Figure S1: Mortality among patients transferred and lost to follow-up compared with patients retained, by cohort
Figure S2: The impact of correction via linkage to the National Population Register, by cohort
Table S1: Baseline characteristics of patients not known to be dead at analysis closure*

<table>
<thead>
<tr>
<th>Baseline characteristic</th>
<th>TFO Retained</th>
<th>TFO n=287 (4%)</th>
<th>LTF Retained</th>
<th>LTF n=921 (11%)</th>
<th>Retained</th>
<th>Retained n=6378 (78%)</th>
<th>p-value TFO vs Retained</th>
<th>p-value TFO vs Retained</th>
<th>p-value TFO vs Retained</th>
<th>p-value TFO vs Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Females, n(%)</td>
<td>744 (70)</td>
<td>1613 (61)</td>
<td>9999 (68)</td>
<td>0.244</td>
<td>&lt;0.001</td>
<td>1.17 (73)</td>
<td>183 (65)</td>
<td>1948 (70)</td>
<td>0.475</td>
</tr>
<tr>
<td>Age, years, median (IQR)</td>
<td>34 (29-41)</td>
<td>34 (29-41)</td>
<td>35 (30-42)</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>32 (28-37)</td>
<td>31 (29-39)</td>
<td>0.284</td>
<td>0.055</td>
</tr>
<tr>
<td>CD4+ cell count, cells/μL</td>
<td>Median (IQR)</td>
<td>90 (39-152)</td>
<td>85 (35-155)</td>
<td>109 (51-168)</td>
<td>0.027</td>
<td>&lt;0.001</td>
<td>84 (34-138)</td>
<td>96 (46-159)</td>
<td>112 (55-168)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Haemoglobin, g/dL</td>
<td>Median (IQR)</td>
<td>11 (9.6-12.1)</td>
<td>11 (9.2-12.1)</td>
<td>11.1 (10-12.6)</td>
<td>0.019</td>
<td>&lt;0.001</td>
<td>10.4 (9.5-11.5)</td>
<td>10.6 (9.1-11.8)</td>
<td>11.1 (9.7-12.2)</td>
<td>0.023</td>
</tr>
<tr>
<td>Weight, kg</td>
<td>Median (IQR)</td>
<td>58 (51-66)</td>
<td>58 (50-66)</td>
<td>60 (53-64)</td>
<td>0.006</td>
<td>&lt;0.001</td>
<td>56 (50-65)</td>
<td>57 (50-65)</td>
<td>60 (53-69)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*excluding 1207 (6%) deaths
Table S2: Cumulative incidence functions for loss to programme estimated using competing risks regression

<table>
<thead>
<tr>
<th></th>
<th>CIF death</th>
<th>CIF TFO</th>
<th>CIF LTF</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 months</td>
<td>5.5 (5.1-5.8)</td>
<td>3.6 (3.3-3.9)</td>
<td>9.8 (9.3-10.2)</td>
</tr>
<tr>
<td>24 months</td>
<td>7.0 (6.6-7.4)</td>
<td>6.0 (5.7-6.5)</td>
<td>14.6 (14.1-15.2)</td>
</tr>
</tbody>
</table>
Table S3: Predictors of transfer

<table>
<thead>
<tr>
<th>Variable</th>
<th>Crude</th>
<th>AHR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male gender</td>
<td>0.96 (0.84-1.09)</td>
<td>0.89 (0.77-1.03)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-24</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>25-34</td>
<td>0.95 (0.75-1.20)</td>
<td>0.91 (0.71-1.16)</td>
</tr>
<tr>
<td>35-44</td>
<td>0.81 (0.63-1.03)</td>
<td>0.81 (0.63-1.05)</td>
</tr>
<tr>
<td>45+</td>
<td>0.73 (0.56-0.96)</td>
<td>0.83 (0.62-1.10)</td>
</tr>
<tr>
<td>CD4+ cell count, cells/µL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>1</td>
<td>1.00</td>
</tr>
<tr>
<td>25-49</td>
<td>1.02 (0.81-1.29)</td>
<td>1.07 (0.85-1.35)</td>
</tr>
<tr>
<td>50-99</td>
<td>0.95 (0.77-1.16)</td>
<td>1.06 (0.86-1.30)</td>
</tr>
<tr>
<td>100-199</td>
<td>0.81 (0.67-0.97)</td>
<td>0.90 (0.74-1.08)</td>
</tr>
<tr>
<td>&gt;=200</td>
<td>0.63 (0.47-0.83)</td>
<td>0.73 (0.55-0.97)</td>
</tr>
<tr>
<td>Cohort</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khayelitsha (ref)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hlabisa</td>
<td>0.67 (0.55-0.82)</td>
<td>0.74 (0.60-0.91)</td>
</tr>
<tr>
<td>McCord</td>
<td>5.09 (4.22-6.13)</td>
<td>5.24 (4.27-6.42)</td>
</tr>
<tr>
<td>Themba Lethu</td>
<td>0.68 (0.56-0.82)</td>
<td>0.70 (0.57-0.87)</td>
</tr>
</tbody>
</table>
Table S4:
Cox’s models: 1) TFO and LTF censored; 2) LTF time-varying including deaths after LTF; and 3) LTF & TFO time-varying, including deaths after either LTF or TFO

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1 (TF &amp; LTF censored)</th>
<th>Model 2 (LTF time-varying)</th>
<th>Model 3 (TF &amp; LTF time-varying)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crude HR</td>
<td>AHR</td>
<td>Crude HR</td>
</tr>
<tr>
<td>Male gender</td>
<td>1.58 (1.41-1.77)</td>
<td>1.29 (1.14-1.46)</td>
<td>1.65 (1.52-1.80)</td>
</tr>
<tr>
<td>Age (yrs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-24</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>25-34</td>
<td>1.08 (0.84-1.39)</td>
<td>1.11 (0.85-1.45)</td>
<td>1.12 (0.92-1.35)</td>
</tr>
<tr>
<td>35-44</td>
<td>1.19 (0.92-1.53)</td>
<td>1.17 (0.89-1.54)</td>
<td>1.28 (1.06-1.54)</td>
</tr>
<tr>
<td>45+</td>
<td>1.57 (1.20-2.04)</td>
<td>1.57 (1.18-2.09)</td>
<td>1.59 (1.31-1.94)</td>
</tr>
<tr>
<td>CD4+ cell count (cells/µl)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-24</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>25-49</td>
<td>0.80 (0.67-0.96)</td>
<td>0.76 (0.63-0.91)</td>
<td>0.78 (0.68-0.90)</td>
</tr>
<tr>
<td>50-99</td>
<td>0.51 (0.43-0.61)</td>
<td>0.48 (0.40-0.56)</td>
<td>0.52 (0.46-0.59)</td>
</tr>
<tr>
<td>100-199</td>
<td>0.31 (0.26-0.3)</td>
<td>0.28 (0.24-0.33)</td>
<td>0.33 (0.29-0.37)</td>
</tr>
<tr>
<td>&gt;=200</td>
<td>0.36 (0.28-0.46)</td>
<td>0.32 (0.25-0.42)</td>
<td>0.33 (0.27-0.40)</td>
</tr>
<tr>
<td>Cohort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khayelitsha (ref)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hlabisa</td>
<td>1.48 (1.25-1.76)</td>
<td>1.49 (1.25-1.78)</td>
<td>1.53 (1.33-1.75)</td>
</tr>
<tr>
<td>McCord</td>
<td>2.13 (1.71-2.64)</td>
<td>1.58 (1.24-2.00)</td>
<td>2.12 (1.79-2.51)</td>
</tr>
<tr>
<td>Themba Lethu</td>
<td>0.72 (0.59-0.87)</td>
<td>0.62 (0.50-0.76)</td>
<td>1.09 (0.95-1.26)</td>
</tr>
<tr>
<td>Status (time-varying)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>Lost to follow-up</td>
<td>20.8 (19.0-22.7)</td>
<td>22.7 (20.7-24.9)</td>
<td>20.20 (18.50-22.05)</td>
</tr>
<tr>
<td>Transferred</td>
<td>3.71 (2.96-4.65)</td>
<td>3.11 (2.42-3.99)</td>
<td></td>
</tr>
</tbody>
</table>
Table S5: Sensitivity analysis: baseline characteristics of patients with and without IDs

<table>
<thead>
<tr>
<th>Baseline characteristic</th>
<th>without IDs</th>
<th>with IDs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females, n(%)</td>
<td>7218 (66)</td>
<td>13731 (66)</td>
<td>0.29</td>
</tr>
<tr>
<td>Age, years, median (IQR)</td>
<td>34 (29-41)</td>
<td>35 (30-42)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CD4+ cell count, cells/μL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>96 (37-163)</td>
<td>104 (45-165)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>0-24 n(%)</td>
<td>1703 (18)</td>
<td>2887 (15)</td>
<td></td>
</tr>
<tr>
<td>25-49</td>
<td>1242 (13)</td>
<td>2204 (12)</td>
<td></td>
</tr>
<tr>
<td>50-99</td>
<td>1957 (21)</td>
<td>3971 (21)</td>
<td></td>
</tr>
<tr>
<td>100-199</td>
<td>3615 (38)</td>
<td>7732 (41)</td>
<td></td>
</tr>
<tr>
<td>&gt;=200</td>
<td>1013 (11)</td>
<td>1906 (10)</td>
<td></td>
</tr>
<tr>
<td>missing (%)</td>
<td>13%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Viral load, log10 copies/ml</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>4.7 (4.2-5.3)</td>
<td>4.6 (4.1-5.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>missing, n(%)</td>
<td>73%</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Haemoglobin, g/dL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>11 (9.8-12.6)</td>
<td>11 (9.8-12.4)</td>
<td>0.427</td>
</tr>
<tr>
<td>Weight, kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (IQR)</td>
<td>58 (51-67)</td>
<td>59 (52-68)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Calendar year ART initiation, n(%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>1362 (12)</td>
<td>1990 (10)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2005</td>
<td>1998 (18)</td>
<td>3612 (17)</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2760 (25)</td>
<td>4447 (21)</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>3384 (31)</td>
<td>4223 (20)</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>1237 (11)</td>
<td>3964 (19)</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>257 (2)</td>
<td>2499 (12)</td>
<td></td>
</tr>
</tbody>
</table>