Mortality and cause of death among HIV patients in London in 2016

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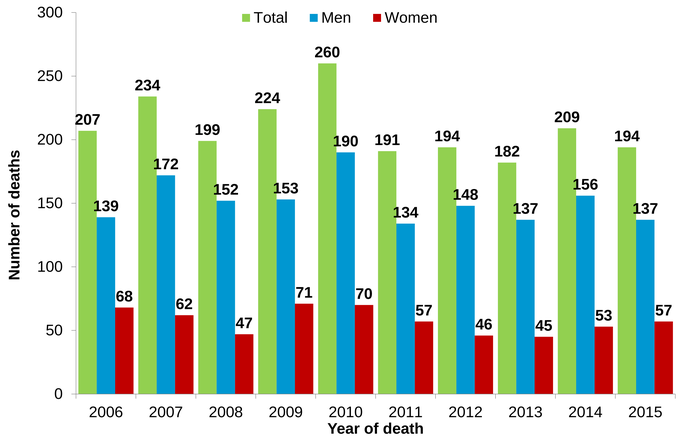
BACKGROUND

- In 2016, there were 38,700 (95% credible interval (CI): 37,500-41,400) people living with HIV in London, of which 10% (95% CI: 7-16%) were unaware of their infection.[1]
- 18 of the 33 local authorities in London had a diagnosed prevalence of ≥5 per 1,000 population and all ≥2 per 1,000.[1]
- All cause mortality among people with HIV in London has remained relatively stable over the past decade (Figure 1).[2]
- We present findings of the 2016 audit conducted by the London HIV Mortality Study Group. This group, established in 2013, conducts annual reviews of deaths among HIV patients to reduce avoidable mortality and improve patient care.

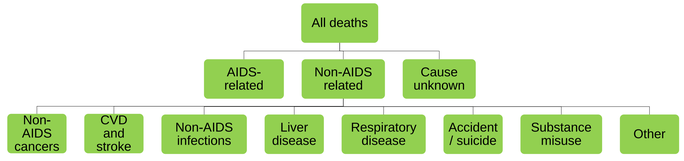
Figure 1. Deaths among people with HIV in London: 2006-2015



METHODS

- All London trusts commissioned by NHS England to provide HIV care reported 2016 data on patients who died at their centre or who attended for routine care prior to death.
- Data were submitted using a modified Causes of Death in HIV (CoDe) reporting form including information on: comorbidities, antiretroviral therapy (ART), clinical markers, cause of death and end of life care.[3]
- Clinicians were also asked to make a decision as to whether each death was expected (e.g. those receiving planned end of life care or with a terminal condition) or unexpected (e.g. late presenters admitted at diagnosis and not responsive to treatment).
- Cause of death was categorised by a pathologist and two clinicians (Figure 2).

Figure 2. Categorisation of HIV patient deaths: London, 2016



RESULTS

- All 19 London trusts provided death data for 2016. After de-duplication, there were 206 deaths reported, of which 77% (159) were among men and the median age at death was 56 years.
- At the time of death, 81% (134/165) of people were on ART, 61% (113/185) had a CD4 count of <350 cells/mm^3 and 24% (47/192) a viral load of ≥200 copies/ml.
- Where reported (n=181), risk factors in the year before death included: smoking (37%), excessive alcohol consumption (19%), injecting drug use (IDU) (7%), non-IDU (20%), and opioid substitution therapy (6%) (Figure 3).
- Co-morbidities were commonly reported (n=200): 39% of patients had a history of depression, 33% had chronic hypertension, 27% had dyslipidemia, 18% had co-infection with HBV and/or HCV and 14% had diabetes (Figure 4).

Figure 3. Risk factors in the year prior to death by sex: London, 2016

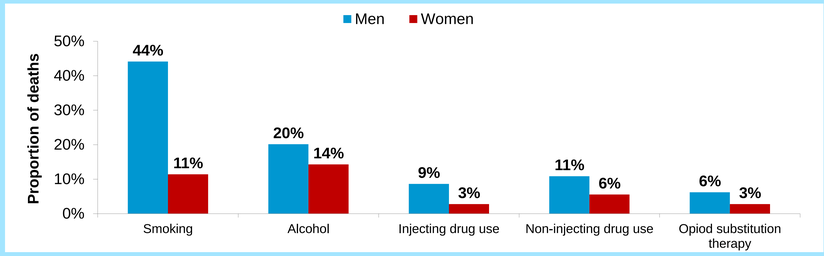
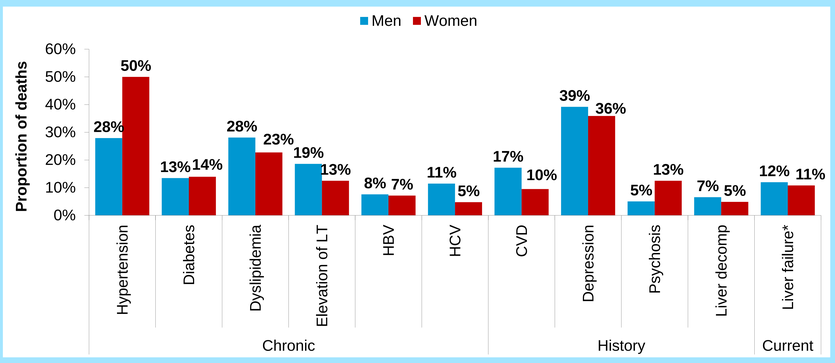
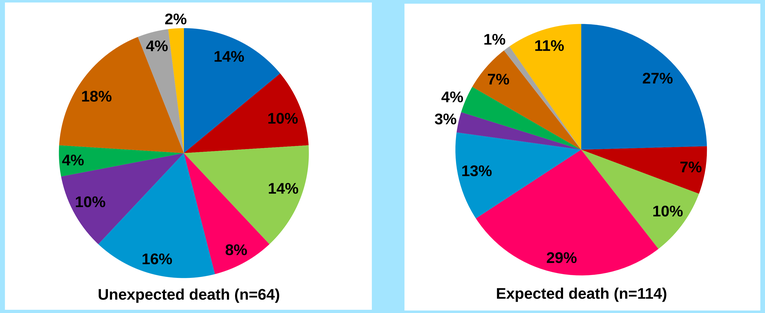


Figure 4. Prevalence of co-morbidities among people who died by sex: London, 2016



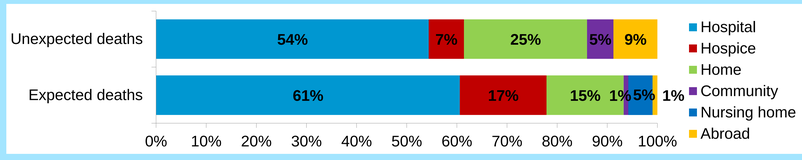
- Almost half of deaths were reported as sudden (44%; 79/177) and 36% (64/178) as unexpected.
- Of the 64 people who died unexpectedly:
  - 54 were men and 10 were women
  - Majority aged 45-64 years old at death (69%; 44/64)
  - 48% died in hospital
  - 81% (43/53) patients were reported to be on ART at death
  - 79% (46/58) were reported to have an undetectable viral load at death (<200 copies/mL)
- Cause of death by whether the death was expected can be seen in Figure 5.
- Among people who died unexpectedly, 18% (9/50) died of accident/suicide, 16% (8/50) died of cardiovascular disease and 14% (7/50) died of non-AIDS malignancies. In contrast, people who died expectedly more commonly died of liver disease (29%; 30/103) and AIDS-defining illnesses (27%; 28/103).

Figure 5. Cause of death by whether the death was expected: London, 2016



- Overall, 60% (63/104) of expected deaths were in hospital (Figure 6).
- Two thirds of expected deaths (48/72) had a prior end-of-life care discussion, though this information was only available for 57% of patients.

Figure 6. Place of death by whether the death was expected: London, 2016



DISCUSSION & CONCLUSIONS

- In 2016, over three quarters (77%) of deaths were due to non-AIDS conditions and the majority of patients were on ART and virally suppressed at their last clinic visit.
- However, a significant number of people with HIV died from AIDS related illnesses, which are preventable. HIV testing must be expanded outside of traditional sexual health clinic settings to reduce late diagnosis and reach vulnerable populations.[4]
- To further reduce avoidable mortality, there is a need for optimal management of comorbidities and improved health promotion through risk reduction, as underlying risk factors, such as smoking and substance misuse were common. Strong psycho-social support is needed for people with HIV, given the high levels of depression, particularly in the first year of diagnosis.[5]
- The high proportion of expected deaths in hospital shows that improvements are necessary in end-of-life care planning and in collaborative decision making with patients and other specialties, such as oncology and cardiology.

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- Central and North West London NHS Foundation Trust
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