Too little, too late:
Late diagnosis of HIV and the role of improved testing strategies

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Background

Late diagnosis of HIV, as defined by CD4 count of <350 cells/mm3 at diagnosis, results in tenfold one year mortality, increases the risk of onward transmission and increases lifetime costs of HIV care by around 50%.[1]

Current UK guidelines advise universal testing in primary care and for medical admissions where the prevalence of HIV exceeds 2/1000.[2] Our local estimated prevalence is 2.22/1000 yet our local policy is for restrictive testing of high risk groups and people with indicator diseases.

Methods

This study aimed to benchmark the performance of local HIV testing policies by examining rates of late diagnosis and missed indicator diseases in patients referred to our tertiary Infectious Diseases unit.

All new diagnoses of HIV referred from 1st August 2007 to 31st July 2012 were identified. Records of contact with secondary care in our health board in the preceding 10 years were reviewed as were HIV clinical records. Clinical correlates with late diagnosis were tested using Fisher's exact test, Mann-Whitney-U test, or Independent samples T test, as appropriate.

Results

Late diagnosis occurred in **100/142 (70.4%) of patients**. This compares to a rate of 2952/6280 (47%) for the UK for 2011, (P<0.0001 for comparison.)

Our median CD4 count at diagnosis was 188 cells/mm3 (Interquartile range (IQR) 71- 381).

Figure 1: CD4 count at diagnosis
(Red line indicates late diagnosis <350 cells/mm3)

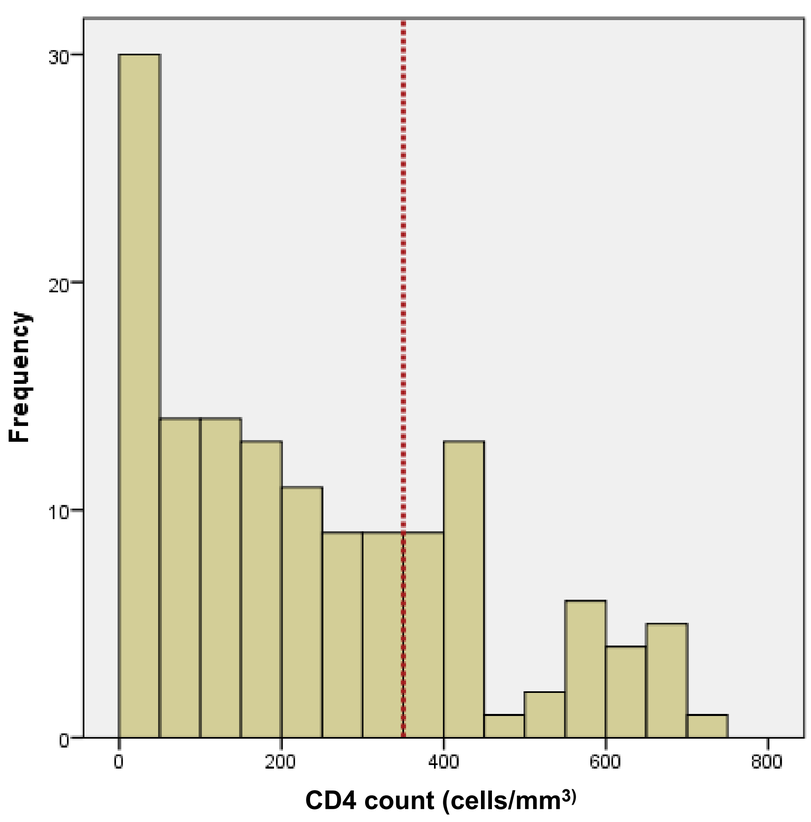


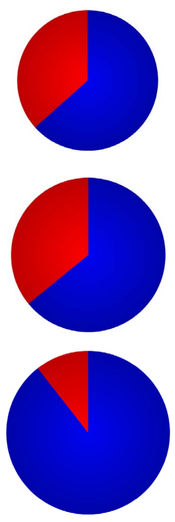
Table 1: Missed indicator diseases

Indicator disease	Number of patients
Pneumonia	6
Oral candida	3
Herpes Zoster	3
Psoriasis	3
Persistent leucopenia	2
Sexually transmitted infection	2
Hepatitis B	1
Chronic diarrhoea	1
Weight loss	1
Sebhorrhoeic dermatitis	1
Mononucleosis like illness	1
Vaginal intraepithelial neoplasia	1
Cervical intraepithelial neoplasia 3	1
Hepatitis C	1

Intravenous drug users were less likely to have a late diagnosis (CD4 count at diagnosis 496 cells/mm3(IQR 245 – 595) vs 182 (63 – 362) for all other groups, P=0.007).

Of 109 patients who were diagnosed in our region for the first time, **27 (24.8%) had had presented to secondary care with an indicator disease** in the previous 10 years without receiving an HIV test, leading to a median delay of 24 months to diagnosis (IQR 11-48). (see Table 1)

Figure 2: Sensitivity of different testing strategies for identifying this cohort of patients



Testing all high risk groups: Intravenous drug users, MSMs and Black Africans

90/142 (63%)

Testing patients with indicator diseases

91/142 (64%)

All of the above: Testing both high risk groups and indicator diseases

127/142 (89.4%)

Conclusions

Late diagnosis is very common in our cohort and indicator diseases are frequently missed. Evidence of the inadequacy of our selective testing policy is compelling and universal opt-out testing should be introduced in line with BHIVA guidance.

References

1. Health Protection Agency. Evidence and resources to commission expanded HIV testing in priority medical services in high prevalence areas. London: HPA; 2012
2. British HIV Association, BASHH and British Infection Society. UK national guidelines for HIV testing. London: BHIVA; 2008. [http://www.bhiva.org/HIVTesting2008.aspx]