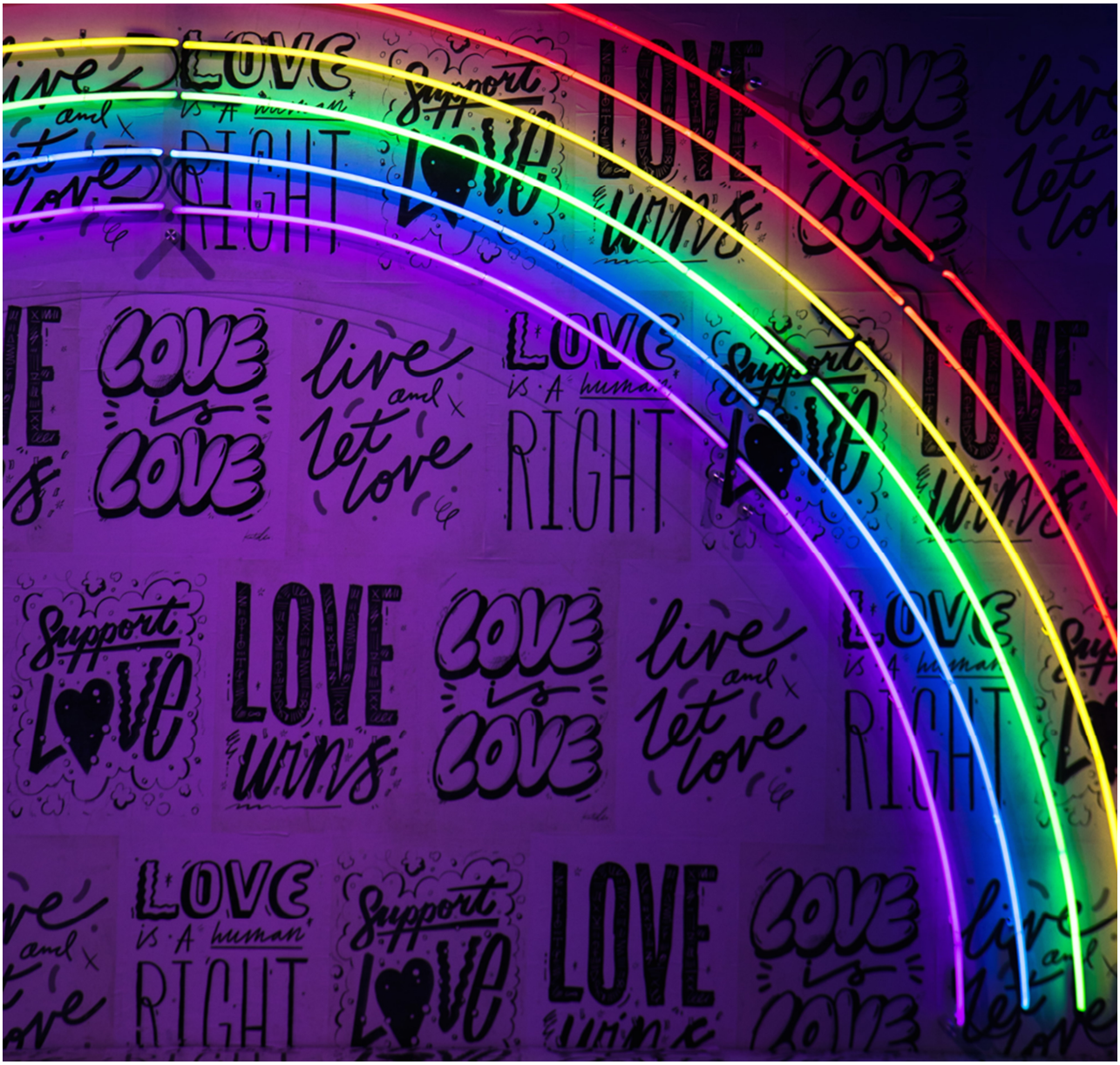
HIVPA Bulletin



August 2019

HIVPA
HIV Pharmacy Association

HIVPA News

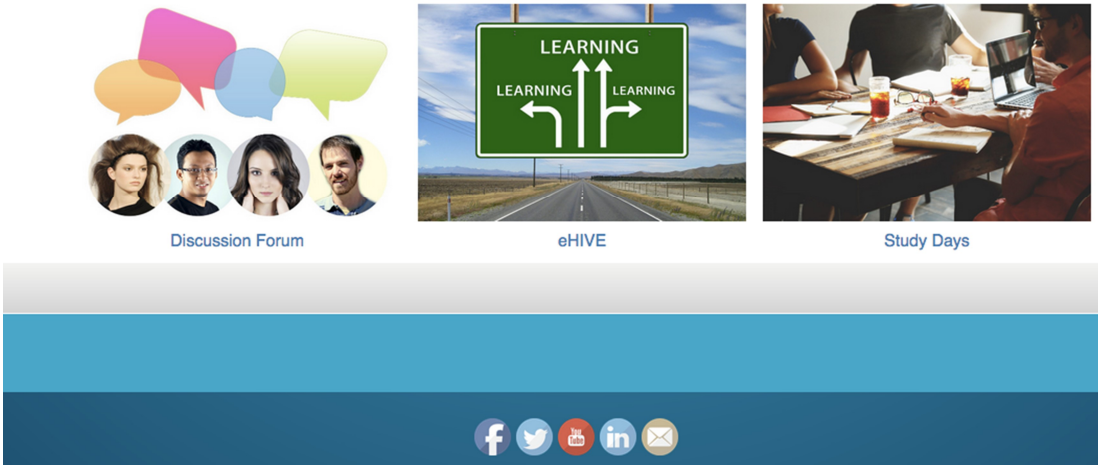
Hello and Welcome

It has been a busy couple of months with our HIVPA study days, the BHIVA spring conference, Clinical Pharmacy Congress, our very successful HIVPA conference and of course all the Pride festivals which I'm sure many of your services have been involved in. Lots of opportunities for networking and developing innovative ideas to improve service delivery.

We have a jam-packed edition of the HIVPA bulletin this month too. Thanks to all our members for their voluntary contributions. The bulletin is a great opportunity to share new initiatives, service developments, conference feedback, research experience and success stories. I would like to say a huge thank-you to all those who have contributed to this edition. If you would have any ideas you would like to share with the HIVPA membership, we would love to hear from you. All contributions are welcome, just drop me an e-mail at bronagh.mcbrien@mft.nhs.uk.

Bronagh McBrien
(HIVPA Bulletin Lead)

HIVPA website



I'm sure many of you have seen the new updates to the HIVPA website. Our tech team have been working hard to make it more interactive and accessible to support your professional development and open up communication between members. We have upgraded the forum and so we need you to get involved. If you have any clinical queries, supply problems, questions about pharmacology or dosing or the weird and wonderful that crops up from time-to-time, the forum is an invaluable link to ask your colleagues working within the specialty. It offers peer support, excellent advice and a network just to discuss current issues, but we need you to get involved. With our recent upgrade all members need to access the website to re-register to use the forum.

Another great way to stay in touch with HIVPA updates and developments are through our social media pages. You can find our social media icons at the foot of the HIVPA webpage. We would love to have our members supporting our updates.

We are constantly updating our eHIVe, which now includes video presentations from the HIVPA study days and quiz questions related to these presentation to support your CPD. This content will be updated following each HIVPA study day, so please keep logging on to access this material, which is usually available within a day or two of the event with the CPD questions uploaded shortly after.

HIVPA News

HIVPA membership

Our membership fee's will remain the same at £60 per annum for 2020. This offers you access to free attendance at the HIVPA study days, regular updates of current issues in HIV from the HIVPA committee and access to a wide range of e-learning resources to support CPD. Please share with your colleagues that any new members joining from November 2019 will have 2020 included as part of that joining fee.

If you have any questions, queries or suggestions about the membership please contact hivpaoffice@gmail.com and Marina or Yvonne are on hand to respond.

RPS articles

The Royal Pharmaceutical Society have reported a number of HIV-related news stories over the last six months, which you can access via the links below.

https://www.pharmaceutical-journal.com/news-and-analysis/news-in-brief/no-new-cases-of-hiv-among-people-in-wales-taking-prep/20206834.article

https://www.pharmaceutical-journal.com/news-and-analysis/news/more-than-a-quarter-of-sexual-health-clinics-closed-to-new-prep-trial-places/20206728.article

https://www.pharmaceutical-journal.com/news-and-analysis/news-in-brief/mps-call-for-new-sexual-health-strategy/20206624.article

Sponsors

HIVPA would like to thank all of our sponsors for their continued support in 2019

Gilead Sciences (UK) Ltd
Merck Sharpe and Dohme
Mylan
ViiV Healthcare
Dr Reddy's Laboratories (UK) Ltd

The support of our sponsors is essential to much of the work carried out by HIVPA including events such as study days and conference. Thank you!

Dates for your diary

HIVPA

HIV Pharmacy Association

HIVPA Study Days

HIVPA study day's are open to any pharmacy, healthcare staff and those with a special interest in HIV so please feel free to share information about this event with your colleagues. Attendance at this meeting is free for HIVPA members. A small charge of £25 is required for non members, payable in advance.

The Study Days are held at the Pullman hotel, 100-110 Euston Road, London NW1 2AJ near Euston and Kings Cross train stations. Pullman Hotel website

To reserve your space on any of our Study Days please email Yvonne on hivpaoffice@gmail.com

18th September, 2019:

'Comorbidities, drug-drug interactions and polypharmacy'

Book online now before 9th September. Draft programme can be accessed via the HIVPA website https://hivpa.org/wp-content/uploads/2019/08/Study-Day-Programme-September-2019.pdf

21st November, 2019:

'Prevention, Genitourinary medicine and health beliefs'

Dates for your diary

Dates for your diary

HIVPA

HIV Pharmacy Association

Conference 2020

Our annual conference will take place at the Raddisson Blu Hotel, Queensway, Birmingham, 12/13 June 2020. Details of our conference programme will be available shortly and below are some of the feedback from this year's HIVPA conference and on the following pages we have research journeys from our poster prize winners and conference review of the virtual clinic.

Well organised, especially long term health topics on trans and stigma.

Good conference
Really enjoyed the virtual clinic.

Thoroughly enjoyed this year, the cases were top notch.

HIVPA Conference

A reflective account on what it means to explore 'complex cases' in antiretroviral treatment.

An important aspect of the pharmacist's role is supporting people to get the most benefit from their medicine, and finding ways to minimise unwanted effects.

Despite such remarkable improvements in response to treatment, the options of drugs that are available to manage HIV, and the dedicated support offered through many clinics, some individuals are being left behind or 'falling through the cracks'.

At this years HIVPA conference, the virtual clinic cases session provided an opportunity for several pharmacists from different clinics to present challenging cases from their own centres. This was an interactive exercise as it allowed for the audience to select suggested treatment options in different scenarios (via an anonymised digital poll). The presenter for each case then explained the rationale for the treatment decisions that had been selected.

One case in particular which made quite an impact on me was that of patient 'X'. This patient was an asylum seeker, with no fixed abode, no regular means of financial support or employment, and no immediate family support. Although this specific scenario is likely to be uncommon for most of the patients we see, the patient factors which her case highlights can be considered for all patients.

Generally when treatment options are considered, factors to support safe and effective treatment will include consideration of viral load, side effects of proposed treatment, mental health and co-morbidities including potential interaction with potential antiretroviral regimen.

In some cases it can be more challenging to appreciate the social factors that may impact long-term adherence to antiretroviral medication.

I have recently learnt more about the distinction between 'illness and disease'. Disease is what clinicians diagnose and treat, whereas illness is the subjective experience of the clinician's diagnosis. This distinction is important, particularly in the context of HIV, as it highlights the fact that experiences of people sharing the same medical condition can vary considerably.

Some of these variations can be attributed to; how accessible a clinic is to a patient, the level of relational support available to an individual, immigration status, religious background and financial support.

An illness narrative is an individual's reflection and expression of their experience of a disease. It helps illustrate the unique 'lived experience' of having a disease. All of us have the same basic needs e.g. food, shelter and social expression, however the way we seek to meet these needs and the hindrances to meeting such needs will vary.

As a pharmacist, I believe supporting adherence to medication extends beyond informing patients how to take medications.

It is equally important to consider our patient's background and social history because we cannot offer them adequate support to take treatment if we do not understand what their priorities are or what they have to navigate and overcome to attend an appointment.

Ratidzai Magura
Northern Devon Healthcare NHS Trust

Poster Prize

HIV SPECIALIST PHARMACY TEAM CONTRIBUTION TO IMPROVING PATIENT CARE IN NHS TAYSIDE

I've been an Infectious Diseases Pharmacist with input into HIV patient care since 1998 and a member of HIVPA for as long as I can remember! I've never attended the conference before but always look forward to viewing the slides and presentations on the website for the conference and the study days. Our team had a pre-registration pharmacist working with us for 2 months over 2018/19 and she managed do a piece of work looking at drug interactions in our cohort that I had been meaning to do for a very long time! From that I thought it would be good to try and put a poster together for the HIVPA conference with some other pieces of improvement work we had been doing in Tayside and I was absolutely delighted when it won the Ushma Patel Poster Prize. The whole conference was a great experience and it was lovely to network with pharmacists and pharmacy technicians working in HIV and ID.

We have been fortunate enough to have had pharmacy input into the HIV service in Tayside for a long time but the increasing patient numbers over the years meant the clinical input was minimal while ensuring medication supplies became the main focus of the work. After a long process (having proved medicines cost savings) I was successful in securing funding to increase my hours from 7 to 15 hours a week and for a pharmacy technician 15 hours a weekWe set about doing various pieces of service improvement work with the rest of the team; ensuring we thought about appropriate skill mix and roles.

Having a pharmacy technician in post has enabled us to embed medicines reconciliation and interaction checks into our clinic processes. We also highlight any GP records that do not have ARVs listed or are listed incorrectly so they can be updated.

Our waste reduction initiative has been hugely successful; saving £240,000 in 3 years, by simply asking patients how many full boxes they have at home and only supplying what is needed. It's been a good way to flag up adherence issues too!

Our pre-registration pharmacist looked at all the interactions identified on our patient summary sheets and categorised them which has been useful for training new members of staff and other health care professionals prescribing for this patient group.

Vaccine provision was an area the whole team felt we could definitely improve on. As we have no electronic record or prescribing system it was difficult to track what vaccines had been administered and which were due. I developed a standard prescription which is kept with the patient's ARV prescription; I then highlight on the summary sheet which vaccines are due or if monitoring tests are required. This has worked really well as you can see from the large increase in numbers administered in the poster.

Increasing my clinical role was really important to me and the team. I did my non medical prescribing course a number of years ago but can now this skill routinely by implementing my own weekly clinics and prescribing for patients who get their ARVs via community pharmacy. The community pharmacy option for medicine provision has increased in numbers since it started in 2012 and has allowed us to keep some challenging patients engaged in care.

Overall the increase in funding has definitely helped us to use the skill mix improve patient care in a number of ways and deliver further medicines efficiencies.

Kirsteen Hill
NHS Tayside, Dundee

HIV SPECIALIST PHARMACY TEAM CONTRIBUTION TO IMPROVING PATIENT CARE IN NHS TAYSIDE

Kirsteen Hill, Specialist HIV/Antimicrobial Pharmacist, NHS Tayside
Sarah Thomson, Specialist HIV/Antimicrobial Pharmacy Technician, NHS Tayside
Anna Kidd, Pre-registration Pharmacist, NHS Tayside

BACKGROUND

BHIVA[1] and Health Improvement Scotland[2] recommend specialist pharmacy provision to HIV services. NHS Tayside has a cohort of 370 patients with no local database, electronic record or prescribing system. A successful business case in 2016 increased HIV pharmacist (HIVP) time to 15 hours and funded a pharmacy technician (PT) post for 15 hours. A review of contribution to improvement work by the HIV pharmacy team was conducted and information collated.

IMPROVEMENT WORK AND OUTCOMES

Patient Summary Sheet

A patient summary sheet was developed by the multi-disciplinary team. The pharmacy team contributed significantly to input of information.

Data was collated from the summaries:

Number of completed medication histories
Prior to utilisng summary sheets, medicine histories were only routinely done prior to a patient starting or switching antiretrovirals (ARVs).
Within 10 months all patients had a completed summary sheet and medication history.

ARVs recorded correctly on primary care record/emergency care summary (ECS) (Fig 1)
This is a local clinical governance recommendation for all hospital medicines.
69% of patients had their ARVs correctly recorded on primary care record (10% incorrect, 10% not yet been consented, 3.5% declined, 7.5% no data).

Number and type of interactions identified (Fig 2)
205 interactions were identified in 135 patients and advice given to prescribers and/or patients. Examples of some of the common interactions are given in figure 2.

Fig 1.

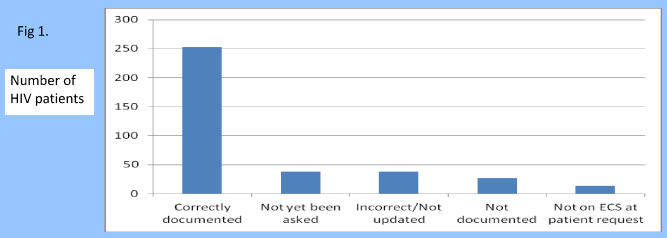


Fig 2.

Most Common Interaction

Psychiatric medicines including antidepressants/anxiolytics/antipsychotics
Calcium channel blockers
Calcium/Vitamin D supplementation
Beta blockers
Stomach acid reducing medicines
Erectile dysfunction medicines
Inhaled corticosteroids
Anticoagulants/Antiplatelets
Tamsulosin
Iron supplementation
Levothyroxine
Opiate Replacement/Analgesia
Multivitamins
ACE inhibitors
Non steroidal anti-inflammatory medicines
Carbamazepine
HRT and Contraceptives
Orlistat

Least Common Interaction

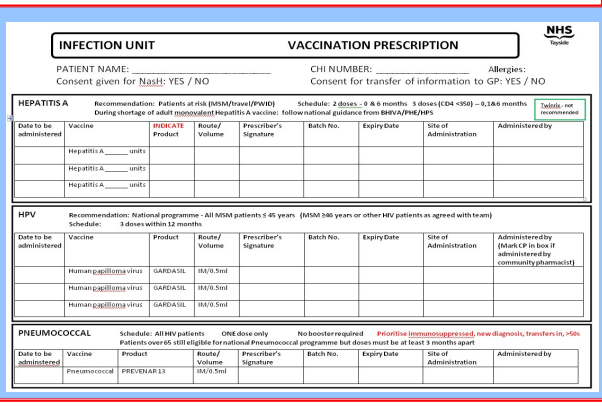
Wastage Reduction Initiative

A formal system was developed by the PT. Patients were sent text reminders prior to clinic to check supply at home. Discussion with patients at clinic ensured only the quantity actually required until next appointment was supplied.
Reduction in excess supply of ARVs lead to **savings over 3 years of £240,000**.

Vaccine Prescribing

A standard vaccine script (Fig3) was developed by the HIVP and outstanding vaccines required highlighted on the summary sheet for discussion with the patient at their next appointment. Prior to the standard script there was often inconsistency in vaccine schedules and doses prescribed.
Uptake of **vaccines in clinic increased significantly from 2017 (36 vaccines) to 2018 (310 vaccines)** including Hepatitis A, Hepatitis B, HPV and pneumococcal. Influenza vaccines are administered in primary care.

Fig 3.


INFECTION UNIT — VACCINATION PRESCRIPTION

PATIENT NAME: _____ CHI NUMBER: _____ Allergies:
Consent given for NasH: YES / NO — Consent for transfer of information to GP: YES / NO

HEPATITIS A — Recommendation: Patients at risk (MSM/travel/PWID) During shortage of adult monovalent Hepatitis A vaccine: follow national guidance from BHIVA/PHE/HPS — Schedule: 2 doses - 0 & 6 months 3 doses (CD4 <350) – 0,1&6 months — Twinrix - not recommended

Date to be administered	Vaccine	INDICATE Product	Route/ Volume	Prescriber's Signature	Batch No.	Expiry Date	Site of Administration	Administered by
	Hepatitis A _____ units							
	Hepatitis A _____ units							
	Hepatitis A _____ units							

HPV — Recommendation: National programme - All MSM patients ≤ 45 years (MSM ≥46 years or other HIV patients as agreed with team) — Schedule: 3 doses within 12 months

Date to be administered	Vaccine	Product	Route/ Volume	Prescriber's Signature	Batch No.	Expiry Date	Site of Administration	Administered by (Mark CP in box if administered by community pharmacist)
	Human papilloma virus	GARDASIL	IM/0.5ml					
	Human papilloma virus	GARDASIL	IM/0.5ml					
	Human papilloma virus	GARDASIL	IM/0.5ml					

PNEUMOCOCCAL — Schedule: All HIV patients ONE dose only No booster required Prioritise immunosuppressed, new diagnosis, transfers in, >50s — Patients over 65 still eligible for national Pneumococcal programme but doses must be at least 3 months apart

Date to be administered	Vaccine	Product	Route/ Volume	Prescriber's Signature	Batch No.	Expiry Date	Site of Administration	Administered by
	Pneumococcal	PREVENAR 13	IM/0.5ml					

Pharmacist Clinic and Independent Prescribing

The PT was trained to provide ARV education to patients allowing an **HIVP clinic to be set up to utilise independent prescribing**, provide better skill mix and free up medical appointments. Patients attend HIVP clinic for:

- start or switch of ARVs
- treatment and vaccine monitoring
- adherence review for patients with detectable viral loads
- review of stable patients not requiring medical input

Community Pharmacy Supply of ARVs

A formal service agreed with Community Pharmacy Tayside was set up in 2014 after a successful pilot in 2012[3,4]. HIVP writes prescriptions and co-ordinates the scheme which includes patients on opiate replacement therapy and monitored dosage systems.
From 2016 to 2019 the number of **patients included has increased from 4 to 20**. Joint working with the Harm Reduction Team has supported monitoring when patients fail to attend clinics. There has been an increase in retention in care for difficult to engage patients.

MDT Governance and Clinical Guidelines

The HIVP developed the local formal MDT system in 2016 to make sure all patients starting or switching medicines are discussed and decisions documented. This process has included development of bone and renal guidelines, with input from local specialists, ensuring appropriate referrals.

DISCUSSION

Investment in specialist pharmacy provision has benefited patients, clinicians and NHS Tayside. Improvements include:

- **appropriate use of skill mix**
- **medicines efficiencies**
- **improved governance and safer prescribing of ARVs and vaccines**
- **increased retention in care using community pharmacy supply scheme**

Further work required to increase primary care recording of ARVs and reduce risk of interactions and adverse effects.

REFERENCES

1. BHIVA standards of care for people living with HIV; 2018
2. HIV services standards; Healthcare Improvement Scotland 2011
3. Providing HIV Care in Community Pharmacy, *Clinical Pharmacist*, May 2016, Vol 8, No 5,
4. HIVPA Bulletin March 2017

Poster Prize

Drug- Drug Interactions in the Over 50s

The success of antiretroviral therapy and increase in life expectancy for people living with HIV (PLHIV) means that the cohort is aging. It is generally accepted that as the population ages, co-morbidities and medicine use increases, and there have been reports that this may occur at a younger age in PLHIV compared with their HIV negative counterparts. Various studies have looked at the numbers of drug- drug interactions (DDIs) identified in patients taking antiretroviral therapy (ART) and at our centre we audited drug interactions in our cohort in 2015 and have contributed to the Climate-HIV study and the 2018 BHIVA audit on management of HIV in older people. However, these studies did not investigate whether the identified interactions have been appropriately managed, so in this piece of work as well as looking at the numbers and categories of interactions, we also aimed to check whether interactions requiring dose adjustment or monitoring had been managed appropriately.

We identified the patients born in 1969 or earlier (and therefore aged 50 or over by the end of 2019) currently receiving care at our centre, their current ART and demographic details from our database. A band 7 pharmacist checked each patient's Summary Care Record (SCR), documented all prescribed medicines, checked for interactions on the Liverpool website (https://www.hiv-druginteractions.org/checker) and recorded any interactions together with the severity (red/ amber/ yellow). The specialist HIV pharmacists checked the interactions to identify whether any action was required and to implement any necessary changes to patients' treatment or monitoring.

The data presented here and at the HIVPA annual conference is a preliminary analysis of the data we collected and further work is planned to investigate whether any particular groups of patients are at particular risk of drug- drug interactions and whether drug interactions affect the outcomes of co-morbidities such as meeting treatment targets for hypertension and lipids. The results also highlight the need to work closely with other specialties and primary care to raise awareness of the risk of DDIs with commonly prescribed medicines such as clopidogrel that are not often considered to have a high risk of interaction with other agents.

Alison Darley
Nottingham University Hospitals

1. A Darley, R Bell and M Pammi (2015): Drug interactions experienced by patients taking antiretroviral therapy. 21st Annual Conference of the British HIV Association (BHIVA) 21-24 April 2015, Brighton. Abstract P22
2. C Okoli et al. (2018): Using climate-HIV to describe non-antiretroviral use and potential DDIs for people living with HIV within a UK cohort. HIV Glasgow 28-31 October 2018, Glasgow. Abstract P263.
3. BHIVA Audit and Standards Subcommitte (2018). HIV monitoring and assessment in Older Adults: BHIVA national clinical audit. Presented at BHIVA Autumn Conference 4-5 October, 2018, London.

Drug Interactions in the Over 50s: Preliminary Analysis

A Darley, T Feather, H Shiekh

Nottingham University Hospitals NHS Trust
Sexual Health

Background

Effective antiretroviral therapy (ART) has drastically improved the life-expectancy of people living with HIV (PLWHIV) resulting in an ageing cohort. Increased age is associated with an increasing number of co-morbidities and higher risk of polypharmacy. Many drugs used in ART are prone to drug-drug interactions which can have serious consequences. This study aimed to analyse the different co-medications prescribed for PLWHIV at our centre, and determine the number and type of drug-drug interactions (DDIs). We also examined whether treatment needed changing due to the DDIs identified.

Method

All PLWHIV receiving ART at our centre born in 1969 or earlier were identified from our patient database. The Summary Care Record (SCR) and co-medication already included in the patient database were recorded along with current ART and demographic details. The ART and co-medication were entered into the Liverpool HIV drug interactions website and the number of red, amber and yellow interactions recorded. For each interaction identified, doses and records were checked to determine whether treatment changes were required.

Results

A total of 527 patients were identified of whom 213 were excluded as they were not currently receiving ART according to our records. 87 have yet to have their drug history checked and were excluded from this preliminary analysis. A summary of demographics and results is shown in Table1 and the severity of drug interactions identified is shown in Graph 1.

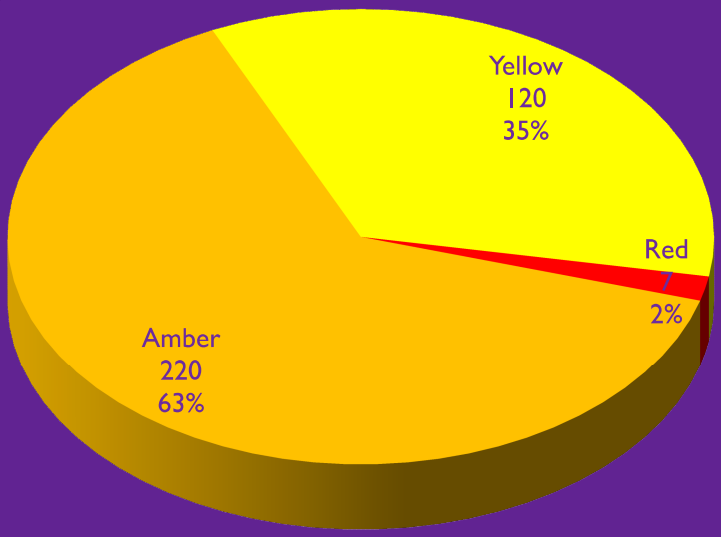
The risk of polypharmacy increased with age from 44.1% in patients <60 to 57.5% for ages 60-69 and 64.7% in the over 70s.

7 red interactions were identified: 4 involved clopidogrel + boosted PI. 1 was carbamazepine + DRVc and one carbamazepine + Etravirine. One was omeprazole + atazanavir/c. The etravirine + carbamazepine had been previously documented and TDMs checked with a clear plan to continue current treatment documented.

220 amber interactions were identified of which 52 require monitoring for reduced efficacy of the co-medicine and 44 need monitoring due to an increased risk of side effects or toxicity. 8 patients need their treatment adjusting: 3 patients require solifenacin dose reduction, one needed atorvastatin dose reduction and one dose was higher than recommended due to increased levels with boosted ART. One patient was taking garlic supplements that may reduce rilpivirine levels and needs to be advised of this. 1 patient needs their ranitidine dose altering due to being on rilpivirine and one may need to switch off clopidogrel due to an interaction with Nevirapine. Four patients are on ≥2 agents that may prolong QTc and ECG monitoring should be considered. 6 interactions that may affect absorption were identified, 5 divalent cations with integrase inhibitors and one cholestyramine. 4 patients taking EFV are taking antidepressants and may need their ART reviewing.

Table 1		Number	%
Patients included		368	100
Female		101	27.4
Men who have sex with men (MSM)		123	33.4
Black African		86	23
ART	containing enzyme inducer	139	37.8
	including integrase inhibitor	125	34.0
	containing ritonavir or cobicistat	108	29.3
Number of patients taking ART only		130	35.3
Total number of co-meds prescribed		1049	
Mean number of co-meds per patient		2.9	
Taking ≥5 medicines		180	48.9
Total number of interactions identified		347	

Graph 1: **Severity of Drug Interactions**



Conclusions

This study examined information contained within the SCR and patient database, which may not be complete as medicines administered in clinics, prescribed by other specialties (e.g. psychiatry, contraception) or obtained without prescription are not included. The number of DDIs may be underestimated and all drug histories should be confirmed with the patient.

Our analysis confirms that older patients are at risk of harm from DDIs and need frequent drug history checks. The most frequent co-medicine involved in red interactions was clopidogrel. Data relating to this interaction was published in 2018 and awareness of this interaction may be lower than for more established DDIs such as those between ART and statins where only one patient was not on an appropriate dose.

Regular review of patients' complete drug history and checking for drug interactions is critical for providing safe and effective care. Effective communication with patients and others involved in their care can help reduce the risk of harm due to DDIs.

Poster Prize

Antiretroviral drug wastage trends and costs over an eight year period at a large multidisciplinary teaching hospital

Our research journey into ARV drug wastage began back in 2010 with a big green box under the pharmacists' desk containing returned medications. This box was becoming increasingly full and the pharmacists were running out of leg room (NB; this box was in a locked room, in a locked department, with monitored temperature control!).

This prompted one of our current pharmacists, Sutej, to investigate the accumulation of the contents of said box, revealing enough stock of Atripla®/Truvada & Efavirenz to treat one patient for a 14 month period! An even bigger surprise was that these medications were unopened, returned by patients and were ready for disposal at the Pharmacy!

Since this discovery, information had been collated on a spreadsheet but had never been analysed. This included recording of patients' details, the medicines that were returned, the quantity returned and simple reasons for return. However, early data collection was limited and incomplete because the reasons for wastage were not always clear or readily accessible.

The initial analysis of data occurred in 2014 (a fantastic 4 years' worth of data) and this was presented as a poster at the BHIVA 2014 conference. The key findings were that 36% of all reasons for medication being returned were due to toxicity and tolerability and 24% were due to simplification of anti-retroviral regimes. The results of this initial 2014 audit were also presented internally with our consultants and the wider multi-disciplinary team. We felt that simplification was a straightforward process that we could target in reducing drug wastage. A plan was put in place to ensure that when patients were switched for simplification reasons (i.e.; Truvada + Efavirenz to Atripla®, or Kaletra® to Darunavir + Ritonavir, or Darunavir + Ritonavir to Rezolsta®), that they use up their existing supplies first.

We have continued to collect data from then on, with the spreadsheet being revamped and refined. Pivot tables were produced. Earlier data was re-validated to ensure accuracy and consistency, including thorough review of patients' records to investigate specific reasons for the wastage. We also categorised the reasons for wastage into clinical and non-clinical reasons.

Pertinent clinical reasons included; side effects from regime, decline in renal function, abnormal liver function tests, high cardiovascular risk, bone issues and drug interactions. Non-clinical reasons such as expired stock, patients' not collecting their medications and patient's lifestyle/choice were also considered. We also factored in the amount of wastage attributable to prepared blister packs. We recognised that some patients returned medication for more than one reason, and/or on more than one occasion, and so we classed this as an individual 'drug wastage episode' (DWE).

After further results analysis over an 8-year period, we found that changing regime due to side effects was now the main reason for drug wastage, attributing to 32% of DWEs. Drug wastage due to simplification of regime has also declined (now 15% of total drug wastage episodes) which shows that a stark improvement has been made in encouraging patients to use up old supplies before switching to simplified new regimes. We are also now better at tracking prescriptions and reducing medication quantities within clinic.

This one bright idea has led to 8 years (and counting) worth of data that can be further analysed. Our vision is to help our HIV service and others to understand reasons for drug wastage and to look at ways of avoiding it, which in turn helps the wider health economy. We also now no longer need such a large box!

Kai-Yee Chan, Hammara Sattar, Sutej Sivia, Jay Martin-Lamb

University Hospitals Birmingham

Antiretroviral drug wastage trends and costs over an eight year period at a large multidisciplinary teaching hospital

Lead Authors: Kai-Yee Chan, Hammara Sattar, Sutej Sivia (Specialist HIV Pharmacists), Jay Martin-Lamb (Clinical Nurse Specialist).
Co-authors: Dr Kaveh Manavi (Lead Consultant in GU Medicine), Karen Breau, Rachel Warrillow, Mary White. GU Medicine Department, University Hospitals Birmingham. Correspondence to: sutej.sivia@uhb.nhs.uk

Background

- Pharmaceutical waste is a fundamental issue within the NHS with over £300 million of NHS prescribed medicines being wasted each year[1]. It is important that each healthcare setting explores the reasons for drug wastage and identifies ways to support its' reduction.
- Following our 2014 audit regarding reasons and financial impact of switching antiretroviral drugs[2], we determined that data collection within our department on drug wastage has significantly improved since then.
- The previous audit only focused on drug wastage due to switching antiretrovirals. It did not consider additional reasons, such as non-collection, changing to blister packs or mortality.
- Therefore, we comprehensively re-analysed previous records from 2010 to 2014 and added four years of data up until 2018 incorporating the additional reasons.

Aim

To explore the magnitude of antiretroviral drug wastage and associated reasons, over an eight year period within the GU department at the Queen Elizabeth Hospital, Birmingham.

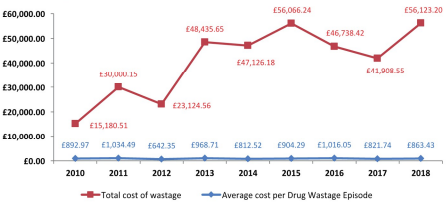
Method

- Data were based on medication returned to the clinic by patients.
- Data were collected on a Microsoft Excel spreadsheet and waste costs calculated with BNF November 2018 prices to ensure parity.
- Some patients returned medication for more than one reason and/or more than one occasion. This was classed as individual **'drug wastage episodes' (DWE)**.
- We ensured that wastage costs were not duplicated if a patient returned a medication for multiple reasons.
- Patient identifiable data were included for accuracy and consistency.
- Data were validated using the Trust's Electronic Prescribing system and patients' electronic notes. Pivot tables were used for data-analysis.

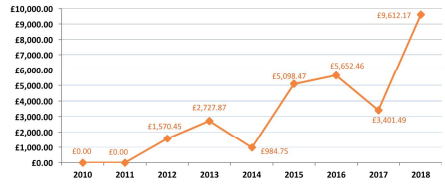
Results

- There were 378 patients involved in the audit with 414 DWE.
- The overall cost of drug wastage was £364,703.46.
- Blister pack wastage totalled £29,047.66 out of the total drug wastage between 2010-2018.
- Side effects accounted for 32% of overall DWE, which is the biggest reason for wastage of antiretroviral medications.
- Simplification of regimes equated to 15% of DWE compared with 24% in the previous audit[2].

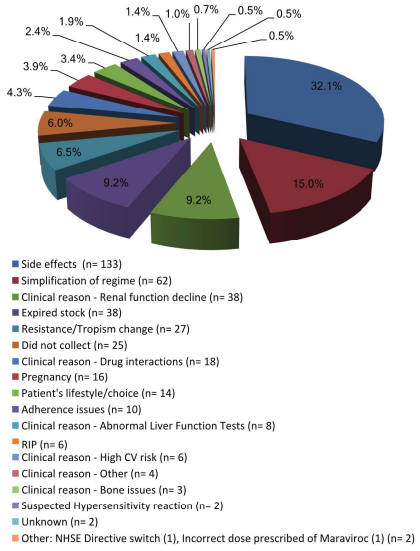
Total annual cost of Antiretroviral drug wastage in the audited patients (n= 378)



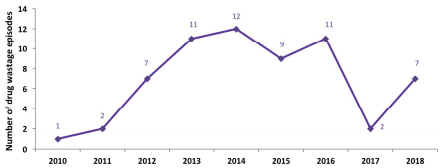
Annual cost of Blister Pack Wastage over audit timescale



Reasons for Drug Wastage from 2010-2018 (n= 414 DWE)



Trend in Drug Wastage Episodes due to Simplification of regime



Discussion

- The total cost of wastage has increased over time; however we have been increasingly encouraging patients to return stock.
- Recording of DWE data has significantly improved over the time period.
- Despite increased drug expenditure, wastage costs have not risen when adjusted for DWE.
- We now have a better understanding as to why medications are wasted.
- Blister pack wastage has increased in line with patients' needs for blister packs. These patients may already have adherence issues, which can make wastage via blister packs more likely. There is also an improvement in the return of unused blister packs from patients, that have now been accounted for.
- Changing regime due to side effects remains an unavoidable cause for drug wastage, attributing to 32% of the total DWE.
- Our 2014 audit highlighted that simplification was a major reason for drug wastage amounting to 24% of the total between 2010 and 2014[2]. Following on from this, changes have been made which have led to a significant decline in wastage due to simplification, with the average now being 15% over an eight year timescale.
- Patients are now advised to use up old medication supplies before switching to new regimes for non-clinical reasons. Additionally, we have stricter monitoring of patients' medication supply from clinic.

Limitations

- The data does not reflect regional drug contract prices, or brand to generic switches as guided by NHS England.
- Data collection was mainly dependent on patients' returning their unused medications to clinic.

Acknowledgements

We extend our thanks to all the staff at the GU clinic at UHB and especially our patients for their stock contributions.

References

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2. Sivia S, Punj E, Singh R, Gowa R, Manavi K. The reasons and financial impact of switching antiretroviral drugs; room for improvement ? Poster presented at BHIVA conference 2014.

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eHIVe CPD Questions

Test your knowledge on a sample of questions from our eHIVe portal on the HIVPA website. Speaker presentations from the HIVPA conference and HIVPA study days are there with a quiz for each topic which can be used to support your CPD

What was the first anti-retroviral therapy (ART) used and the first single tablet regimen (STR) used?

- Aciclovir and Juluca
- Lamivudine and Triumeq
- Abacavir and Stribild
- Zidovudine and Atripla
- Tenofovir Disoproxil

There is a successful preventative vaccine for HIV in the pipeline?

- a. True
- b. False

Should patients with HIV associated cognitive change be treated with an Efavirenz containing regimen according to the BHIVA guidelines?

- Yes
- No

Which of the following is/are FALSE regarding integrase resistance?

- a. Dolutegravie 50mg twice daily should be used if a patient has integrase strand transfer inhibitor resistance-associated mutations (INSTI RAMS)
- b. A patient experiencing early failure on raltegravir or elvitegravir is unlikely to still be susceptible to dolutegravir
- c. Extensive cross-resistance occurs between raltegravir and elvitegravir through mutations at positions 155 and 148
- d. Raltegravir is recommended for use as single drug intensification
- e. Integrase is not susceptible to cross-resistance

With the success of DAA's in the management of Hepatitis C, many patients achieve sustained virological response (SVR). Goals of treatment have now moved towards focusing on improving both hepatic and extrahepatic clinical outcomes.
Which of these factors affect liver wellness after SVR?

- a. Obesity
- b. Gender
- c. Smoking
- d. High cardiovascular risk
- e. Reduced renal function

Which of the following statements are TRUE?

- a. Most drug resistance in the UK develops in patients who do not take their treatment as prescribed
- b. Individualised treatment of MDR-TB is associated with better outcomes than standardised treatments
- c. 20% of individuals hospitalised with MDR-TB in the UK lose their homes
- d. Bedaquiline is the only new TB drug in the last 20 years
- e. Linezolid is recommended by WHO as a first line treatment for MDR-TB

Sharing positive messages about HIV with friends and family can help alleviate stigma.

- True
- False

Which of the following anti-retroviral's cannot be taken with proton pump inhibitors?

- a Symtyza
- b Eviplera
- c Truvada
- d Atazanavir
- a and d
- a and c
- b and d
- Other

What does 90-90-90 mean?

- Knowing where their HIV clinic is, living with HIC, receiving ART
- Knowing their HIV viral load, living with HIV and seeing their HIV doctor, getting their bloods checked regularly
- Knowing their CD4 count, living with HIV, receiving ART will have viral load suppression
- Knowng their HIV status, living with HIV will receive ART, receiving ART will have viral load suppression
- Knowing their HIV status, living with HIV and receiving healthcare, receiving ART medications

Trans people have higher rates of HIV globally than MSM

- True
- False

Regional Updates

East Anglia Regional Study Day

A regional Study Day was held in East Anglia in July 2019. Organised and chaired by Portia Jackson, HIVPA Regional Lead and Regional Representative for East Anglia, the event was kindly sponsored by Viiv Healthcare and well-attended by specialist pharmacists and nurses, pharmacy technicians and clinical psychologists working in the field in the region.

The day commenced with a session presented by Dr Nadine Chamay, Medical Advisor, Viiv Healthcare, on Prospects for HIV Cure addressing the importance of cure, the limitations associated anti-retroviral therapy (ART) and HIV persistence, and the goals of cure research both in terms of eradication and remission. It went on to consider the barriers to finding an effective cure, such as anatomical reservoirs, latently infected T-cells, residual viral replication and immune dysfunction, and various strategies to overcome these that are undergoing investigation including latency reversing agents, broadly neutralising antibodies, vaccines and gene-editing therapy. The session concluded with some real world examples of cure, such as the Berlin patient, the Boston cases, the Mississippi baby and the post-treatment controllers participating in the VISCONTI and SPARTAC trials, before going on to review the future prospects for cure, including the need for any cure to compete with novel ART in terms of cost, sustainability and accessibility, and ethical considerations.

Dr Chamay went onto to give a session looking at current 'hot topics' in HIV, focussing on pregnancy, cabotegravir and weight gain. Evidence for the use of dolutegravir in pregnancy and its possible association with neural tube defects was considered, looking in particular at the Tsepamo study which resulted in the identification of the concerning preliminary early signal for dolutegravir in this respect. It also reviewed the data from the Anti-retroviral Pregnancy Registry for integrase inhibitor (INSTI) exposure for central nervous system and neural tube defects and the data provided by the DOLPHIN-2 trial, designed to evaluate virological responses of dolutegravir and efavirenz-based regimens in 3rd trimester initiation of ART. The potential role of cabotegravir, its place in therapy and its pharmacodynamic and pharmacokinetic profile were examined, including its safety and efficacy, resistance and interaction profiles as were data from the LATTE-2, ATLAS and FLAIR studies, the key clinical trials supporting its use when combined with rilpivirine as a long-acting, novel 2-drug regimen. Finally, the section on weight gain covered the risk factors for excess weight gain following switch to INSTI-based ART and the evidence for weight gain among both treatment-naïve persons starting INSTIs and treatment-experienced adults. This generated vigorous discussion regarding our own experience in practice of managing patients taking INSTIs and presenting with weight gain and the role that lifestyle and other external factors may play.

The day concluded with a case study-based session around the use of dolutegravir in 2-drug regimens presented by Dr Mike Youle, Consultant in HIV Medicine, Royal Free Hospital. The cases included a comprehensive review of the key clinical trials investigating the use of regimens using dolutegravir and lamivudine, including the GEMINI-1 and -2, ASPIRE and ANRS 167 Lamidol studies and dolutegravir and rilpivirine, considering evidence from the SWORD-1 and -2 studies. Real world evidence from cohorts in both Bristol and at the Royal Free Hospital was also considered which, together with the case studies, assist in putting data, and use of such regimens, into context.

All round this was a very interesting and informative event, and provided a valuable opportunity to network with other professionals working in the field in the region. The next regional study day in East Anglia is scheduled to be held on Friday 17th January 2020. Further details will be posted on the Regional Discussion Forum in due course, so please keep an eye out for these in the coming weeks.

Portia Jackson,

HIVPA Regional Lead and Regional

Regional Updates

North of England Regional Study Day

On Tuesday 14th May specialist pharmacists from the North West, Yorkshire and the North East met in Leeds for a study day focussing on medicines optimisation in HIV, kindly sponsored by ViiV Healthcare. This was the first regional study day for some time and was a fantastic opportunity for pharmacists from across the region to share best practice.

In the morning ViiV presented their medicines optimisation model, demonstrating cost efficiencies through switching ARV regimens. The group were then given the opportunity to share the challenges and successes of working with the North of England treatment algorithm and the NHSE Commissioning for Value guidance in their own centres. This was by far the most popular session of the day as it was an opportunity to discuss how services had adopted and adapted these guidelines and how to champion the role of pharmacists in HIV services.

The afternoon sessions concentrated on 2-drug regimens with Ghadeer Muqbil a Senior HIV Pharmacist at St George's Hospital London attending to discuss their place in therapy. The group were also given the opportunity to compare their experience of 2-drug regimens and this opened up into a useful discussion about difficult treatment decisions.

Overall feedback of the study day was that it was enjoyable and informative and that it led to reflection on current practice. Attendees valued the opportunity to network with local colleagues and unanimously requested future meetings in order to develop more collaborative working and celebrate the successes of HIV pharmacists across the region.

Kathryn Ashton,

HIVPA Regional Representative for North of England

Update from East/West Midlands

The East/West Midlands region are working hard for a long overdue reinvigoration of our local study and networking events. In July we sent a questionnaire to our local HIVPA members and non-members to seek their views on what they are looking for from future events. Thank you to all of you who responded. We received a good response which enabled us to conclude that locally we should be aiming for a full or half day study event, free to attend, open to HIVPA members and non-members, based in either Birmingham or Coventry, the best day to run this is Wednesday. The most favoured topics centralised around some of the common challenges we're all facing with meeting the requirements of NHSE and the changing national/clinical landscape in HIV, getting to grips with new guidelines/drugs, managing complex compliance and up-skilling ourselves in areas such as co-morbidities and pregnancy. So watch this space we are looking to run a first event towards the end of 2019 or early in 2020!'

Rachael Leese,
HIVPA Regional Representative for West Midlands