E.2 Pharmacist at admission

Study	Fertleman 2005[19]			
Study details	**Population & interventions**	**Costs**	**Health outcomes**	**Cost effectiveness**
Economic analysis: CC (health outcome: n/a) **Study design:** before-and-after observational study **Approach to analysis:** Retrospective audit of the pre-intervention period where patient notes were reviewed and data extracted for 3 post-take ward rounds (PTWRs). This was compared with data prospectively collected using intervention form in the intervention. Identified medication changes were assigned a clinical risk score using NPSA guidelines and a cost assigned to each. **Perspective:** UK NHS **Follow-up:** 3 days **Treatment effect duration[(a)]:** extrapolated over a year **Discounting:** Costs: n/a ; Outcomes: n/a	**Population:** Medical patients admitted within the preceding 24 hours to a general medical ward at a district general hospital (Northwick Park hospital in north-west London) with 800 acute beds; providing acute medical services to a population of 300,000. **Cohort settings:** Start age: NR Male: NR **Intervention 1: (n=50)** Ward-based pharmacist provide pharmaceutical care for 1-2 hours at some time during the day, examining prescriptions and performing rounds at a different time to the clinical team; identifying clinical interventions after the prescribing decision has been made. **Intervention 2: (n=53)** Senior pharmacist present on post-admission (post-take) ward rounds (PTWR) in addition to the pharmaceutical care provided by the ward-based junior clinical pharmacists. The pharmacist obtained drug history in addition to the doctor's admission drug history and contributed to prescribing decisions.	**Net drug cost per annum (mean per patient):** Intervention 1: £175.48 Intervention 2: £33.40 Incremental (2−1): -£142.08[(b)] (95% CI: NR; p=NR) **Currency & cost year:** 2003 UK pounds **Cost components incorporated:** Cost of drugs on admission Cost of drugs on discharge Saving from avoided clinical risk Pharmacist time	**n/a**	**ICER (Intervention 2 versus Intervention 1):** n/a Clinical pharmacist intervention cost saving **Analysis of uncertainty:** None reported. No statistical analysis was undertaken.
Data sources				

Health outcomes: Only process outcomes were considered where patient notes were analysed and data collected on accuracy of drug history, number of admission drugs stopped before discharge and pharmacist recommendations. Retrospective review of risk using NPSA guideline was undertakes to assign a clinical risk score for each pharmacist-initiated medication change intervention. **Quality-of-life weights:** n/a. **Cost sources:** National unit costs for medications were taken from the British National Formulary (BNF).
Comments
Source of funding: NR. **Applicability and limitations:** QALYs were not used as an outcome measure. Some uncertainty regarding the applicability of resource use and costs from 2003 to current NHS context. Observational study with no adjustment for confounders, so by definition not reflecting all evidence in this area. The study has a very short follow-up time for both the pre- and post-intervention phases (3 ward rounds each) and the calculated cost-saving was extrapolated over a year. Long-term impact on costs and outcomes has not been assessed. Additionally, limited costs were included in the analysis (medication costs and pharmacist time). No sensitivity analysis is reported.
Overall applicability[(c)]: Partially applicable **Overall quality[(c)]:** Potentially serious limitations

Abbreviations: CC: comparative cost analysis; 95% CI: 95% confidence interval; ICER: incremental cost-effectiveness ratio; n/a: not applicable; NR: not reported; 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) Calculated by NGC.

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

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