CONFERENCE ABSTRACT

Continuity of care post-hospitalisation of patients at risk of medicnes management problems

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Introduction:Medication related problems following hospital discharge are claimed to be a major cause of readmission,morbidity and mortality(Mistiaen and Poot,2006 ;Hugtenburg et al.,2014).To date studies at this transition of care have shown mixed results regarding the benefits of post discharge follow up(Wong et al.,2008,Leppin et al., 2014)Thus further work in this aspect of medicines optimisation would be of value.

Objective: To design and implement pharmacist led post-discharge interventions and analyse their impact on rehospitalisation parameters for patients who received ten or more medicines.

Method: This study was designed as a mixed quasi-experimental pilot. Intervention patients were randomised to receive the designed prospective interventions either by hospital or community pharmacists; the rehospitalisation parameters were compared with matched control patients. Primary outcome was the 30 day readmission rate. Secondary out comes were the 180 day readmission rate, length of hospital stay on the first readmission, time to first readmission, number, type and potential impact of pharmacist interventions, communication evaluation across the secondary/primary care interface, and assessments of intervention patient's adherence, beliefs about medicines and satisfaction.

Results: 30 day readmission rate for patients who received hospital pharmacist interventions was (8.7%) compared with (71.0%) for its matched control patients (odds ratio [OR]= 0.04 [95%CI, 0.01-0.18], P=0.001), for community group patients it was (28.0%) compared with (69.3%) for its matched control patients (OR= 0.17 [95%CI, 0.06 -0.47], P<0.05). 180 day readmission rate was 47.8% Vs 87.0% (OR= 0.14 [95%CI, 0.05 -0.40], P<0.05) for the hospital group and its matched control group respectively; it was (68.0%) for the community group and (92.0%) for its matched control group (OR= 0.19 [95%CI, 0.06 -0.6], P<0.05). Median LOS upon first readmission for patients within hospital pharmacist group was 4 days [IQR 2.0 – 6.0] compared with 5 days [IQR 2.0 – 8.75] for its matched control group (P=0.012); it was also shorter for community group compared with its matched control group (3 days [IQR 1.5 – 7.7] vs 5 days [IQR 2.0 – 13.5], P= 0.004). Median time to first readmission was longer for the hospital group compared with its matched control group (154 days Vs 21 days, P<0.05), it

was also longer for the community group compared with its matched group (125 days Vs 15 days, P<0.05).

Community pharmacists delivered 168 interventions to 22 patients over 54 sessions, Hospital pharmacists delivered 235 interventions to 20 patients over 51 sessions. A positive impact on patients' beliefs was reported for combined intervention groups, mean differences in concern scale before and after interventions was (-2.1; P= 0.016), necessity – concern differential was (2.5; P=0.015). All intervention patients reported excellent adherence behaviour, no patients reported a Medication Adherence Report Scale less than 20 at any time. At the final follow-up all patients who responded to the satisfaction questionnaire felt that they had an improved ability to control and manage their medication. Cost savings by reduction of readmission rate and length of hospital stay was £895 per patient. The overall cost avoidance based on intervention grades (403 intervention delivered to 48 patients) ranged from £85k to £181k.

Discussion and Conclusions: Delivery of the pharmacist interventions either by telephone or mixed mode led to obvious patient benefits by reducing readmission rate, time to readmission, length of hospital stay and improved patient beliefs about medication. There was a trend for better outcomes overall resulting from the hospital pharmacist input. Such intervention models may demonstrate a potential significant opportunity cost saving.

Lessons Learned: A key point of learning is not to underestimate the time required to set up and implement such research given the diversity of stakeholders involved in service provision including information governance and ethical considerations

Limitations: The main limitations were the small sample size and the use of matched rather than randomised controls

Future Research: This was a pilot project and the next step will be to scale up the work with larger numbers and further refinement of the process utilised in the initial work.

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