HIVPA: pharmacy, polypharmacy & the future

Chairs:

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Autumn Conference
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ROYAL COLLEGE OF PHYSICIANS, LONDON

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Polypharmacy in people living with HIV

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Conflict of Interest:

Research grants and/or educational honoraria from Gilead, Viiv, MSD

Understanding Multimorbidity

- Between 2015 and 2020 the global population of over 60's almost doubled.
- Multimorbidity needs considered at all ages
- Successes in HAART mean that often HIV is easiest co-morbidity to manage

Understanding Polypharmacy

- Polypharmacy is commonly defined as the concurrent administration of ≥5 medications
- Polypharmacy has been shown to be common in PLWH aged ≥50 years, ranging from 15% up to 94% as reported by several HIV Cohort

Polypharmacy and PLWH

Prevalence of polypharmacy (≥5 non-HIV drugs) in PLWH aged 50 years

Country	Number PLWH	Age, years	Polypharmacy, %
Switzerland	111	≥75	60
Switzerland	131	≥65	46
Italy	1258	≥65	37
USA	1311	≥65	43
USA	89	≥60	74
USA	1715	≥50	36
UK/Ireland	698	≥50	30
Spain	10073	≥50	47
Spain	242	≥50	48
USA	248	≥50	94
USA	1312	≥50	54
Canada	386	≥50	43
Japan	526	≥50	35
Uganda	411	≥50	15

- **Most common comorbidities**:
  - hypertension
  - dyslipidaemia
  - diabetes mellitus
  - kidney disease
  - cardiovascular disease
  - respiratory disorders
  - bone disorders
  - Cancer

- **Higher prevalence of comorbidities in PLWH compared to age-matched uninfected individuals**

- **Multimorbidity (≥2 comorbidities) has been shown to be significantly higher in PLWH**

Back et al. J Int AIDS Soc. 2020 Feb; 23(2): e25449.

Challenges of Polypharmacy for our patients

- Increase in pill burden can have a negative effect of treatment adherence
- May increase likelihood of ADRs- overlapping side effects
- Risks of prescribing cascade- adverse drug reactions or DDI effects interpreted as new diseases and new drugs prescribed…
- Drug drug interactions may be potentiated (not just a+b)
- Adverse health outcomes may include physical decline, cognitive impairment, falls, hospitalization and mortality

Altered Pharmacokinetics in aging patients

Decrease in hepatic clearance

Reduced gastric acid secretion and a delayed gastric emptying time

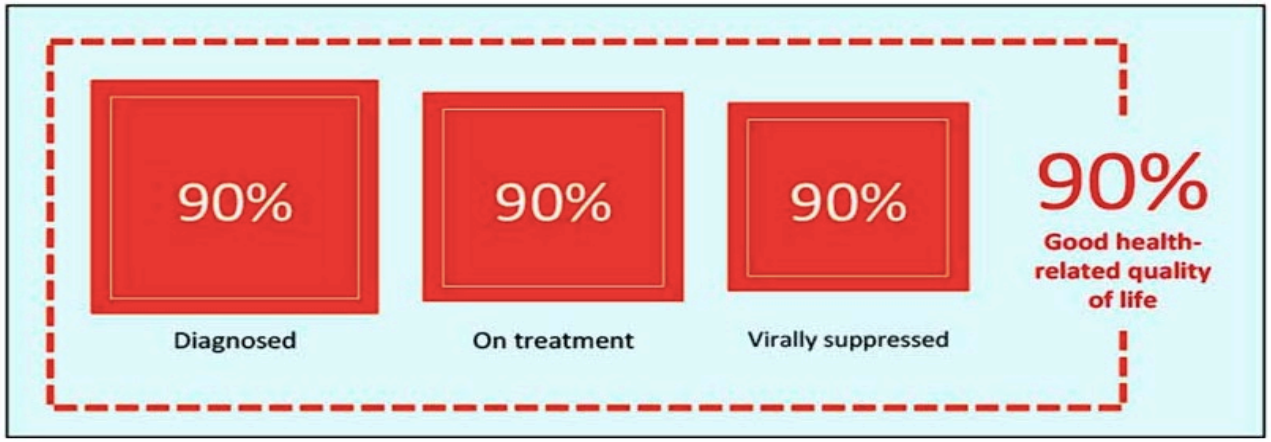
Not included in clinical trials

Reduction in lean body mass and increase in body fat

progressive decrease in renal clearance

Decreased serum albumin- increase in unbound drug

Role of the HIV Pharmacist



Appropriate titration of medications and therapeutic symptom management is important to enable patients to achieve the 4th 90.

- Responsibility for prescribing and/or monitoring of ALL conditions?
- Drug interaction management- beyond Liverpool?
  - a + b + c + d?
  - renal/hepatic impairment
  - co-morbidity
- What does perfect look like?

HIV Pharmacist clinics in 2022 and beyond?

Who's responsibility is it to make sure ALL prescribing is appropriate for PLWH?

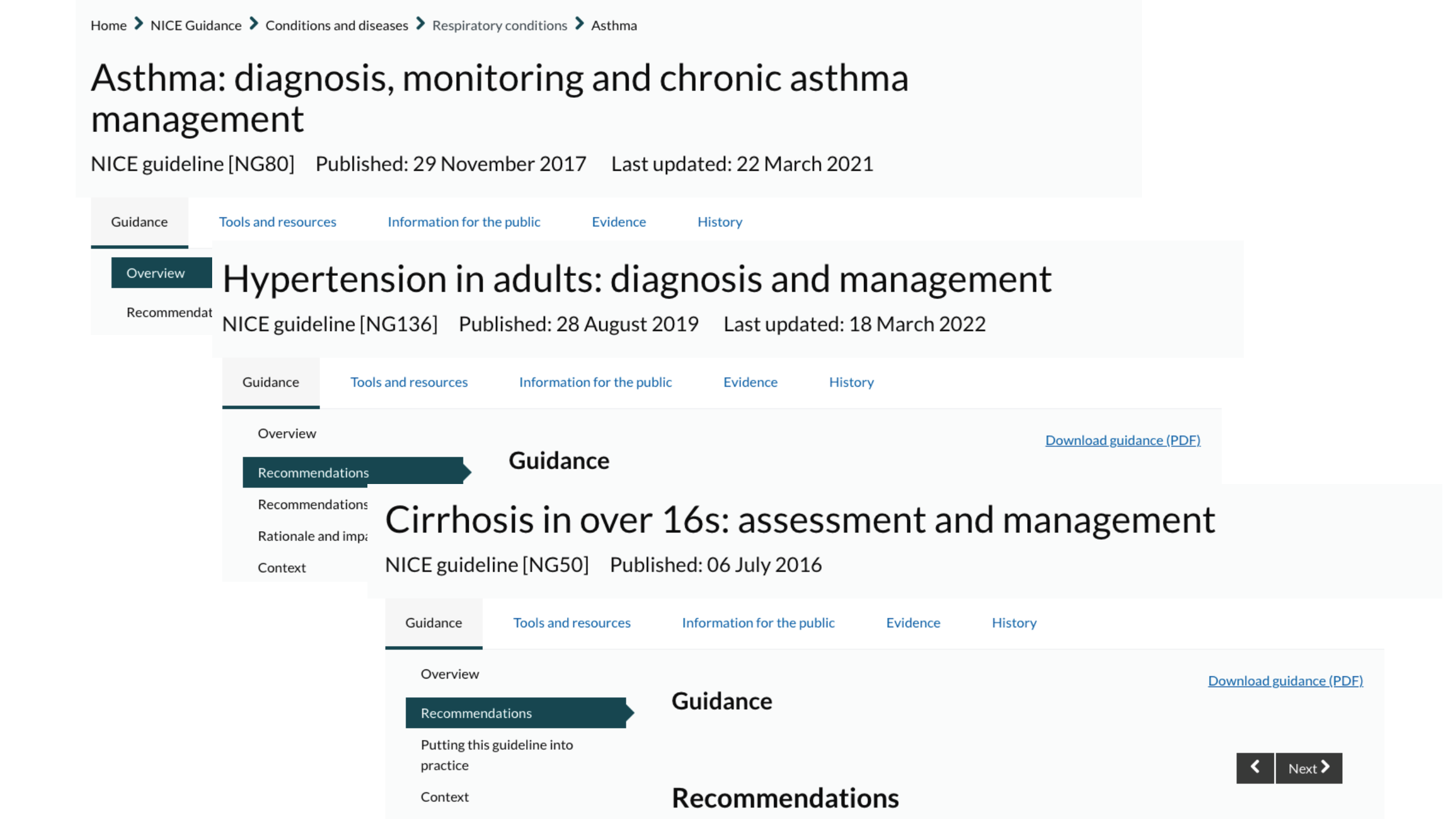
- Co-morbidity reviews? Dose titration or additional agents in uncontrolled hypertension/COPD/mental health etc?

- Polypharmacy reviews/deprescribing
  - medication reconciliation/review/prioritization

- Providing care for poor attenders in other specialities eg cirrhosis monitoring for non attending hepatology PLWH? Add on bloods/TDMs to save visits?

- Reviewing DNA's to understand reasons- can visits be combined?

- Can we use national guidelines for medicines optimization? Refer?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Identifying legacy DDI's

Patient DM

Started DRV/r + Truvada 2014

- On simvastatin – RED
- Switched to low dose pravastatin due to DDI

Switched to Triumeq 2016

- Remains on suboptimal statin and cholesterol not controlled

Patient TF

Started ATZ/r + Truvada 2016

- On Atorvastatin 80mg– AMBER
- Switched to Atorvastatin10mg due to DDI

Switched to Biktarvy 2020

- Dose never increased again

Patient FK

On Genvoya 2015

- Stable asthma at time, switched to beclomethasone instead of previous fluticasone due to DDI

Switched to Triumeq 2018

- Asthma decline
- Documented in notes still not for budesonide or fluticasone
- 15 salbutamol inhalers

Optimisation and managing Toxicity

Patient DJ

On Darunavir/r + ABC/3TC. Stable HIV. History of depression.

- 3 antidepressants 'tried and failed' over 2 years
- None reached optimal dosing over fears of DDI
- Most antidepressants have multiple metabolism/elimination pathways thus lower propensity for DDI
- Cattaneo et al. 2018 showed larger proportion of PLWH were shown to have sub-therapeutic antidepressants levels compared to uninfected individuals

Patient LD

On DOL + TDF/FTC. Stable HIV. Longstanding 'easy' patient. 55 year old male

- Renal function decline over 2 years, slow and subtle.
- Medication review- 12 other medications, co-morbidities well controlled
- 6 medications identified as being renally excreted: TDF, goserelin, allopurinol, gabapentin and OTC ibuprofen and fluconazole

Cattaneo D, Baldelli S, Resnati C, Giacomelli A, Meraviglia P, Minisci D, et al. **Evaluation of the concentrations of psychotropic drugs in HIV-infected versus HIV-negative patients: potential implications for clinical practice**. *World J Biol Psychiatry*. 2018;**1–7**

Conclusion

- An aging cohort of PLWH includes many issues with multi morbidity, polypharmacy and polyprescribers that will only increase in future.
- As boosted HAART use has decreased the unique skill set pharmacists possess should shift care to enable a more holistic medication review - meeting the fourth 90 target by becoming the principle expert on ALL prescribed medications.
- DDI's still need to be considered in all HAART with clinically significant effects potentiated in patients on polypharmacy.
- Medication optimisation and de-prescribing reviews should be led by HIV pharmacist as standard of care if not already

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