

# BUDGET-IMPACT OF IMPLEMENTING AN OUTPATIENT HEART FAILURE MANAGEMENT SYSTEM FOLLOWING DIAGNOSIS OF HEART FAILURE

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## OBJECTIVE

- Heart failure (HF) is a critical health condition and places a substantial burden on patients and payers.
- Facilitating an earlier discharge from hospital would reduce hospital resource use only if patient safety can be maintained.
- The remote monitoring ZOLL Heart Failure Management System (HFMS) has been shown to reduce HF-related readmissions.<sup>1</sup>
- The impact of HFMS implementation on insurance payer budgets is assessed.

## METHODS

- A nine-state Markov model was developed in Excel to simulate post-discharge care. (Figure 1)
- The model assessed one-year outcomes from the insurance payer perspective in the USA. Costs in 2022 USD (\$).
- Incidence and cost data were sourced from peer-reviewed literature via a systematic literature review. (Table 1, PROSPERO CRD42023410084)

Discharge after initial diagnosis

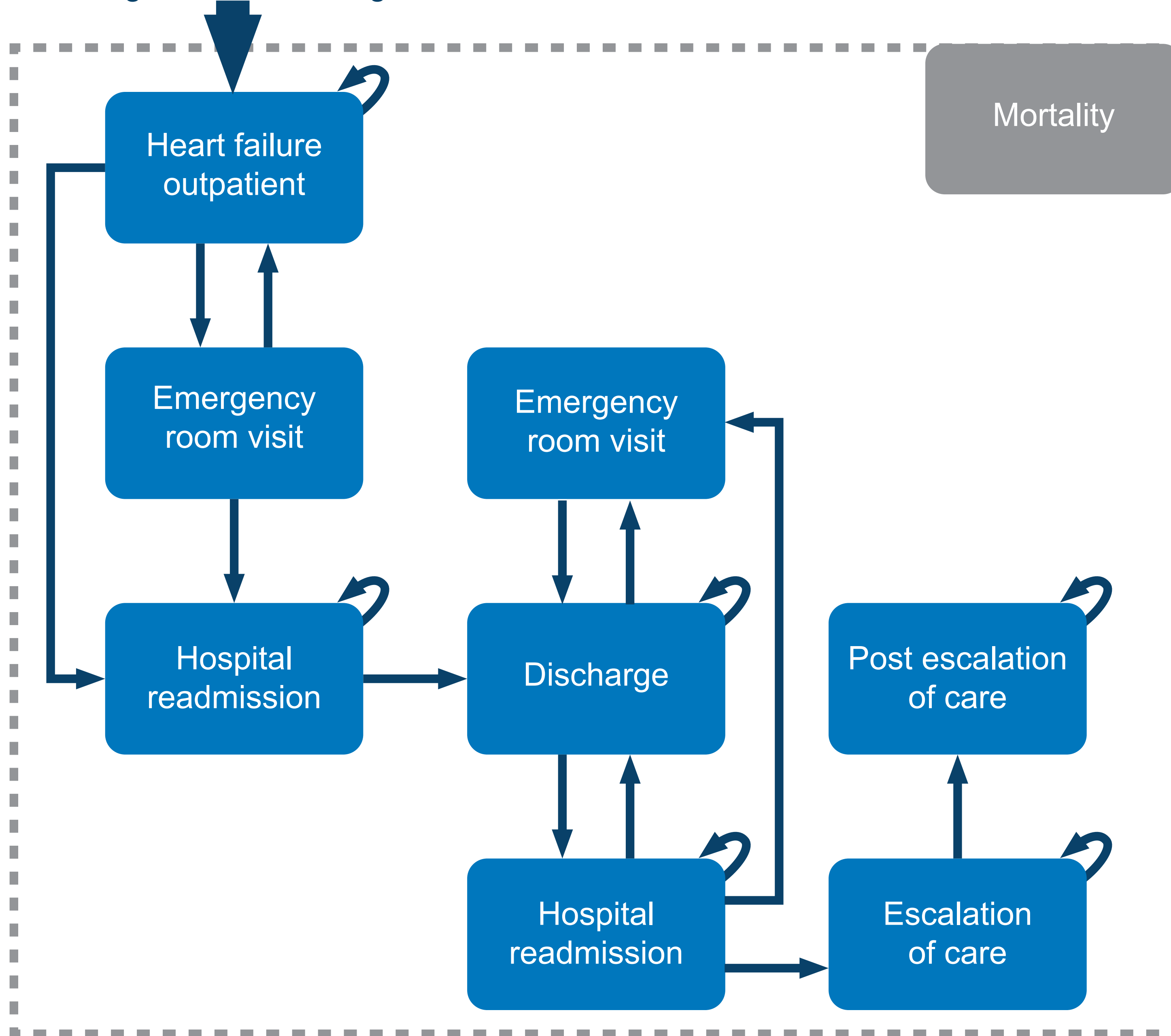


Figure 1 Model structure

Table 1 Key model inputs

Parameter	Value
<b>Event rates</b>	
HFMS impact on hospitalization at 3 months, HR	0.62
HFMS impact on mortality at 3 months, RR	0.66
Hospitalization rate at 3 months SoC	32.55%
Mortality rate at 3 months SoC	3.46%
<b>Resource use</b>	
Outpatient care costs, per day	\$49 <sup>2</sup>
Emergency room visit cost, per unit	\$997 <sup>3,4</sup>
Hospital stay, per day	\$2,655 <sup>5</sup>
Intensive care unit stay, per day	\$3,417 <sup>6</sup>
Post-readmission outpatient care cost, per day	\$236 <sup>7</sup>

HFMS: Heart failure management system, RR: Risk ratio, SoC: Standard of care

- HFMS data were taken from the BMAD-TX trial,<sup>8</sup> were applied for 90 days only (the time point of trial reporting)
- HFMS was worn by the patient for 90 days but no cost was applied to HFMS device, to allow payers to determine the potential level of reimbursement that the device justifies.
- Outcomes considered were total costs of care per patient and cost per member per month.

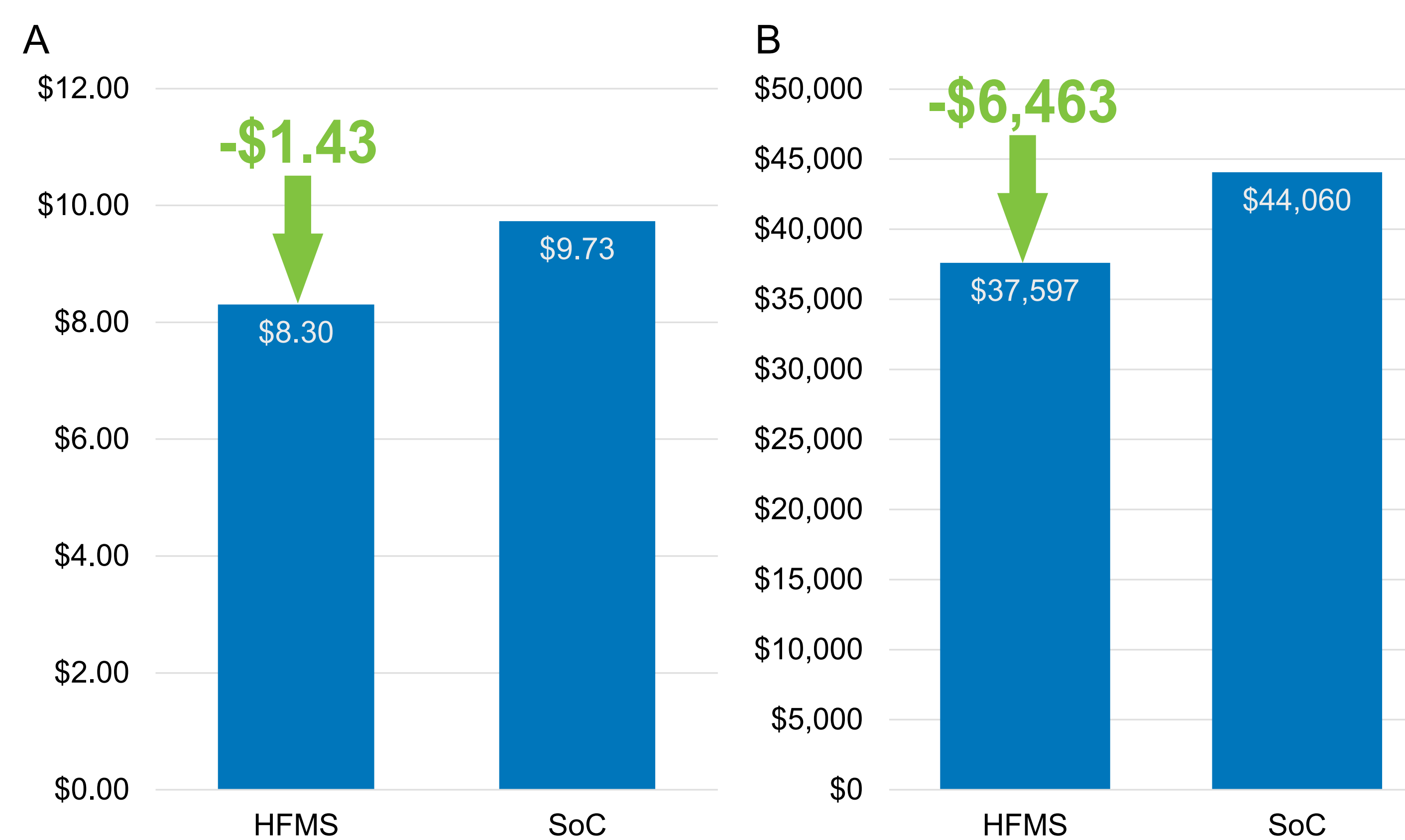


Figure 2 A) Cost per member per month, B) cost per patient per year HFMS: Heart failure management system, SoC: Standard of care

## CONCLUSION

- Implementation of HFMS is expected to result in cost savings for insurance payers due to fewer HF-related hospitalizations.
- Cost drivers are the length of readmission hospital stay and the cost per hospital day.

## RESULTS

- With a HF incidence of 2.65%,<sup>9</sup> the cost per member per month was \$1.43 (95% CrI: \$0.75 - \$2.40) lower with HFMS (\$9.73 vs. \$8.30). (Figure 2A)
- Total one-year cost of care per patient were \$44,060 with standard of care; with HFMS the cost of care was \$37,597 (\$6,463 lower; 95% CrI: \$3,418 - \$10,866). (Figure 2B)
- The most impactful driver for cost reduction was fewer hospital readmissions. (Figure 3)

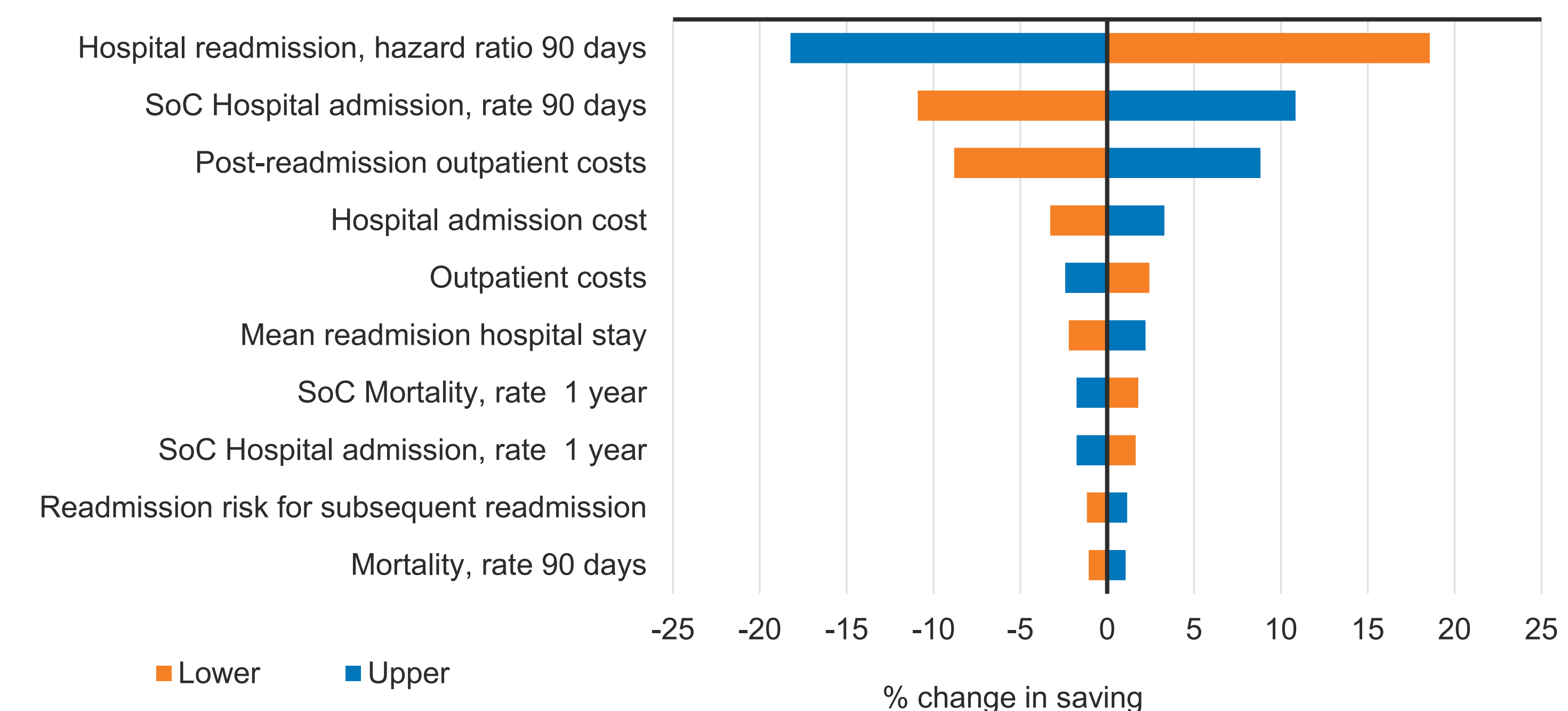


Figure 3 One-way sensitivity analysis; SoC Standard of care

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## Disclosure

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