

MSTA 6102 — CAT Results

Generated: 2025-10-05 22:51 UTC

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****Question 1 (seat belts):**** Fatality prevalence was 7.7 per 1,000 higher among unbelted occupants; relative risk 1.82 and odds ratio 1.83 agreed (rare-disease setting). Wald 95% CI for the absolute risk difference: 4.7–10.7 per 1,000; Fisher p-value < 10^{-5} .

****Question 2 (endometrial cancer):**** Odds ratio 2.61 with exact 95% CI (0.89, 7.69) and Fisher p-value 0.100. Evidence hints at elevated risk but small exposed counts prevent firm conclusions.

****Question 3 (logistic/Poisson modelling):**** Logistic analysis on the Titanic sample indicated sex effect (reference female) OR=0.08 (CI 0.05-0.12) Diagnostics verified reasonable discrimination (see ROC) and calibration (Hosmer–Lemeshow p-value printed above); VIFs < 5 suggested limited collinearity.

****Overall:**** The CAT demonstrates the full pipeline from manual epidemiologic measures to modern regression modelling, with reproducible code, resampling alternatives, and communication artefacts (markdown, figures, slides).