Management guidelines for HIV-related Co-morbidities Result in Increased Screening but no change in Primary Prevention Implementation

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Disclosures

- No authors have any significant conflicts of interest relevant to this work
- Professor Jennifer Hoy's institution has received reimbursement for her participation in Advisory Boards for Gilead Science, Merck Sharp& Dohme, ViiV Healthcare and Abbott.

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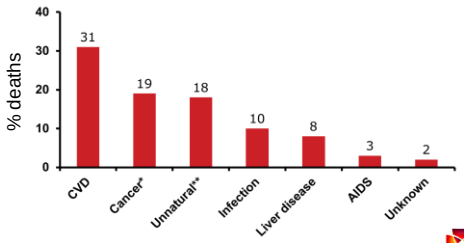
Background

- Serious non-AIDS events are of increasing importance in the modern antiretroviral era



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Rodger et al. *AIDS* 2013;27(6):973

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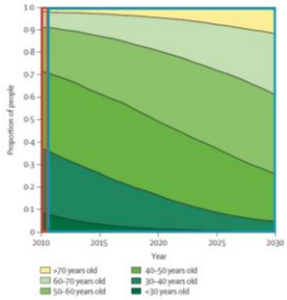
The changing demographic of HIV infection



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Smit et al. *Lancet ID* 2015; 15:810-18

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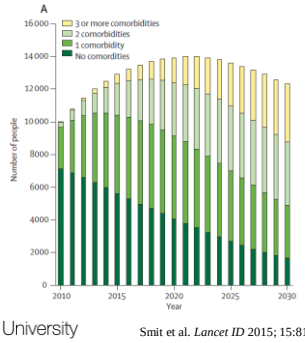
"Multi-morbidity" will be increasingly common



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Smit et al. *Lancet ID* 2015; 15:810-18

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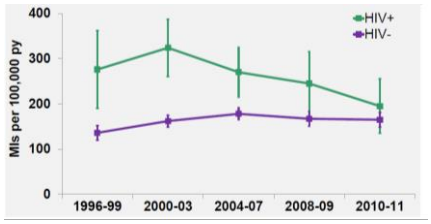
Decreasing rates of AMI over time in HIV+ patients



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Klein et al. *CID* 2015;60(8):1278

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Aims

- Audit compliance with national guidelines for the screening and management of cardiovascular risk at a tertiary referral centre for HIV care
- Determine if simplified clinical management guidelines and education strategies could improve screening and management in HIV positive individuals

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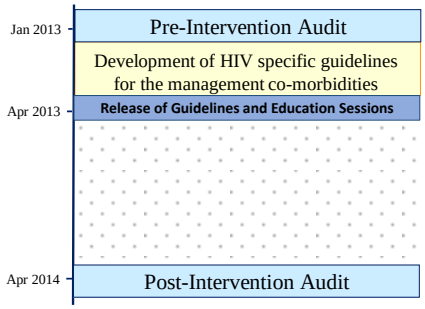
Timeline of study



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HIV Service Guidelines

Screening and Management of HIV related Co-Morbidities

- **Cholesterol**
- **Hypertension**
- **Diabetes**
- **Kidney Injury**
- **Bone Health**

Development of clinical guidelines

- Writing panel included:
  - HIV physicians
  - Cardiologist
  - Endocrinologist
  - Renal Physician
  - General medical Physician
  - HIV Specialist Dietitian
  - HIV specialist Pharmacist
- Release coincided with weekly brief education sessions for ID physicians
- Guidelines available in electronic and hard copy format in the clinic consulting rooms

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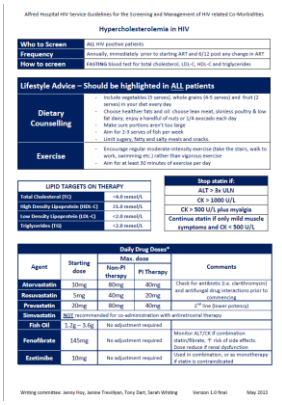

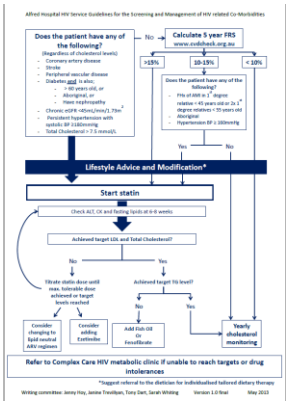

Details of Audit completion

- Two unique groups of 100 consecutive HIV positive outpatients who attend the Department of Infectious diseases at the Alfred Hospital for routine HIV care were compared
- Data was collected retrospectively from the electronic medical record and pathology systems
- Results that had been recorded in the 24 months prior to the date of audit were included
- The most recent result was kept in those who had multiple recordings over that period

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Definition: Recommended Statin Therapy

- The National Vascular Disease Prevention Alliance (NVDPA); www.cvdcheck.org.au
- Any patient (regardless of cholesterol) with:
  - Coronary artery disease
  - Peripheral vascular disease
  - Stroke
  - Chronic kidney impairment (eGFR < 45ml/min)
  - Absolute risk score > 15%
  - Diabetes if > 60 years old
  - Total cholesterol > 7.5 mmol/L
  - Persistent hypertension (SBP ≥ 180 mmHg)

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Definition: Recommended Statin Therapy

- Any patient with risk score 10 -15% AND:
  - Family history of coronary artery disease in 1st degree relative
  - Persistent hypertension ≥ 160mmHg
  - Aboriginal descent

Inadequate statin therapy

- Patient currently receiving statin therapy and total cholesterol >4.0 mmol/L, *or*
- Patient inappropriately not on a statin

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Statistical Methods

- Results were summarized by group using Fisher's exact or chi-squared tests as appropriate
- Mann Whitney U test for continuous data
- Continuous variables described as medians and interquartile ranges
- All statistical analyses performed on Stata 11.0/IC (College Station, Texas)
- The project was approved by the Alfred Ethics committee (Project Number 167-13)

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Participant Characteristics

	Pre Intervention
n	100
Male	93 (93%)
Age, years	49 (38 - 55)
Smoking status	
Never smoked	24 (24%)
Ex-Smoker	5 (5%)
Current Smoker	38 (38%)
Not documented	33 (33%)
Diabetic status	
Non-diabetic	58 (58%)
Diabetic	6 (6%)
Not screened	36 (36%)
History of CVD†	7 (7%)
Framingham Risk score, %	10 (6.5-13)
eGFR, ml/min	85 (75 - >90)
Blood pressure recorded	65 (65%)
Systolic BP, mmHg	125 (120 - 132)

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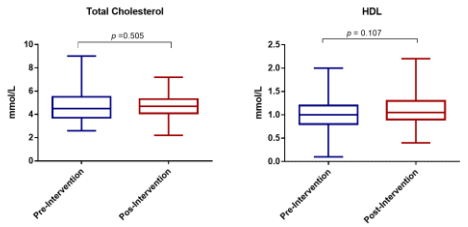
Cholesterol

- 81% pre and 83% post-intervention had fasting cholesterol levels available (p = 0.713)



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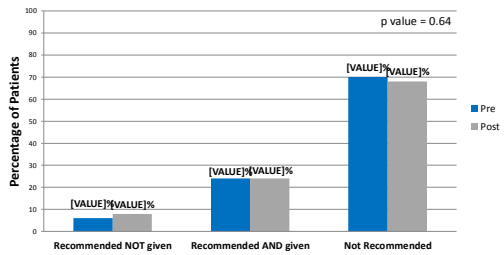
Compliance with guidelines for statin use



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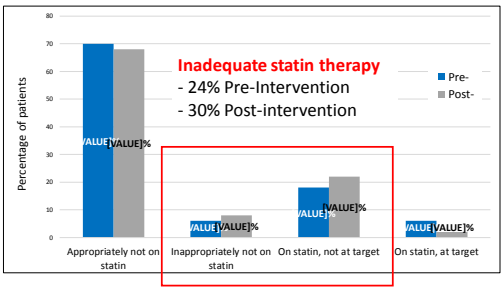
Adequacy of Statin Therapy



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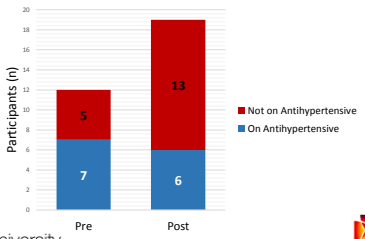
Management of Hypertension

- 23 participants pre-intervention and 17 post intervention were receiving an antihypertensive

Patients with SBP ≥ 140mmHg



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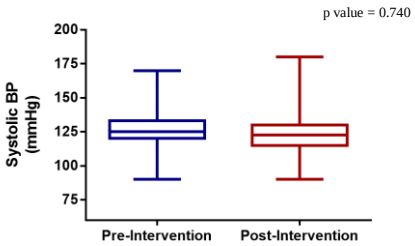
Mean Systolic Blood Pressure



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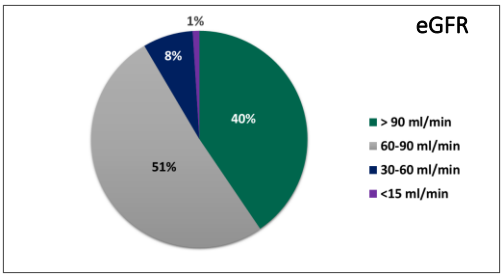
High proportion of patients with borderline renal function as estimated by eGFR



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Limitations

- Small sample size
- Retrospective design
- Homogeneous patient population
- Potentially not long enough between intervention and post-audit for lipid or blood pressure changes to take effect
- Equally the durability of improved attention to screening for cardiovascular risk factors post intervention is not known

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Conclusions

- Improvements in screening for cardiovascular risk factors can be achieved with education tools
- These alone are not sufficient to improve the implementation or optimisation of primary preventative therapies
- Changes to the model of HIV care provision may be what's needed

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