Dr Michael Rayment
Chelsea and Westminster Hospital, London

<table>
<thead>
<tr>
<th>Speaker Name</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Michael Rayment</td>
<td>None</td>
</tr>
</tbody>
</table>

**COMPETING INTEREST OF FINANCIAL VALUE > £1,000:**

| Date   | November 2013 |
2013 Joint BASHH & BHIVA National Audit of Partner Notification of Adults Newly Diagnosed with HIV Infection

Michael Rayment
On behalf of the BASHH National Audit Group and BHIVA Audit and Standards Sub-committee
BHIVA Autumn Conference
November 2013
“The process of informing the sexual partners of people with sexually transmitted infections, including HIV, of their potential exposure to infection, ensuring their evaluation and/or treatment, and providing advice about preventing future infection.”

WHO/UNAIDS, 1999
Methods

- Case note review of up to 40 consecutive patients newly diagnosed with HIV infection in 2011 (index cases) and their contacts (up to 5 per index case)

- 169 HIV services (156 GUM, 13 non-GUM) took part
INDEX PATIENT CHARACTERISTICS

- N=2964
- 69% male (63% MSM)
- 52% white, 33% black African
- 60% under 40 yrs
- 0.5% IDU
DURATION OF INFECTION

- Time from infection to diagnosis could be estimated for 53.6% (n=1590) index patients

- 23.7% (n=377) were recently infected (within 6 months) with supporting RITA data supplied for 57 (15%)
PARTNER NOTIFICATION PROCESS

2964 index cases

2921 (100%) denominator index cases

2831 (96.9%): action required

43 (1.5%) documented PN done elsewhere: excluded from PN denominator

90 (3.1%) PN initiated: no action required

2470 (84.6%) PN process continued

361 (12.4%) PN not done or not documented
AUDIT COMPLETION FOR CONTACTS

- **3211** contacts were audited. Index cases were estimated to have over 6400 contacts.

- 1051 index cases had only one contact:
  - 923 (87.8%) of their contacts were audited

- The proportion of contacts audited was lower for index cases with higher numbers of contacts.
DISTRIBUTION OF NUMBERS OF CONTACTS PER INDEX CASE
519 (16.2%) not at risk: 471 known positive, 33 deceased, 10 status known, 5 not exposed

1399 (52.0%) attended for testing: 293 newly diagnosed HIV-positive (20.9% of those tested)

310 (24.0%) informed, not known whether tested

983 (31% of contacts NOT informed)
21% of 1399 susceptible contacts tested through PN process were newly diagnosed with HIV infection

One new case of HIV was diagnosed through PN for every 10 index cases
## Variation in Prevalence by Index Patient Characteristics

<table>
<thead>
<tr>
<th>Index patient</th>
<th>Number of contacts tested</th>
<th>% prevalence among tested contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1399</td>
<td>20.9</td>
</tr>
<tr>
<td>Male</td>
<td>944</td>
<td>20.1</td>
</tr>
<tr>
<td>Female</td>
<td>425</td>
<td>23.3</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>694</td>
<td>23.5</td>
</tr>
<tr>
<td>Homosexual</td>
<td>609</td>
<td>18.6</td>
</tr>
<tr>
<td>White</td>
<td>784</td>
<td>19.5</td>
</tr>
<tr>
<td>Black-African</td>
<td>419</td>
<td>24.6</td>
</tr>
<tr>
<td>Under 40</td>
<td>893</td>
<td>20.7</td>
</tr>
<tr>
<td>40 or over</td>
<td>480</td>
<td>22.1</td>
</tr>
<tr>
<td>Recently infected (within 6 months)</td>
<td>188</td>
<td>18.6</td>
</tr>
<tr>
<td>Not recently infected</td>
<td>657</td>
<td>21.9</td>
</tr>
</tbody>
</table>
## Variation in Prevalence by Contact Type

<table>
<thead>
<tr>
<th>Contact type</th>
<th>Number of contacts tested</th>
<th>% prevalence among tested contacts</th>
</tr>
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<tbody>
<tr>
<td>All</td>
<td>1399</td>
<td>20.9</td>
</tr>
<tr>
<td>Sexual contacts:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>890</td>
<td>26.5</td>
</tr>
<tr>
<td>Ex-regular</td>
<td>176</td>
<td>13.6</td>
</tr>
<tr>
<td>Casual known</td>
<td>197</td>
<td>11.7</td>
</tr>
</tbody>
</table>
VARIATION IN PREVALENCE BY BASHH REGION

- Wide range observed across regions
  - 9.5% in Northern region
  - 29.4% in Wales

- Partnership type remains only independent predictor of prevalence in contacts
THE UNDIAGNOSED POOL

Assuming the same prevalence by contact type among tested and untested contacts, 422 potentially contactable sexual contacts were infected with HIV:

- 283* (67%) were tested and diagnosed via PN
- 138 (33%) remained undiagnosed

*A further 5 vertical contacts and 5 sexual contacts whose contactability was not stated were diagnosed with HIV, giving 293 new diagnoses in total

<table>
<thead>
<tr>
<th>Contact type</th>
<th>Estimated number of HIV+ undiagnosed contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>62</td>
</tr>
<tr>
<td>Ex-regular</td>
<td>42</td>
</tr>
<tr>
<td>Casual known</td>
<td>34</td>
</tr>
</tbody>
</table>
# PN Non-completion by Contact Type

<table>
<thead>
<tr>
<th>Contact type</th>
<th>Total audited</th>
<th>Potentially at risk and not informed</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3211</td>
<td>983 (30.6%)</td>
</tr>
<tr>
<td><strong>Sexual contacts:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>1422</td>
<td>130 (9.1%)</td>
</tr>
<tr>
<td>Ex-regular</td>
<td>577</td>
<td>238 (41.2%)</td>
</tr>
<tr>
<td>Casual known</td>
<td>562</td>
<td>189 (33.6%)</td>
</tr>
<tr>
<td>Casual unknown</td>
<td>377</td>
<td>341 (90.5%)</td>
</tr>
</tbody>
</table>
PN OUTCOMES

Outcome as defined by BASHH PN Statement, per index case:

- **0.45** contacts verified by health care worker (HCW) as having attended a service
- **0.64** contacts attended a service including patient report
- **0.75** if contacts informed of risk but not known to have attended a service are also included

Outcome for contacts at risk of having undiagnosed HIV, per index case:

- **0.29** HCW verified contacts at risk attended a service
- **0.48** contacts at risk attended a service including patient report
## Variation in Outcomes: Contacts Attending per Index Patient

<table>
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<tr>
<th>Index patient</th>
<th>Contacts</th>
<th>At risk contacts</th>
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<tbody>
<tr>
<td>All</td>
<td>0.64</td>
<td>0.48</td>
</tr>
<tr>
<td>Male</td>
<td>0.66</td>
<td>0.48</td>
</tr>
<tr>
<td>Female</td>
<td>0.62</td>
<td>0.49</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>0.63</td>
<td>0.47</td>
</tr>
<tr>
<td>Homosexual</td>
<td>0.69</td>
<td>0.50</td>
</tr>
<tr>
<td>White</td>
<td>0.72</td>
<td>0.52</td>
</tr>
<tr>
<td>Black-African</td>
<td>0.56</td>
<td>0.43</td>
</tr>
<tr>
<td>Under 40</td>
<td>0.69</td>
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</tr>
<tr>
<td>Recently infected (within 6 months)</td>
<td>0.76</td>
<td>0.50</td>
</tr>
<tr>
<td>Not recently infected</td>
<td>0.71</td>
<td>0.54</td>
</tr>
</tbody>
</table>
**VARIATION IN OUTCOMES: CONTACTS ATTENDING PER INDEX PATIENT**

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<tr>
<td>Not recently infected</td>
<td>0.71</td>
<td>0.54</td>
</tr>
<tr>
<td>Had audited regular partner</td>
<td>1.03</td>
<td>0.77</td>
</tr>
<tr>
<td>No audited regular partner</td>
<td>0.42</td>
<td>0.30</td>
</tr>
</tbody>
</table>
## Summary Outcomes and Regional Variation

<table>
<thead>
<tr>
<th>Total (range across regions)</th>
<th>Percentage for whom PN done</th>
<th>At risk contacts attending service per index case</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87.6 (62.0 – 97.0)</td>
<td>0.48 (0.31 – 0.70)</td>
</tr>
</tbody>
</table>

- It is very unlikely that case mix variation wholly explains differences in site-to-site outcomes.
SITE VARIATION: CONTACTS ATTENDING PER INDEX CASE

% of sites

<table>
<thead>
<tr>
<th>Contacts attending per index case</th>
<th>% of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0.2</td>
<td>20%</td>
</tr>
<tr>
<td>0.2-0.4</td>
<td>20%</td>
</tr>
<tr>
<td>0.4-0.6</td>
<td>30%</td>
</tr>
<tr>
<td>0.6-0.8</td>
<td>10%</td>
</tr>
<tr>
<td>0.8-1.0</td>
<td>5%</td>
</tr>
<tr>
<td>1.0-1.2</td>
<td>5%</td>
</tr>
<tr>
<td>1.2-1.4</td>
<td>5%</td>
</tr>
<tr>
<td>&gt;1.4</td>
<td>5%</td>
</tr>
</tbody>
</table>

- **All contacts (overall 0.64)**
- **At risk contacts (overall 0.48)**
TIME TO OUTCOME: KAPLAN-MEIER PLOT SHOWING AT RISK CONTACTS WHO ATTENDED (n=1057)
LIMITATIONS

Some data quality issues – inconsistent reporting in relation to:
- Contacts already known to have HIV, been tested or deceased
- Index patients for whom PN may have been conducted elsewhere

Maximum of 5 contacts audited per index case – many contacts not audited
CONCLUSIONS

- PN is an effective strategy for diagnosing HIV:
  - Prevalence of newly diagnosed HIV: 20.9% among tested contacts
  - One contact was newly diagnosed for every 10 index cases

- However, one in three possibly HIV-positive contactable contacts may have remained undiagnosed
CONCLUSIONS

- Wide variation in numbers of contacts attending per index case
- Case-mix unlikely to account for this variation
- PN completion substantially higher for regular sexual partners than ex-regular or known casual ones
Next Steps and Recommendations

- BHIVA and BASHH will provide individual site reports detailing site-level outcomes.
- All services should review their performance and seek to improve PN outcomes.
- PN should include ex-regular and casual known as well as regular partners.
- Development of novel HIV PN indicator.
# Acknowledgements

**BASHH National Audit Group**

V Apea  
E Buitndam  
A de Burgh-Thomas  
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M Gupta  
J Hardie  
D Harte  
C Knapper  
M Lechelt  
H McClean (Chair)

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M Rayment  
C Sabin  
A Schwenk  
A Sullivan  
H Veerakathy  
E Wilkins

Thanks to all clinical services who provided data
BHIVA project to develop patient-reported measures of care quality (PROMs/PREMs)

Engagement workshop

8:00-8:55 am, Friday 15 November
Henry Moore Room, 4th Floor
QEII Conference Centre
Please come and let us hear your views