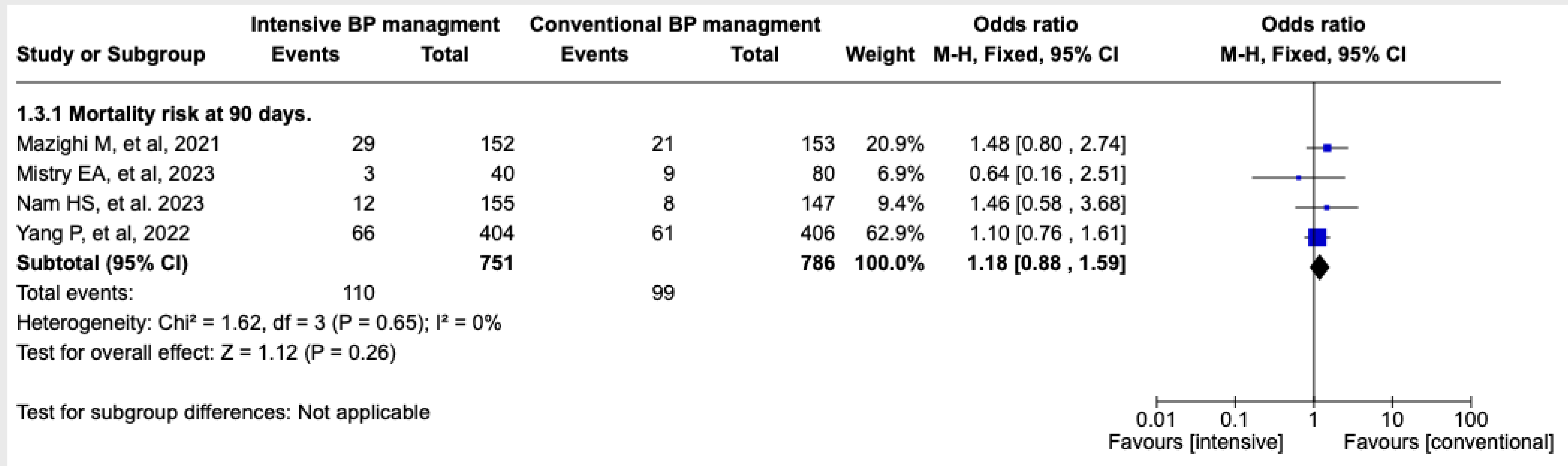
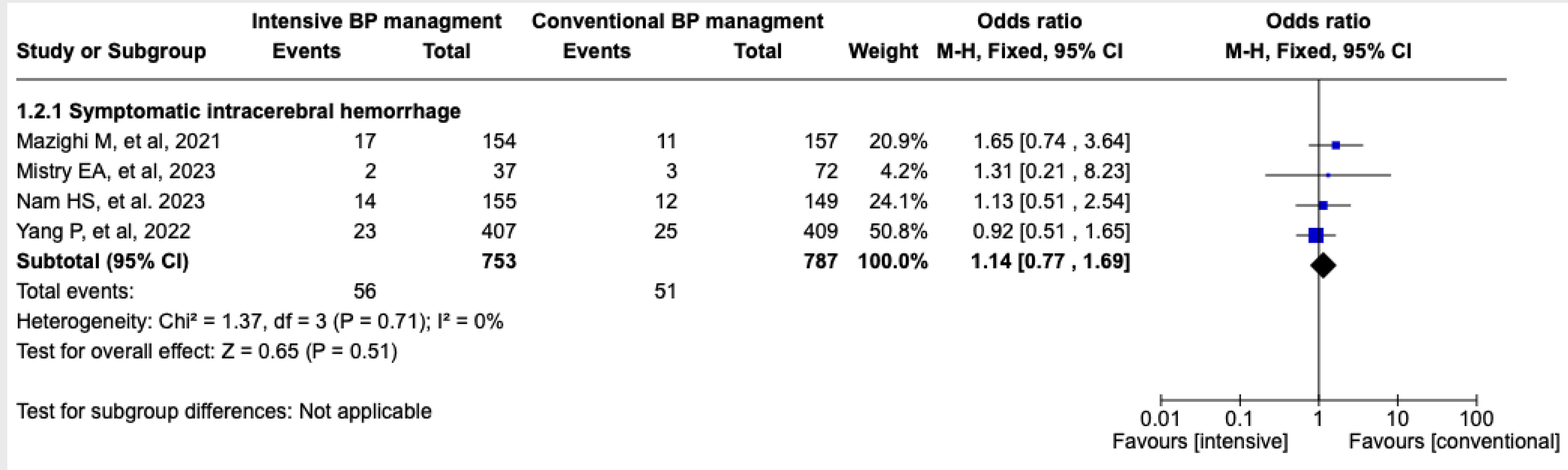
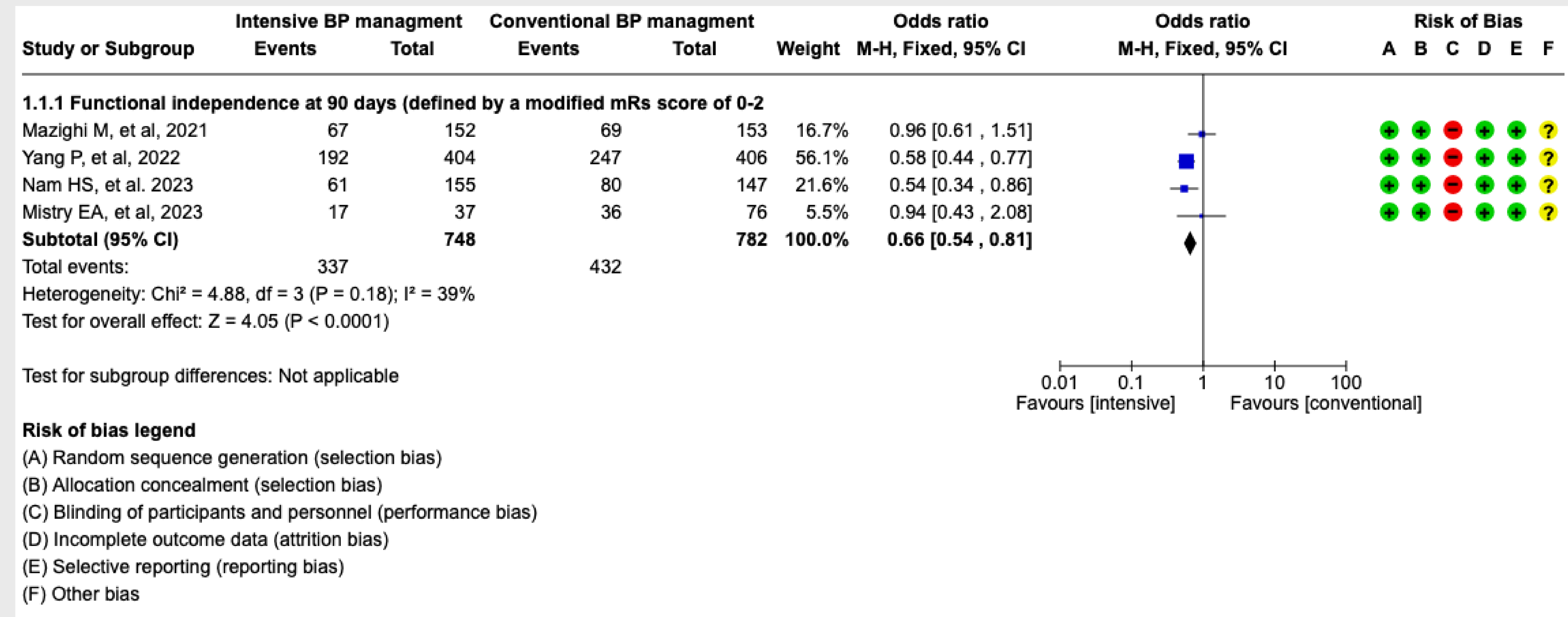
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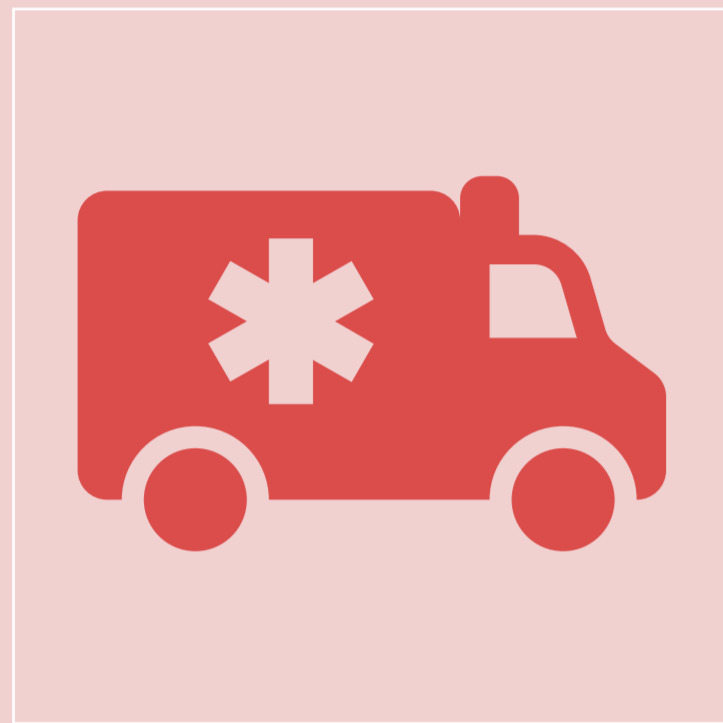
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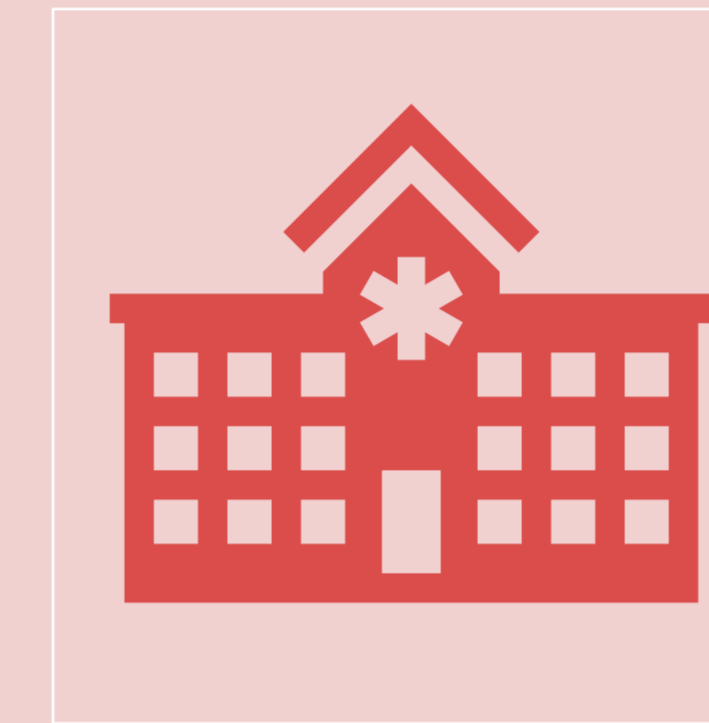
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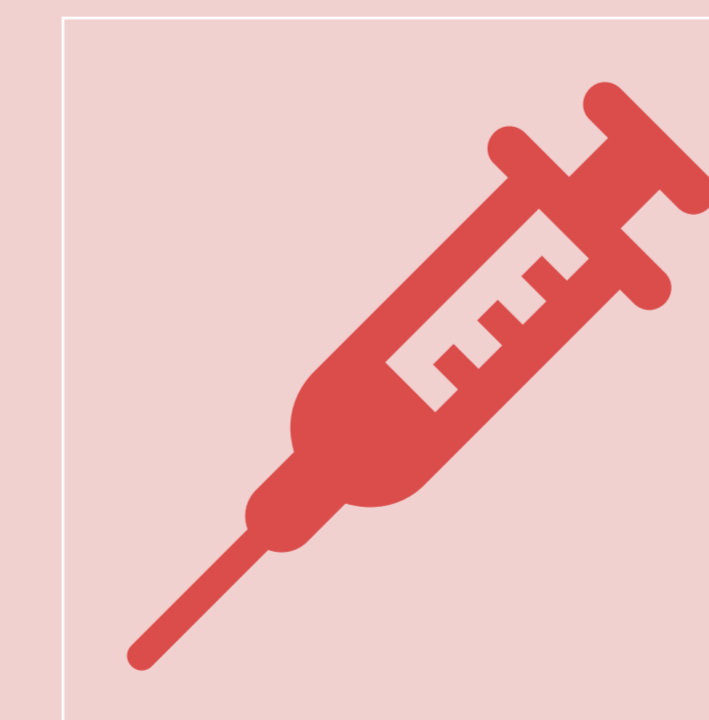
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