PROM-GP

Pharmacist Review of Medications for HIV+ people seen in GP Clinics

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NORTHSIDE CLINIC

VICTORIAN AIDS COUNCIL
WORKING TOGETHER

prahran market clinic

MSHC
MELBOURNE SEXUAL HEALTH CENTRE
Part of AlfredHealth

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Disclosures

My institution (Alfred Health) received funds for:
- **2016 Gilead Fellowship Grant to fund the PROM-GP study**
- **2017 ASHM partnership to support PROM-GP Study**
  (through a project grant provided by ViiV Healthcare)
- **Previous advisory boards: Gilead, ViiV**

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Background

Why HIV medication review within GP clinics?
- Growing number of aging HIV+ people managed in community GP setting.
- With age and increased co-morbidities comes risk of polypharmacy[1]
    - drug interactions, adverse effects, adherence issues (ART and/or co-medications)[2]
- Can experienced HIV pharmacists assist GPs to manage these complexities?

Pharmacist medication management review previously shown to be effective in:
- varying HIV settings (HIV inpatients, HIV hospital clinics[3])
- community non-HIV settings (Medicare funded "Home Medicines Review", and some studies in GP clinics[4])

BUT: in depth review not often possible at time of dispensing ART

This project: Target those patients most at risk of medication related problems (MRPs) to evaluate the effectiveness of a HIV specialist pharmacist providing a single face-to-face patient consultation in high HIV caseload GP clinics.

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1. Marzolini 2011 2. Edelman 2013 3. Aguirre I et al (ASHM poster) 2015, Seden K 2013
4. Tan et al, "PIP Study" 2014

Method

PROM-GP study is an ongoing non-randomised prospective open study
100 patients from initial recruitment phase Feb 2016-Aug 2016

- GP or practice nurse refer eligible patients for medication review: ≥1 risk factor for MRPs:
    - Age ≥50 years, 5 or more medications (including ART), adherence issues, recent hospital admission

- A single 20-30min pharmacist/patient consultation in the GP clinic:
    - report outlining MRPs and recommendations provided to GP.
    - Adherence assessment: self-report questionnaire[1,2] and pharmacy pick-up
    - Patient satisfaction measured by anonymous validated survey

- MRP assessment of risk:
    - validated tools[3] used to assign MRP risk level
    - sample (>10%) reviewed by a panel[4]

- Follow-up: Medical notes reviewed (+/- GP discussion, +/- patient phonecall) at 3 to 4 months to assess if MRPs are resolved.

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1. Morisky. 2.Chesney. 3. SHPA Standards of Practice Clinical Pharm 2013.
4. ID/General phscian, Senior HIV pharmacist, Gen med/geriatrics pharmacist

Medication Related Problems

"an event or circumstance involving medication therapy that actually or potentially interferes with an optimum outcome for a specific patient"

Pharmaceutical Society of Australia (PSA). Standard and guidelines for pharmacists performing clinical interventions. 2011

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Results: Key Patient Characteristics

	Variables	% or Median
Patient Demographics	Age (years)	58 (IQR 51,65)
	Male gender	98%
HIV characteristics	Years since HIV Diagnosis	22 (IQR15, 26)
	CD_4 Count (cells/µL), Mean	643 (5 pts had CD_4 <250)
	Viral load <20 copies/mL	96% (2% <100, and 2% Vireamic)
GP Clinic (No. of pts)	Prahran Market Clinic (53), Northside Clinic (25), Centre Clinic (22)	
	Pts who see other specialist/s	69% (Infectious Diseases 34, Cardiology 16, Psychiatry 14)
ART Use	No. of ART agents (incl boosters)	3 (IQR 3, 4)
	NRTIs	**94%** (ABC 26%, Tenofovir 62%)
	NNRTIs	**42%** (NVP 62%, ETR 19%, EFV, 9.5%)
	PIs	**31%** (DRV 61%, ATV 23%)
	INSTIs	**52%** (RAL 38%, DTG 48%, ELV 14%)
	Maraviroc	**3%**
	Pts taking a Single Tablet Regimen	**24%**

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Results: Co-medications in addition to ART:

Median = 7 (Range 0-16)

Common co-medication classes	No. of pts	Med count
Antihypertensives	53	91
Lipid lowering agent	50	57
Platelet aggregator inhibitors (aspirin, clopidogrel)	27	34
Warfarin	10	10
Analgesics: Opioids	21	29
Other (paracetamol, NSAIDs)	32	40
Antiepileptics (incl. for neuropathy)	17	19
Anti-anxiolytics, sedatives, hypnotics	49	67
Anti-depressants	44	50
Anti-psychotics	19	23

Common co-med classes	No. of pts	Med count
Acid Lowering agents	34	35
Diabetes: Oral hypoglycaemics	7	8
Insulin	3	5
COPD/Asthma	24	35
Erectile dysfunction agents	13	17
Antivirals (valaciclovir, famciclovir)	31	31
Hep C DAAs	3	7
OTC, herbal meds	Median 1	Range 0-12

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Results: Relevant[#] Medical History

Medical conditions	No. of patients
Depression	45
Hyperlipidaemia	44
Hypertension	43
Chronic pain (including peripheral neuropathy)	25
CVD (including IHD, AF, CHF)	24
Current smoker	24
GORD	20
COPD/Asthma	17
Arthritis (OA, RA)	16

Medical Conditions	No. of patients
Diabetes	12
CKD	10
Osteoporosis	10
Substance abuse	10
Hep-B co-infection	9
Hep-C co-infection*	8
Prior PE/DVT	8
Active heavy drinking	8
Prior stroke	4

*Includes Hep C patients not yet treated or mid-treatment
#"Relevant" in terms of having an impact on current medication review

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Results:

Patients underwent pharmacist consultation
N=100

542 MRPs identified

262 (48.3%) High/Moderate Risk
(median 2 per patient (IQR 1,3))

280 (51.7%) Low Risk
(median 3 per patient (IQR 2,4))

Patients followed up at 3-4 months
N=98

256 Mod/High risk MRPs assessed,
159 (62.1%) MRPs resolved

275 Low risk MRPs assessed,
162 (58.9%) MRPs resolved

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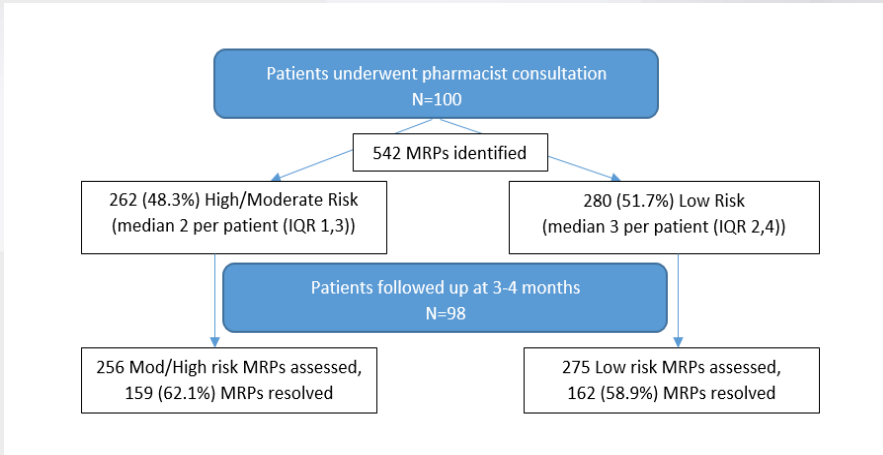
PROM-GP Medication review and report

Age: 82 years		Date of review 16/6/16
Current medications:		Allergies: NKDA
Antiretrovirals	Other prescribed medications	Over-the-counter, complimentary

HIV+, 82y, CrCl 52mL/min, recent fall travelling in Tas.
On Atripla (pt "happy" on this), warfarin, esomeprazole, some herbals.

Co-managed between GP and an ID clinic, sees both infrequently.

| Moderate Risk	More appropriate medicine available	Recommend discussing with ID clinic a switch away from Atripla (falls risk, renal fn, takes a herbal med for sleep)
Moderate Risk	Drug Interaction	Warfarin and Efavirenz. If efavirenz ceased, requires close monitoring/ dose adjustment
Low Risk	Monitoring	Bone Health Screen, Lipids, BP etc
	Drug interaction	Warfarin and Curcumin

		raltegravir or dolutegravir. (Genvoya® would still interact with warfarin, but managable)	
	Interaction between warfarin and efavirenz	Efavirenz may increase or decrease INR, with case reports of decreased warfarin dosing required. In this pt, warfarin dose has been stable at 2.5-3mg over 12 months. Pt has INRs checked monthly – this interaction is currently well managed, but needs increased monitoring if pt switches off efavirenz.	Continue to monitor INR, with increased monitoring if change in ART
	Interaction between curcumin and warfarin	In vitro, curcumin is thought to have antiplatelet effects but inconclusive in humans. Reports of increased INR with warfarin. Use with caution with warfarin. Pt taking since his fall, I advised there would be less bleeding risk if he ceased.	Advised pt to cease curcumin

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Results: Types of MRPs (n=542)

* "Monitoring" MRPs more likely to be classified as Low risk (P<0.001)
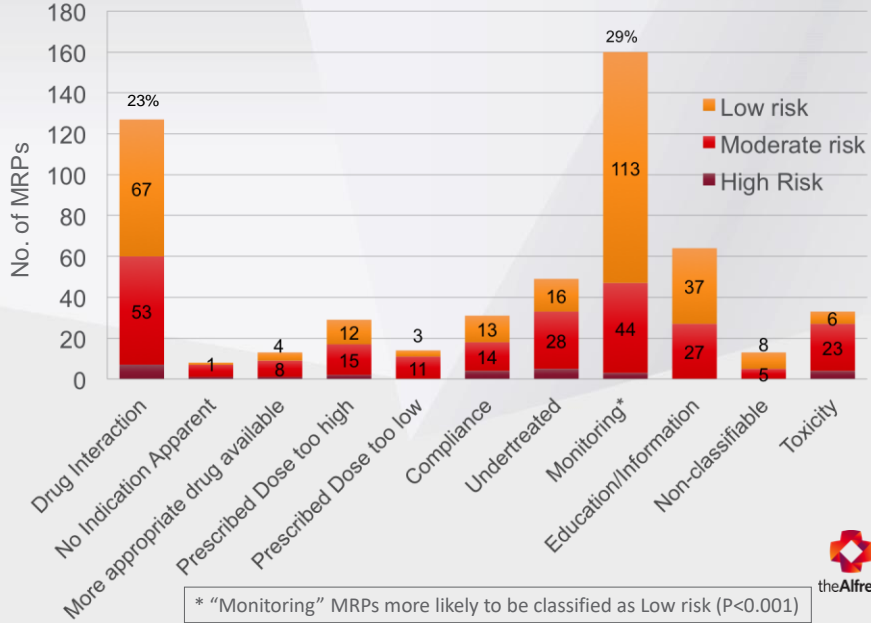
Results: Drug Interaction MRP breakdown
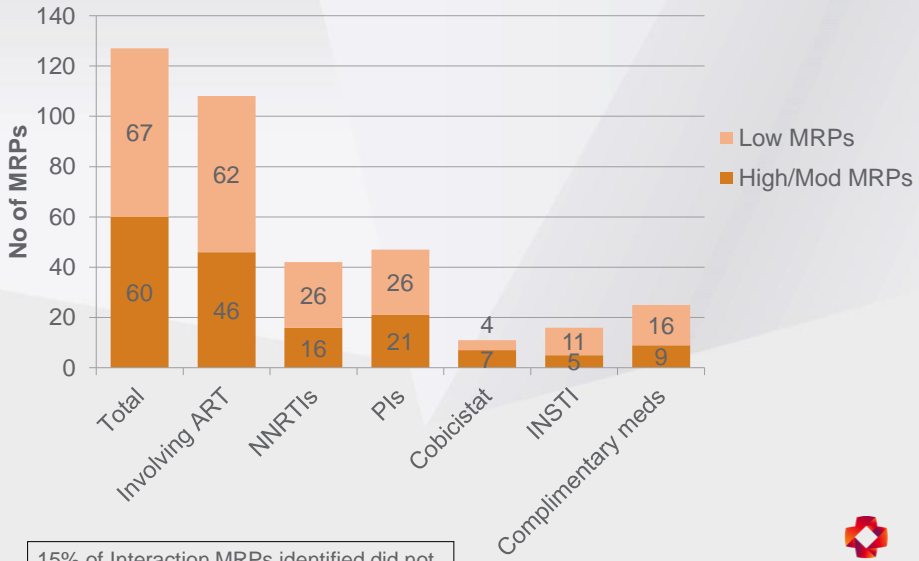
15% of Interaction MRPs identified did not involve ART

Results

- Univariate and multivariate analysis showed no significant associations between patient-related factors (age, years since diagnosis, ART regimen, number of co-medications, seeing other specialists) and the presence of high risk MRPs

- **Panel review:** 15 randomly selected patients (89 MRPs)
  - In 73% of MRPs, the panel either agreed with the study pharmacists' risk classification of MRP or rated it one risk level higher than the study pharmacist (Kappa p=0.46).

- **Adherence:**
  - patients reported some non-adherence to ART (18%), despite pharmacy ART pickup rate (Median 100%; IQR 94, 100%)
  - Non-ART adherence was reported as 'moderate' in 30% or 'high' in 70% of patients (according to Morisky scale)

- **Patient Satisfaction:** (n=74) 98% patients satisfied with service 83% would like a pharmacist available in the clinic in future

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Summary

- PROM-GP is the first pharmacist review study we are aware of in the community HIV ambulatory setting.

- Targeting complex patients with ≥1 MRP risk factor, the intervention identified a median of 2 MRPs of clinical significance and 3 low risk MRPs per patient.

- 62% of high/moderate risk MRPs were resolved at 3-4 month follow-up review.

- This year, the study is ongoing – It continues in Melbourne, and at 4 Sydney sites.

- The future direction of this work is to further expand the number of clinics and specialists pharmacists involved.

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Sydney Pharmacists: Hamish Bowden, Merrion Tom

All of the GPs who refer patients
and of course…the patients.