E.3 Pharmacist at discharge

Study	Wallerstedt 2012[66]			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
Economic analysis: CUA (outcome: QALYs) **Study design:** Randomised controlled trial (RCT) (linked RCT Bladh 2011[8]) **Approach to analysis:** Within-trial analysis of cost and EQ-5D data collected at baseline and after 6 months follow-up. **Perspective:** Swedish healthcare **Follow-up:** 6 months **Treatment effect duration[a]:** 6 months **Discounting:** Costs :n/a ; Outcomes: n/a	**Population:** Elderly inpatients on 2 internal medicine wards at Sahlgrenska University Hospital, Sweden. **Cohort settings: (n=345)** Median age: 82 years Male: 39% **Intervention 1: (n=181, EQ-5D data available for 124 patients)** Usual care, which was received from the same group of physicians and nurses. No other details given **Intervention 2: (n=164, EQ-5D data available for 116 patients)** Clinical pharmacists delivering a composite intervention consisting of medication review including feedback to physicians on prescribing, drug treatment discussion with the patient at discharge, medication	**Total costs (mean per patient)-complete case analysis:** Intervention 1: £6,564 Intervention 2: £7,613 Incremental (2−1): £1,050 (95% CI: NR; p=NR) **Total costs (mean per patient)-all patients' analysis:** Intervention 1: £7,308 Intervention 2: £7,500 Incremental (2−1): £191 (95% CI: NR; p=0.79) **Currency & cost year:** Swedish Kroners converted to 2011 Euros (presented here as 2011 UK pounds[b]) **Cost components incorporated:** Inpatient and outpatient consultations Hospital admissions Intervention cost (pharmacists' time) Medication costs	**QALYs (mean per patient)-adjusted for baseline EQ-5D score:** Intervention 1: NR Intervention 2: NR Incremental (2−1): 0.0035 (95% CI: NR; p=NR) **QALYs (mean per patient)-unadjusted for baseline EQ-5D score:** Intervention 1: NR Intervention 2: NR Incremental (2−1): 0.0051 (95% CI: NR; p=NR)	**ICER (Intervention 2 versus Intervention 1):** £327,378 per adjusted QALY gained and £223,430 (pa) 95% CI: NR Probability Intervention 2 cost-effective (£20K/30K threshold): NR/NR Probability Intervention 2 cost-effective (£35,326 (50,000 Euro) threshold): 20% **Analysis of uncertainty:** Two sensitivity analyses were reported: **-Subgroup of deceased (terminally ill) and alive patients:** ICER for deceased (terminally ill) patients-baseline-adjusted analysis: dominant (£56,946 saved per QALY gained) 95% CI: NR ICER for deceased (terminally ill) patients-unadjusted analysis: NR 95% CI: NR ICER for alive patients-baseline-adjusted analysis: £125,856 per QALY gained 95% CI: NR ICER for alive patients- unadjusted analysis:

	report including summary of drug treatment changes to be sent to the GP			£179,748 per QALY gained 95% CI: NR **-Imputed dataset:** Where missing data for EQ-5D were imputed using a regression model (multiple imputation) ICER – using baseline-adjusted analysis: £81,377 per QALY gained. 95% CI: NR ICER – unadjusted analysis: £117,681 per QALY gained. 95% CI: NR

Data sources

Health outcomes: Within-trial analysis of costs and QALY data collected at baseline and at 6 months follow-up. The clinical effectiveness results were reported in a separate paper included in the clinical review (Baldh 2011[8]). **Quality-of-life weights:** estimated using EQ-5D, with data collected at baseline and 6 months follow-up. **Cost sources:** National unit costs were used for example Swedish Prescribed Drugs Register and other public sources (not specified) for healthcare resources used during inpatient and outpatient care. Resource use data were obtained from a national database that includes all health care consultations (both inpatient and outpatient)

Comments

Source of funding: National Board of Health and Welfare. **Applicability and limitations:** Some uncertainty regarding the applicability of resource use (2007-2008) and costs (2011) from Sweden to the current NHS context. It is not clear which EQ-5D tariff was used for calculating utilities. The intervention is delivered by junior pharmacists, which may not be the same to clinical pharmacist services delivered at UK hospitals. Relative effectiveness evidence is based on a single RCT, so by definition does not reflect all evidence in the area. Short follow-up, 6 months, so may not capture all relevant costs and outcomes.

Overall applicability[(c)]: partially applicable   **Overall quality[(c)] :** minor limitations

Abbreviations: 95% CI: 95% confidence interval; CUA: cost–utility analysis; da: deterministic analysis; EQ-5D: Euroqol 5 dimensions (scale: 0.0 [death] to 1.0 [full health], negative values mean worse than death); ICER: incremental cost-effectiveness ratio; n/a: not applicable; NR: not reported; pa: probabilistic analysis; QALYs: quality-adjusted life years.

(a)   For studies where the time horizon is longer than the treatment duration, an assumption needs to be made about the continuation of the study effect. For example, does a difference in utility between groups during treatment continue beyond the end of treatment and if so for how long.

(b)   Converted using 2011 purchasing power parities.[50]

(c)   Directly applicable / Partially applicable / Not applicable

(d)   Minor limitations / Potentially serious limitations / Very serious limitations