

E.1.2 Early discharge

| Study | Goossens 2013 ¹¹⁸ | | | |
|---|---|--|--|--|
| Study details | Population & interventions | Costs | Health outcomes | Cost effectiveness |
| <p>Economic analysis: CUA (health outcome: QALYs). NB CEA also but not presented in this table.</p> <p>Study design: RCT (Going Home under Early Assisted Discharge trial)- – associated clinical papers Utens 2012, Utens 2013 and Uten 2014^{300,302,303}</p> <p>Approach to analysis: Analysis of individual patient-level data. Unit costs applied. EQ-5D data analysed using multivariable analysis, adjusting for baseline score. Cost data analysed</p> | <p>Population: Patients (40 years or older) admitted to one of the participating hospitals for a COPD exacerbation</p> <p>Cohort settings: (n=139) Start age: Intervention 1: 67.8 years (SD=11.3) Intervention 2: 68.3 years (SD=10.3)</p> <p>Male: Intervention 1: 55.1% Intervention 2: 68.9%</p> <p>Intervention 1: (n=69) Continuation of inpatient</p> | <p>Total cost of initial admission plus follow-up (mean per patient): Intervention 1: £3,350 Intervention 2: £3,219 Incremental (2–1): -£131 (95% CI: -£977 to £719; p=NR)</p> <p>Costs of initial admission: Intervention 1: £1,140 Intervention 2: £950 Incremental (2–1): -£190 (95% CI: -£246 to £131; p=NR)</p> <p>Currency & cost year: 2009 Euros (presented here as 2009 UK pounds^(b))</p> | <p>QALYs (mean per patient): Intervention 1: 0.175 Intervention 2: 0.170 Incremental (2–1): -0.005 (95% CI: -0.021 to 0.0095; p=NR)</p> | <p>ICER (Intervention 2 versus Intervention 1): £24,252 per QALY lost 95% CI: NR Probability Intervention 2 cost saving: 61.2% Probability Intervention cost-effective at 20K/30K threshold): 58%/55%^(c)</p> <p>Analysis of uncertainty: Bootstrapping of cost and outcome data was used to address uncertainty. SAs conducted included: Using different unit cost per inpatient hospital day instead of micro-costing study estimate: from Dutch Manual for Costing Studies, using the most costly and the least costly hospital and the most costly and the least costly patient estimates. Early supported discharge was cost saving all</p> |

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| <p>using linear repeated-measures model with correlated error terms. Intention to treat analysis with missing values handled using repeated measures model.</p> <p>Perspective: Netherland health care perspective (societal also analysed but not presented here)</p> <p>Follow-up^(a): 3 months</p> <p>Discounting: Costs: n/a; Outcomes: n/a</p> | <p>hospital treatment (HOSP) for COPD exacerbation for 4 days, after an initial 3 days under usual hospital treatment</p> <p>Intervention 2: (n=70) Early supported discharge (ESD) scheme (hospital-at-home) after an initial 3 days under usual hospital treatment involving treatment and supervision at home for the remaining 4 days by a community nurse who is generically trained (not specialist). The community nurse visited the patient once to three times on the day of discharge and the three following days. This care package is delivered by community-based home-care organisation which could support the patient in their daily activities (for example washing and dressing). The general practitioner was informed of the early discharge but the respiratory physician of the hospital kept the final</p> | <p>Cost components incorporated:</p> <ul style="list-style-type: none"> Hospital stay Physician visits Community nursing care Hospital admissions Emergency department visits Visits/contact with: pulmonologist or other, specialist physicians, GP and other health care professionals Number of ambulance rides Medication use | | <p>SAs. The ICER ranged from £1,444 per QALY lost to £211,342 per QALY lost for all SAs. The probability that ESD was cost saving ranged from 50% to 99.8%. Using the inpatient hospital day cost from the Dutch Manual for Costing Studies (National unit cost) resulted in the best case scenario for ESD, resulting in an ICER of £211,342 per QALY lost and probability that ESD was cost saving of 99.8%.</p> |

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| | responsibility | | | |
| Data sources | | | | |
| <p>Health outcomes: Within RCT analysis. Clinical outcome data were collected from patients after 7 days (end of initial admission) and 3 months (initial follow-up). Quality-of-life assessment using EQ-5D took place at the end of follow-up (3 months) Quality-of-life weights: EQ-5D Dutch tariff (scores range from -0.329 (worst possible state) to 1 (perfect health)). Cost sources: resource use data for hospital-at-home patients recorded using 4-day diary during initial admission and weekly diary during follow-up. Standard unit costs from the Dutch Manual for Costing Studies and the official list of drug prices were used as the source of unit costs. A micro-costing study was also conducted to determine the cost of an inpatient hospital day.</p> | | | | |
| Comments | | | | |
| <p>Source of funding: Institutional funding. Applicability and limitations: Some uncertainty regarding the applicability of resource use (2007-2011) and unit costs (2009) from the Netherlands. RCT-based analysis, so from one study by definition therefore not reflecting all evidence in area that compares early supported discharge versus inpatient admission. Micro-costing study was used to calculate the cost of inpatient bed day cost in the base case analysis, which does not reflect the national unit cost for inpatient hospital day. Some uncertainty about whether time horizon of 3 months is sufficient to capture all benefits and costs.</p> | | | | |
| <p>Overall applicability^(d): Partially applicable Overall quality^(e): Potentially serious limitations</p> | | | | |

Abbreviations: CEA: Cost-effectiveness analysis; 95% CI: 95% confidence interval; CUA: cost–utility analysis; EQ-5D: Euroqol 5 dimensions (scale: 0.0 [death] to 1.0 [full health], negative values mean worse than death); ESD: Early supported discharge; ICER: incremental cost-effectiveness ratio; NR: not reported; pa: probabilistic analysis; QALYs: quality-adjusted life years; SA: sensitivity analysis.

(a) An assumption is made about the continuation of the intervention effect beyond the 4-day treatment period.

(b) Converted using 2009 purchasing power parities.²²³

(c) Estimated from graph.

(d) Directly applicable/Partially applicable/Not applicable.

(e) Minor limitations/Potentially serious limitations/Very serious limitations.