brighton and sussex medical school

The Lawson Unit
LEADING HIV CARE FOR BRIGHTON

Brighton and Sussex University Hospitals NHS Trust

Utility of a Medicines Optimisation Review (MOR) compared with standard pharmaceutical care in people living with HIV on cART

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Background

- Older people living with HIV (PLWH) are particularly at risk of medicine-related problems (MRPs), such as prescribing errors and drug-drug interactions[2], due to the increased prevalence of comorbidities and polypharmacy[1].
- The British HIV Association (BHIVA) recommends a complete medication review should be undertaken annually[3], however, evidence that medicines reviews reduce MRPs in HIV outpatients is limited, and many clinics have struggled to meet this standard due to staffing capacity constraints.
- The Medicines Management Optimisation Review (MOR) toolkit was developed by HIV specialist pharmacists representing a range of clinics in the UK. The core objective of the toolkit is to enhance patient safety by identifying and reviewing all patients at higher risk of polypharmacy or DDI in the HIV outpatient setting.
- The aim of this project was to examine the utility and acceptability of a Medicines Management Optimisation Review (MOR) toolkit in HIV outpatients

Methods

- Multicentre randomised controlled open study in 4 HIV outpatient services across Sussex (Brighton, Worthing, Chichester and Crawley). PLWH were randomly allocated to receive either a MOR (intervention) or standard pharmaceutical care (control). Participants in the intervention arm received a MOR at baseline, 6 and 12 months. MRPs identified were recorded for both groups (Figure 1).

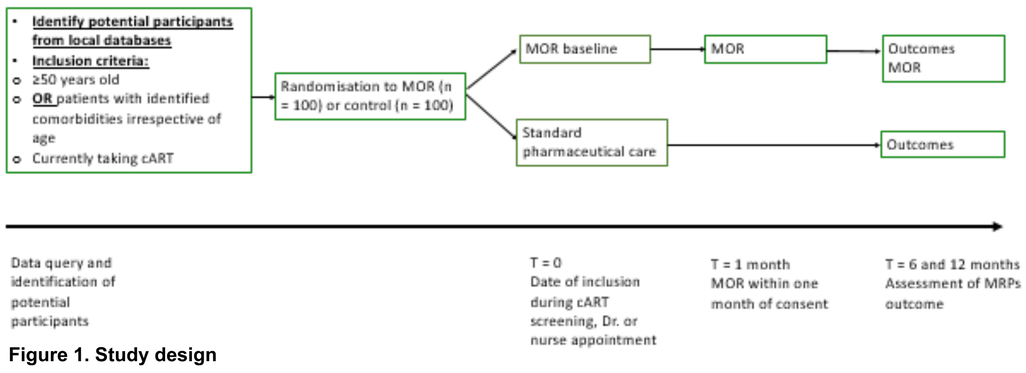

Figure 1. Study design

- Participants were given a patient-oriented questionnaire ("My Clinic Companion") to complete prior to their appointment; the MOR form was then completed by the pharmacist in consultation with the patient (Figure 2).

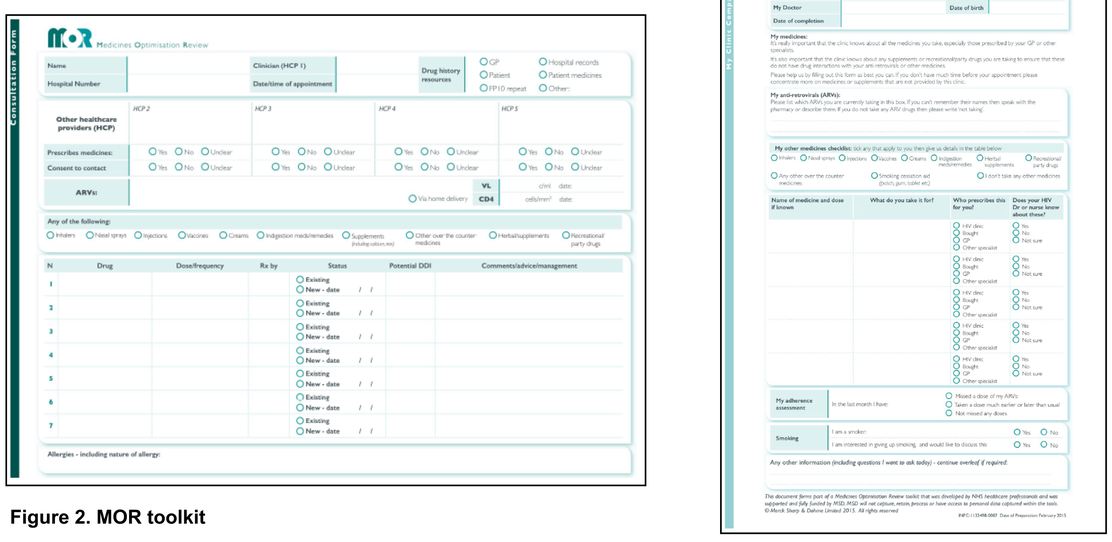

Figure 2. MOR toolkit

- The primary outcome measure was the difference in number of MRPs between intervention and control groups at each time point, calculated using independent t-test. This poster presents data from the baseline phase.

Results

- 200 patients were recruited and baseline data (demographic, HIV clinical data) was collected (Table 1).
- Mean number (SD) of non-antiretroviral ("non-ART") medications in patients receiving a MOR was 6.6 (3.4), with the most common being statins (44%), antidepressants (33%) and analgesics (28%). (Graph 1)
- **A significantly higher number of MRPs were identified in patients receiving a MOR (intervention group), mean (SD) = 1.27 (1.3) (95% CI. 1.5 to 0.94) compared to control, mean (SD) = 0.5 (0.22), *t* (86.26) = 8.6, *p* < 0.001**. The most common MRP observed at baseline was drug-drug interactions (Table 2)
- Pharmacists fully resolved 45 (40%) of MRPs at baseline consultation with a further 48 (42%) resolved within 6 months

Table 1: Patient demographics and clinical data

Variable	Total
Age in years*	58 (35-88)
Male (%)	177 (88.5)
Time since HIV Dx. (years)*	16.5 (1-34)
Duration of cART (years)*	13 (1-29)
Current CD4 count (cells/µL)**	661.37 (295.84)
VL <50 (%)	96
cART regimen (%)	
PI based regimen	12
PI based and NRTIs regimen	11
NRTI and NNRTI regimen	64
Other combination regimen	16

PI, Protease Inhibitor; NNRTI, Non-nucleoside reverse transcriptase inhibitor; NRTI, nucleoside reverse transcriptase inhibitor
*median (range)
**mean (standard deviation)

Graph 1. Numbers of non-ART medication type taken by patients during baseline MOR consultations

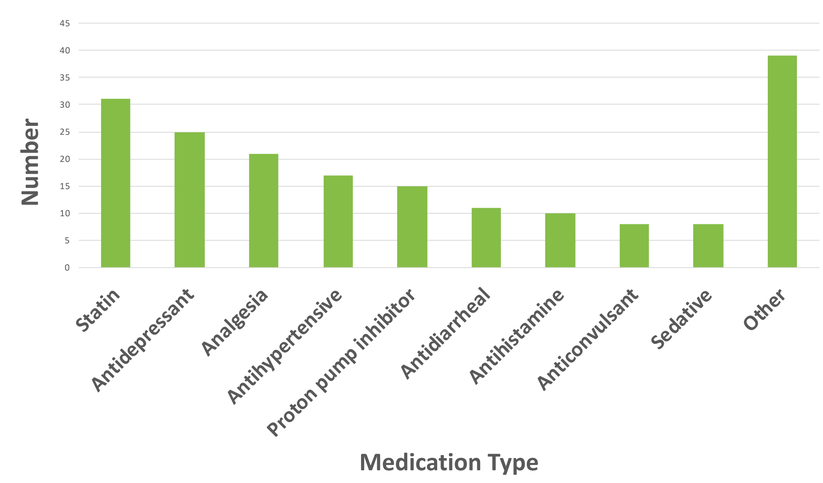

Table 2: Types of MRP identified at baseline

Medicine-related problem	Intervention N =114	Control N= 4
Potential adverse drug reaction	21	0
Potential drug-drug interaction	42	2
Dose adjustment	21	0
Problem with handling or administration	13	1
Unnecessarily complex regimen	5	0
Inappropriate off label use	4	0
Undertreatment	7	1
Miscellaneous	1	1

Discussion

- At baseline medicines optimisation reviews using the MOR toolkit identified a significantly higher number of MRPs than standard pharmaceutical care in PLWH attending outpatient services.
- Follow-up phases (currently ongoing) will explore the quality of life and clinical implications of increased MRP detection, and the acceptability, feasibility and cost of implementing MOR consultations, to guide future service recommendations.

References

[1]Evan-Jones JG, Cottle LE, Back DJ, et al. Recognition of risk for clinically significant drug interactions among HIV-infected patients receiving antiretroviral therapy. Clin Infect Dis 2010;50:1419-21
[2] Marzolini C, Back D, Weber R, et al. Ageing with HIV: medication use and risk for potential drug-drug interactions. J Antimicrob Chemother 2011; 66: 2107-14
[3] British HIV Association. Standards of Care for people living with HIV 2018. Accessed on 14.03.1. https://www.bhiva.org/file/KrfaFqLZRIBhg/BHIVA-Standards-of-Care-2018.pdf