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The delivery of chemotherapy – home, community, or hospital?

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Background: There is an increasing focus in the NHS on delivering care closer to home. This project aimed to compare the impact of delivering intravenous chemotherapy in community, home and hospital settings across a range of outcomes, including quality of life, safety and costs.

Lack of data and a clear pathway for treatment delivery in any setting limited the economic modelling. Consequently, cost-effectiveness modelling results were viewed as exploratory only; the results were highly unstable and there was significant uncertainty as to which treatment settings were cost-effective.

Methods: A systematic review of clinical effectiveness, qualitative, and cost-effectiveness studies was undertaken (Figure 1).

4260 unique references retrieved from database searches up to November 2013 3870 excluded on title or abstract 137 single-setting outpatient studie 20 unobtainable 233 potentially relevant papers 12 references identified by reference list and Google searches 245 articles assessed 164 excluded 81 eligible references: 67 included studies (with 14 linked references) 10 RCTs 42 single-setting studies 15 non-randomised studies 15 with clinical data 10 with clinical data clinical data not used 3 with economic evaluations 6 with economic evaluations 0 with economic evaluations 3 with qualitative data 4 with qualitative data 10 with qualitative data

The qualitative studies were generally of moderate to good quality, although most studies did not appear to consider the impact of the researcher on data collection and analysis.



Three main themes emerged from these studies: barriers to service provision; satisfaction with chemotherapy; and making compromises to maintain normality.

Most patients made explicit trade-offs between the time and energy required for outpatient chemotherapy which reduced quality of life versus an increased sense of safety (Figures 3 & 4).

Figure 3: Factors pushing patients towards outpatient treatment

Figure 1: PRISMA flow chart

A decision model was developed, informed by the systematic review and a brief survey of current provision, to explore aspects of costeffectiveness (Figure 2).



Figure 2: Patient pathway including economic model structure highlighted in purple



Figure 4: Factors pushing patients away from outpatient treatment

Conclusions: Studies comparing settings for administering intravenous chemotherapy appear difficult to conduct. Consequently, few robust conclusions can be made about clinical- and cost-effectiveness. Qualitative studies indicate that the patient time and energy required for outpatient chemotherapy reduces quality of life.

A nested RCT within a larger observational cohort of patients is proposed to enhance recruitment and improve generalisability of future research. Future economic evaluations require detailed patient characteristics, resource use, cost and quality data; however their results are likely to have limited generalisability.

Results: Comparative studies identified by the review provided little evidence to suggest differences between settings. Trials were small and had populations that were inherently biased to favour home or community settings. Economic evaluations, conducted alongside these trials, additionally suffered from poor reporting and heterogeneity in the choice of perspectives making it difficult to compare across settings and providing limited evidence regarding cost-effectiveness.

The brief survey of NHS and private providers showed wide variation in the current provision of home and community chemotherapy in the NHS. **Further information:** Full details will be available in the forthcoming final report: Corbett M, Heirs M, Rose M, Smith A, Stirk L, Richardson G, Stark D, Swinson D, Craig D, Eastwood A. The delivery of chemotherapy at home: an evidence synthesis. *Health Services and Delivery Research* (forthcoming).

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