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Avoidable hospital admissions in people living with HIV: a service review

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Declaration of interests relating to this presentation

• Statement of interests: None
Background

• Good health outcomes and mortality rates in those living with HIV depend on maintaining engagement with treatment and care.
• Long term disengagement and lost to follow up (LTFU) is a global problem with a large cumulative effect.
• Studies in USA and Belgium reported nearly 1 in 5 of patients LTFU over an eight-year period (Rice et al, 2011, Schepens et al, 2010)
• LTFU is associated with preventable prolonged hospital admissions
• From a longitudinal study tracking 135 LTFU patients, ten were hospitalised with a median hospital stay of 23 days (Nydiaye et al, 2009).
Study context

• Sheffield Infectious diseases unit provides in-patient care for a South Yorkshire HIV cohort of approximately 1200
• HIV admissions were historically related to late diagnoses
• An increasing proportion of admissions among those with known diagnosis who had fallen out of care.
Aims

• To collect demographic and clinical information on HIV positive admissions to the Infectious Diseases department over a one year period (Oct 2015-16).

• Use the data collected to establish which admissions may have been preventable.
Total number of patients/ admissions

<table>
<thead>
<tr>
<th></th>
<th>Admissions</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>46</td>
<td>31</td>
</tr>
<tr>
<td>GUM</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>66 (58 to ID / 8 other dept)</td>
<td>41</td>
</tr>
</tbody>
</table>
Male/Female

- Male: 59%
- Female: 41%
HIV Diagnosis

27% New Diagnosis
73% Old Diagnosis
CD4 Count (cells/mm$^3$)

<table>
<thead>
<tr>
<th>CD4 Count</th>
<th>Number (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50</td>
<td>8 (20 %)</td>
</tr>
<tr>
<td>51-200</td>
<td>11 (26%)</td>
</tr>
<tr>
<td>201-350</td>
<td>4 (10%)</td>
</tr>
<tr>
<td>351 +</td>
<td>18 (44%)</td>
</tr>
</tbody>
</table>

Viral Load (Copies/mL)

<table>
<thead>
<tr>
<th>Viral Load</th>
<th>Number (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undetectable</td>
<td>13 (32%)</td>
</tr>
<tr>
<td>&lt;200</td>
<td>5 (12%)</td>
</tr>
<tr>
<td>&gt;200</td>
<td>23 (56%)</td>
</tr>
</tbody>
</table>
Number of patients/ admission

Number of patients

Number of admissions
Average Length of stay (LOS) by CD4 Count

Average LOS/ Days

CD4 Count Range (cells/mm$^3$)

- <50
- 51-200
- 201-350
- 351 +
Average LOS by Viral load

Average LOS/ Days

Viral load (copies/mL)

Undetectable

<200

>200

0 5 10 15 20 25 30 35 40
## Diagnoses

<table>
<thead>
<tr>
<th>Admissions</th>
<th>AIDS defining</th>
<th>Possible HIV Infection related</th>
<th>Seroconversion</th>
<th>Drug side effects (ART, TB)</th>
<th>Unrelated to HIV</th>
<th>Undiagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (66)</td>
<td>13 (20%)</td>
<td>14 (21%)</td>
<td>1 (2%)</td>
<td>4 (6%)</td>
<td>32 (48%)</td>
<td>2 (3%)</td>
</tr>
</tbody>
</table>
Adherent with treatment

- Adherent: 68%
- Non-adherent: 32%
Attended HIV clinic during 6 months prior to admission

- 70% Attended
- 30% Missed appt
Preventable admissions

- 11 of 41 patients had preventable admissions (27%)
- 23% (15/66) of the admissions were deemed preventable
- All 15 preventable admissions were to the ID department
Preventable admissions

- Total length of stay = 532 days
- Average length of stay = 48 days/patient (n = 11)

Other admissions

- Total length of stay = 543 days
- Average length of stay = 18 days/patient (n = 30)
Conclusion

• There were 532 preventable bed days over a one year period
• Interventions that enable patients to stay engaged with treatment and care have the potential to offer benefits to the individual and costs savings to healthcare
• Developing such interventions and assessing their effectiveness will make an important contribution to evidence based HIV care.
References