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Medicines 50 +
"New Challenges and Unmet Needs of People Living With HIV/AIDS Aged 50+"

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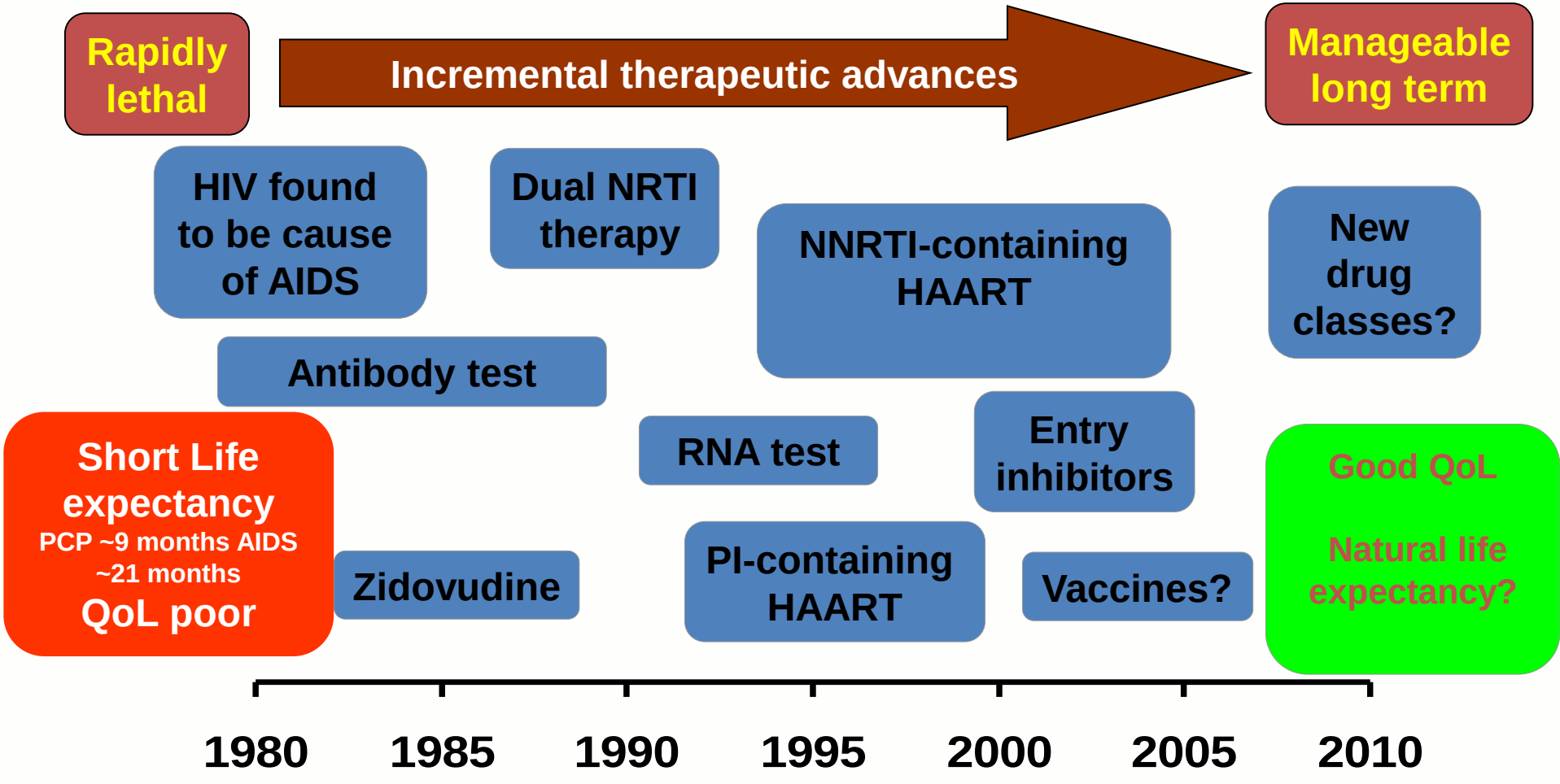
Berlin 1st April 2016

Outline

- Challenges of managing the medicines prescribed to PLWHIV over 50 years old
- How the patient-pharmacist relationship can facilitate the process of self management and treatment adherence

Evolution of treatment for HIV infection

From mortality to long-term manageability



HIV care complicated

- Irrespective of Ageing:
  - Multi-drug regimens susceptible to sub-optimal adherence, resistance, and toxicity
  - Co-infections (HCV, HBV, TB, MDR-TB)
  - Drug-Drug Interactions
  - Socio economic issues: stigma, substance addiction, incarceration, homelessness, depression
- Ageing adds multiple chronic diseases (multimorbidity) to mix

Ageing with HIV: The clinical consequences

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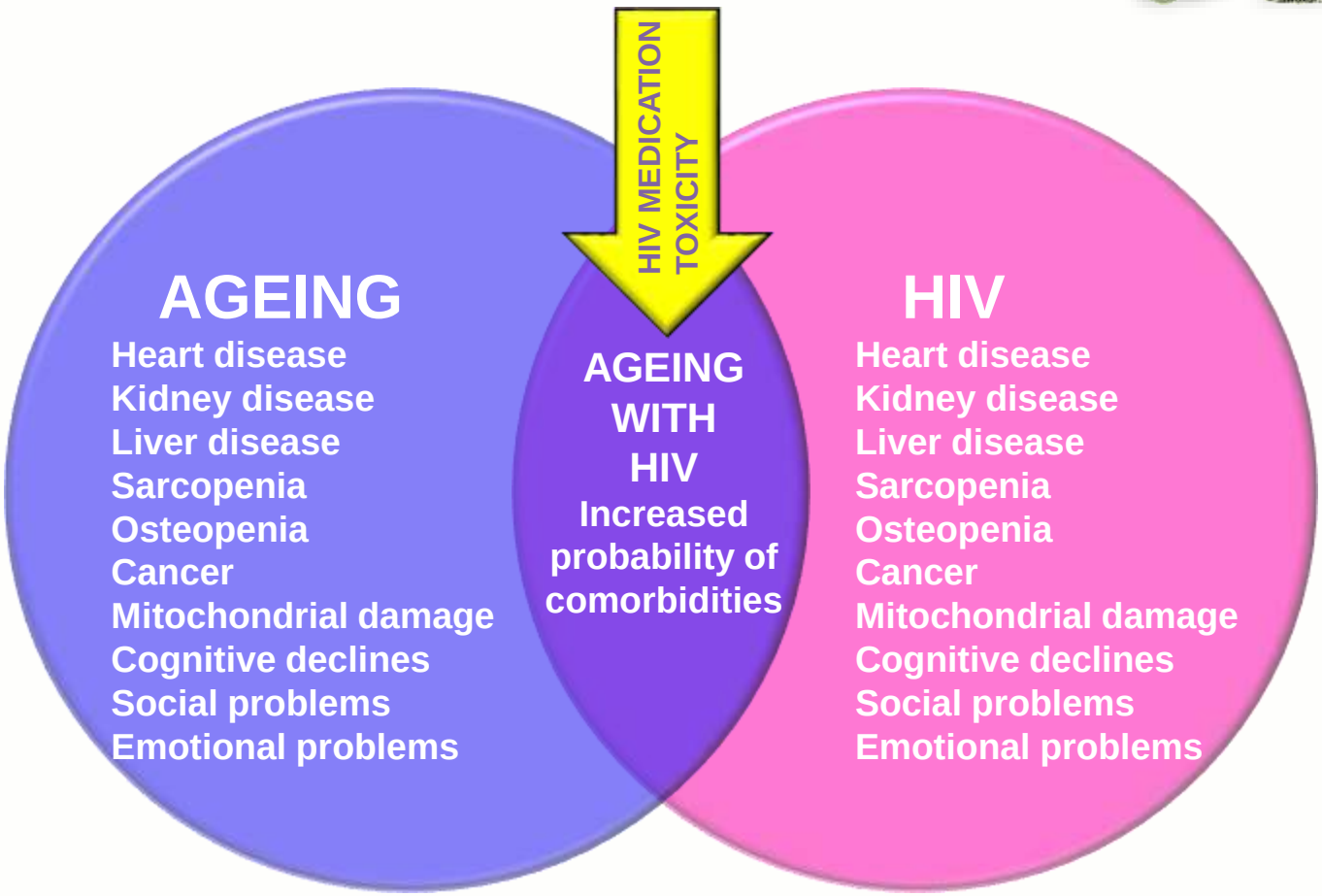


Interactions between ageing, HIV and HIV drugs increase the risk of co-morbidities

Adapted from Vance DE. Am J Nurs 2010;110:42-47.

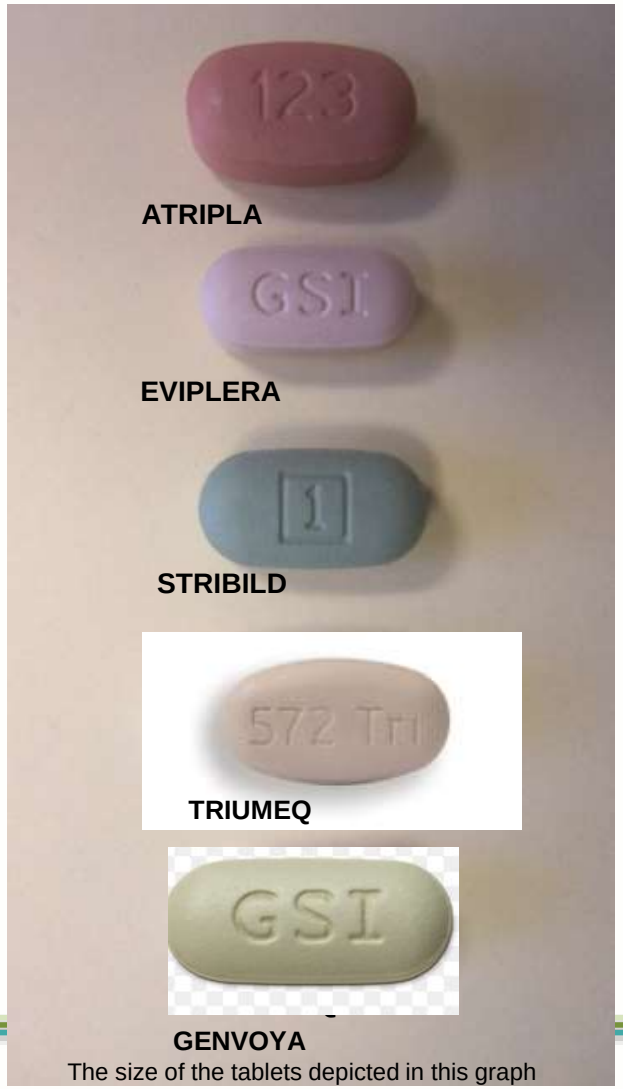
Challenges

- Complicates management of HIV itself
- Polypharmacy
- Age-related changes in pharmacokinetics and pharmacodynamics
- Multiple Treatment Providers
- Lack of research and clinical guidelines

HIV and antiretroviral therapy

Making effective treatment convenient

- **EFV/FTC/TDF (ATRIPLA®)**
- **RPV/FTC/TDF (EVIPLERA®)**
- **EVG/C/FTC/TDF (STRIBILD®)**
- **DTG/3TC/ABC (TRIUMEQ®)**
- **EVG/C/FTC/TAF (GENVOYA®)**



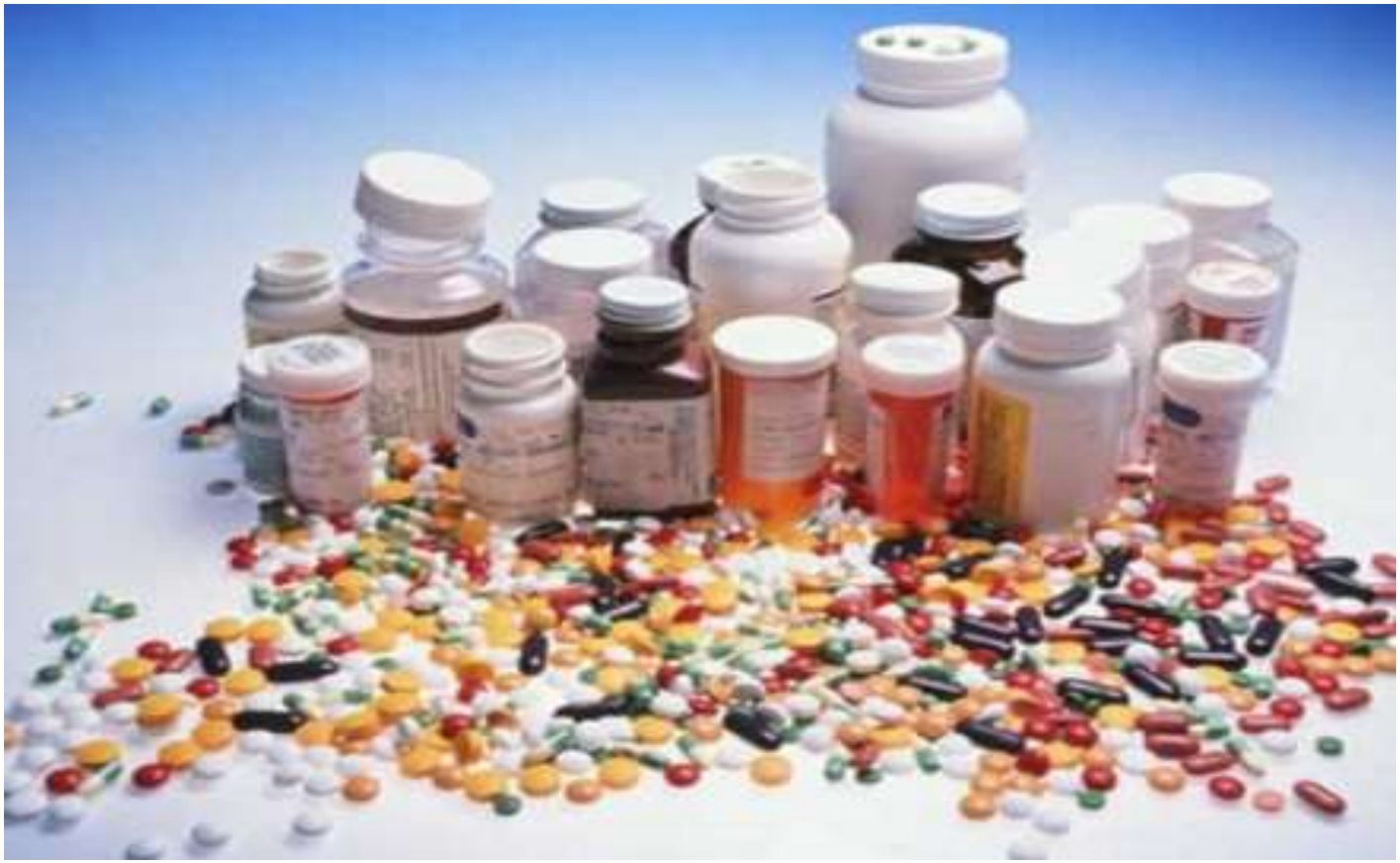
The size of the tablets depicted in this graph does not correlate with the actual size of each tablet

EFV= efavirenz, FTC=emtricitabine, TDF=tenofovir Disoproxil Fumarate, RPV= rilpivirine, EVG/C= elvitegravir/cobicistat, DTG= dolutegravir, 3TC=lamivudine, ABC= abacavir, TAF=tenofovir alafenamide

Choosing ARV Regimen

- Potential impact of ARVs on:
  - CVD risk
  - Kidney
  - Bone
- Decreased renal function
- Drug-Drug Interactions
- Resistance

Polypharmacy



How common is polypharmacy in HIV infected individuals?

- Prevalence varies across multiple studies
  - most reports exclude non-prescription medications-likely an underestimate of the true prevalence

- Data from the Swiss HIV Cohort demonstrate that of HIV-infected patients 65 years of age and older, 14% received 4 or more non-HIV co-medications[1]
- Veterans Aging Cohort Study (VACS)- average number of daily long-term medications increased with age. 55 % aged ≥ 50 were on 5 or more daily medications[2]

1. Hasse B, Ledergerber B, Furrer H, Battegay M, Hirschel B, Cavassini M, et al. Morbidity and aging in HIV-infected persons: the Swiss HIV cohort study. Clin Infect Dis. 2011;53(11):1130–9
2. Edelman EJ, Gordon KS, Glover J, et The Next Therapeutic Challenge in HIV: Polypharmacy. *Drugs Aging* 30 (2013):613-628

Why is polypharmacy a challenge?

- Adherence
- Geriatric Syndromes
- Adverse Drug Reactions
- Drug-Drug Interactions
- Financial issues

Medicines Reconciliation

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- Multiple sources: Patient/GP/Pharmacy/Medical Record
- Include supplements and OTC
- Assess level of adherence
- Side effects/associated symptoms experienced
- Perform at least annually and update when medications change

"My Brown Bag" of Medications

Discontinue potentially inappropriate therapy

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Age and Ageing 2015; **44:** 213–218
doi: 10.1093/ageing/afu145
Published electronically 16 October 2014

STOPP/START criteria for potentially inappropriate prescribing in older people: version 2

DENIS O'MAHONY[1,2], DAVID O'SULLIVAN[3], STEPHEN BYRNE[3], MARIE NOELLE O'CONNOR[2], CRISTIN RYAN[4], PAUL GALLAGHER[2]

What else?

- Ensure appropriate dosing of all medications- take PK/PD changes into account along with severity of disease
- Simplify the dosing regimen where possible
- Identify and resolve drug-drug interactions
- Consider adverse drug events as a potential cause for any new symptom
- Consider non-pharmacological approaches
- A change in goals of care at which time certain medications may no longer be in line with the patient's wishes

Collaboration

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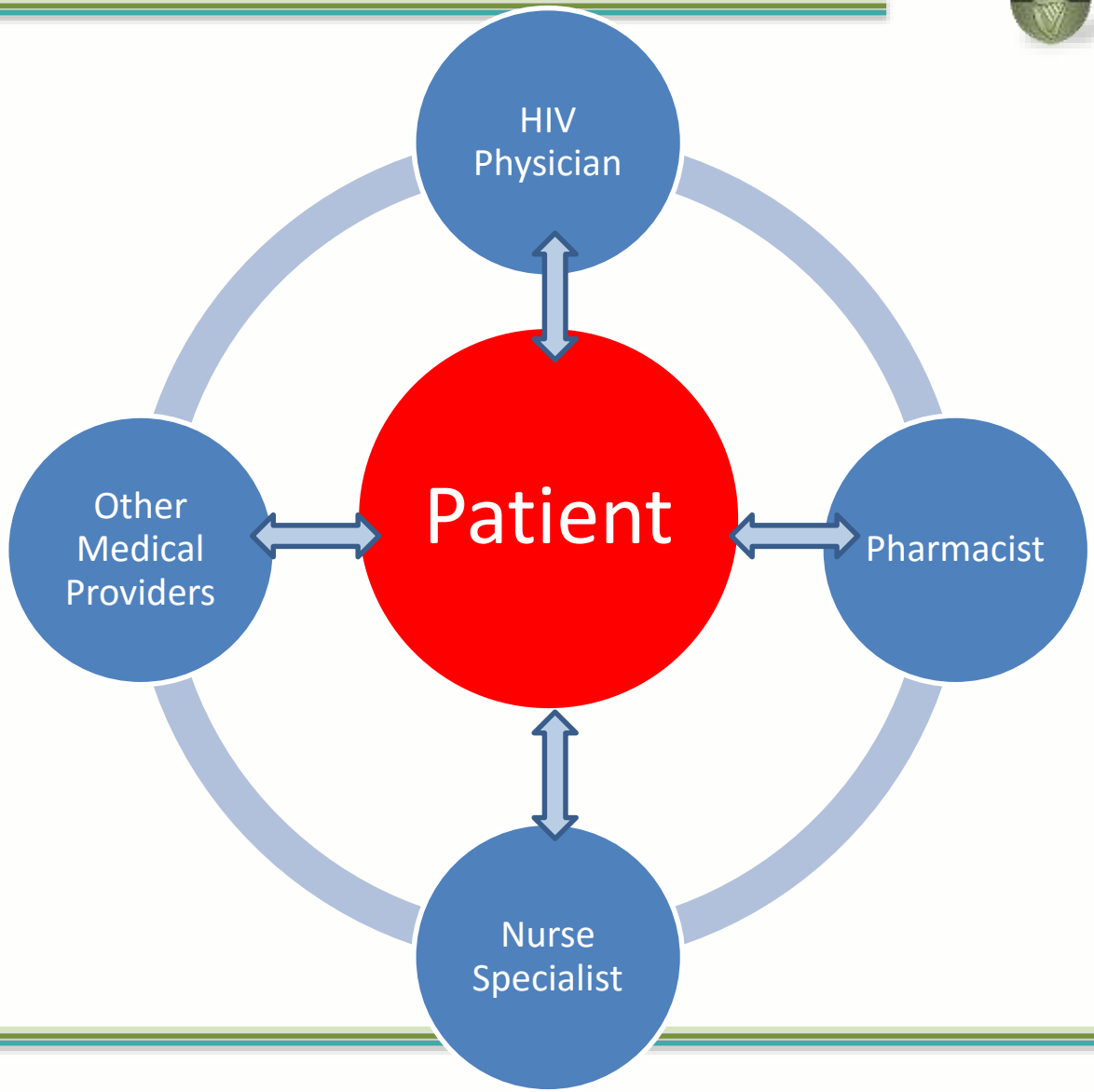
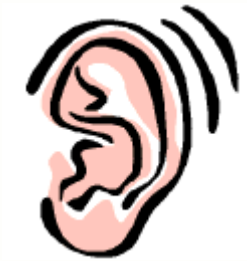
- HIV Physicians
- Geriatricians/Other Tertiary Care Providers
- Primary Care Providers
- HIV Specialist nurses
- Clinical Pharmacists

THE PATIENTS

Patient Centred Approach



Pharmacist-Patient Relationship



- Trusting, collaborative relationship

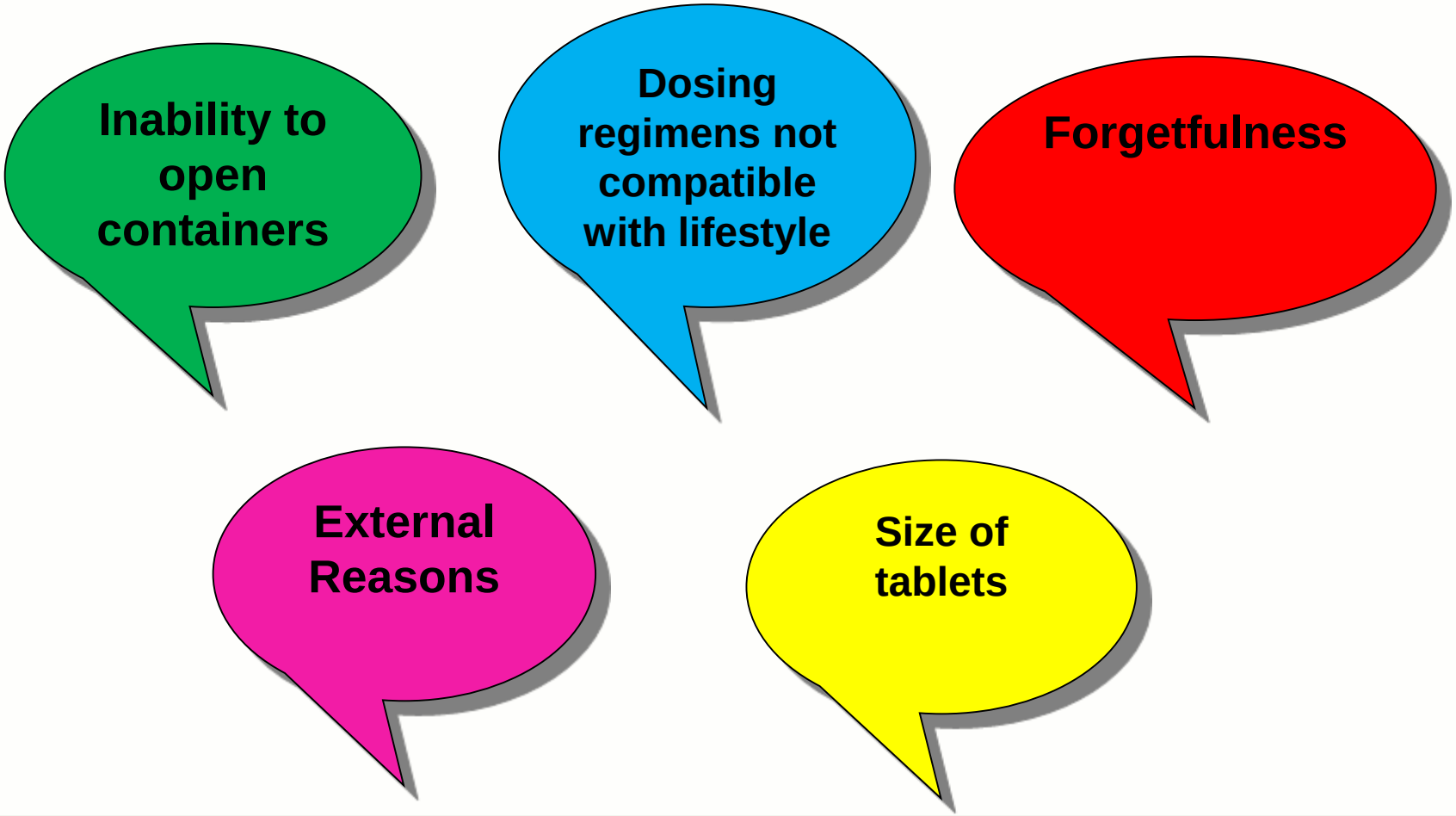
- Patient Centred: The patient is the true partner in the discussion and is empowered to engage in decision making and planning should they wish

Reasons for non-adherence

- Complex dosing requirements
- High pill burden
- Inability to access medications because of cost or availability
- Limited health literacy including misunderstanding of instructions
- Depression
- Neurocognitive impairment

- Gellad WF, Grenard JL, Marcum ZA. A systematic review of barriers to medication adherence in the elderly: looking beyond cost and regimen complexity. *Am J Geriatr Pharmacother*. Feb 2011;9(1):11-23.

Unintentional non-adherence



Intentional non-adherence

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General concerns about medications

Health Beliefs

Suffering unacceptable side effects

Feeling healthcare professionals is not really listening or understanding

Being unconvinced about necessity of the medication

Strategies to improve adherence and self management

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- Anticipate and identify barriers to adherence
- Educate/ Enable/ Empower
- Individualise treatment
- Intentional or non Intentional non-adherence?
- Address/ discuss any beliefs or concerns
- Simplify regimen
- Discontinue inappropriate medications
- Identify and manage interactions
- Manage side effects
- Access to educational resources
- Offer/discuss adherence aids and supports

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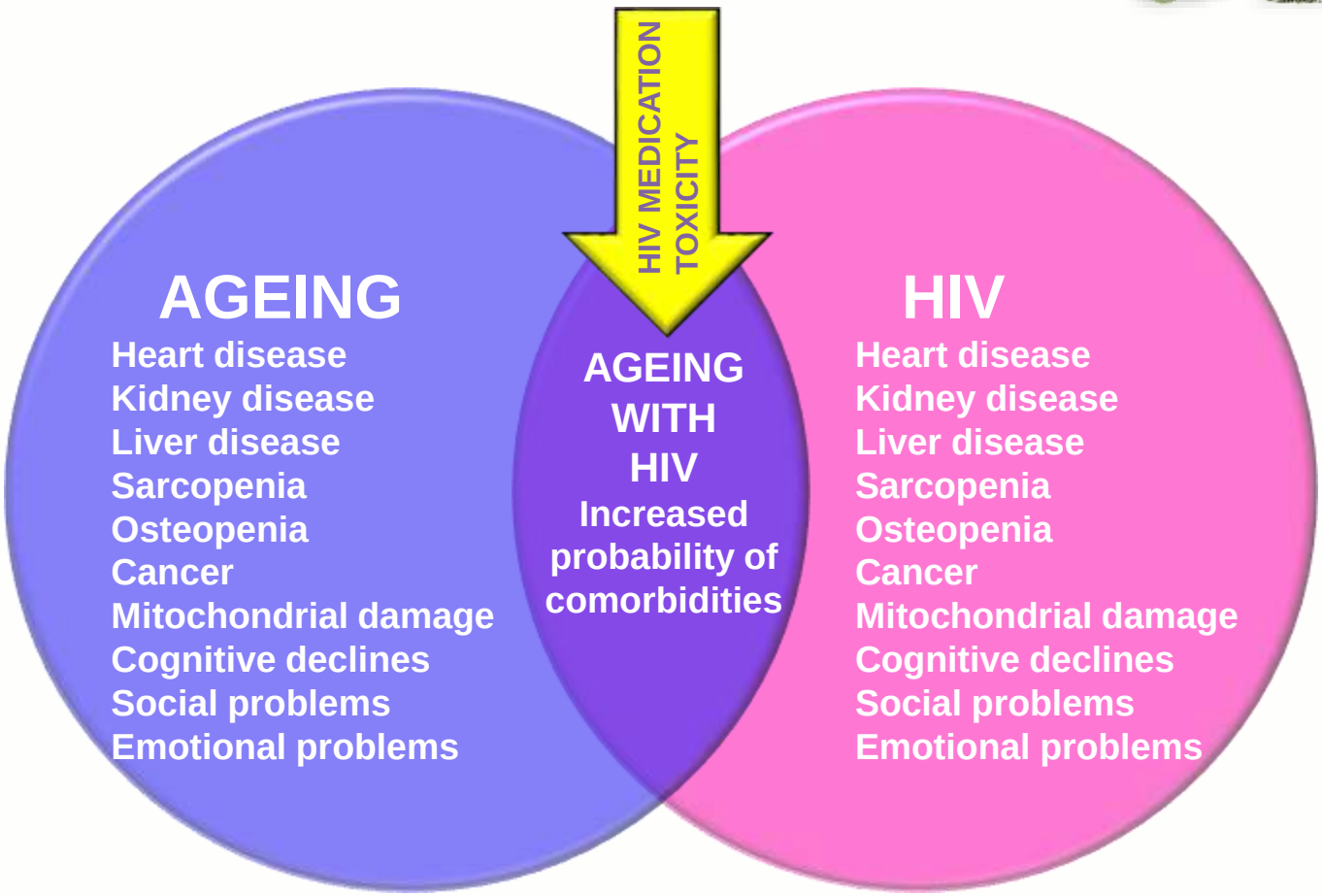

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References

- Marcum ZA, Gellad WF. Medication adherence to multidrugregimens. Clin Geriatr Med. 2012;28(2):287–300.
- Atkinson MJ, Petrozzino JJ. An evidence-based review of treatment-related determinants of patients' nonadherence to HIVmedications. AIDS Patient Care STDS. 2009;23(11):903–14.
- Mills EJ, Nachega JB, Bangsberg DR, Singh S, Rachlis B, et al. (2006) Adherence to HAART: A systematic review of developed and developing nation patientreported barriers and facilitators. PLoS Med 3(11): e438.
- Edelman EJ, Gordon KS, Glover J, et The Next Therapeutic Challenge in HIV: Polypharmacy. *Drugs Aging* 30 (2013):613-628.
- Consultation skills for pharmacy practice: practice standards for England. March 2014
- Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/AdultandAdolescentGL.pdf.

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