SWAT 62: The influence of different healthcare professionals delivering an intervention in a medication optimisation trial

Objective of this SWAT
To see if, in a medication optimistion trial, there is a difference in recommendation uptake rates between a pharmacist-delivered intervention and a physician-delivered intervention, and to use qualitative research to attempt to explain any differences observed.

Study area: Outcomes, Data Quality
Sample type: Healthcare Professionals, Researchers
Estimated funding level needed: Low

Background
Older patients commonly take multiple medications due to multiple co-morbidities. This, coupled with older patients' increased sensitivity to many drugs, as well as altered pharmacokinetics and pharmacodynamics makes them a vulnerable group with regards to adverse drug reactions and drug-related hospital admissions.[1] Medication optimisation studies focused on older patients therefore are common. The critical point in any medication optimisation initiative is the communication of recommendations to the patient's doctor. If we are to change the drugs a patient takes, it is the attending doctor who must initiate these changes. Therefore they must be presented with a convincing rationale for undertaking same. What has not been explored in detail, is if the person presenting the argument has any bearing on the likelihood of the recommendations being accepted. Two previous studies have shown disparities in recommendation uptake rates between physicians and pharmacists,[2,3] which is worthy of further investigation in this SWAT.

The host trial for this SWAT is a H2020 funded European trial called OPERAM. Four sites across Europe are participating in the trial, the primary aim of which is to assess the impact of a computerised decision support system on drug-related hospitalisations and adverse drug reaction prevalence in older hospitalised patients. University College Cork is one of the participating sites and the lead site for this SWAT.

Interventions and comparators
Intervention 1: Pharmacist-delivered intervention: when patients are recruited into the trial, their details are entered into a computerised decision support system called OPERAM. A report is then generated which contains recommendations for changes to be made to the patient's medication list. These recommendations must then be relayed to and discussed with the attending team and decisions made as to which recommendations will be implemented. For the pharmacist-led group, the research pharmacist will discuss the report with the attending doctors.
Intervention 2: Physician-delivered intervention: when patients are recruited into the trial, their details are entered into a computerised decision support system called SENATOR. A report is then generated which contains recommendations for changes to be made to the patient's medication list. These recommendations must then be relayed to and discussed with the attending team and decisions made as to which recommendations will be implemented. For the physician-led group, the research physician will discuss the report with the attending doctors.

Index Type: Personnel delivering intervention

Method for allocating to intervention or comparator
1st Come 1st Served. Both the research physician and research pharmacist will actively recruit patients into the trial and subsequently relay the points within the computer-generated report to the attending team. Therefore both will have their own respective cohorts of patients for whom they will be responsible with respect to communicating recommendations to the attending team. This will allow direct comparison of recommendation uptake rates between the physician and pharmacist.

Outcome measures
Primary: Uptake rates for pharmacist-led versus physician-led recommendations
Secondary: Reasons for difference in uptake rates, as determined by qualitative research.

Analysis plans
Data for all sites are centrally recorded in an electronic database to which each site has access. These data includes whether the intervention was pharmacist-led or physician-led, and the number of recommendations accepted and initiated by the attending doctors.
The difference in uptake rates between the pharmacist-led and physician-led intervention will be analysed using odds ratios and 95% confidence intervals as well as student's T tests assuming normal distribution, or Wilcoxon signed rank test for non-parametric data.

For the qualitative aspect of the study, the reasons for any difference in uptake rates observed will be elicited from doctors using the Theoretical Domains Framework, a framework analysis tool encompassing 33 behaviour change theories and designed to identify the barriers to best practice.

Possible problems in implementing this SWAT
None identified.

References
1. O'Mahony D, Gallagher PF. Inappropriate prescribing in the older population: need for new criteria. Age Ageing 2008; 37: 138-41.
2. O'Sullivan D, O'Mahony D, O'Connor MN, Gallagher P, Gallagher J, Cullinan S, et al. Prevention of adverse drug reactions in hospitalised older patients using a software- supported structured pharmacist intervention: a cluster randomised controlled trial. Drugs & Aging 2016; 33(1): 63-73.
3. O'Sullivan D, O'Mahony D, O'Connor MN, Gallagher P, Cullinan S, O'Sullivan R, et al. The impact of a structured pharmacist intervention on the appropriateness of prescribing in older hospitalized patients. Drugs & Aging 2014; 31(6): 471-81.

Publications or presentations of this SWAT design

Examples of the implementation of this SWAT

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