

# Reducing Very Late Diagnosis of HIV Infection In South West England Using Serious Incident Reporting (SIR)

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## Introduction and Aims

- Late diagnosis of HIV is associated with increased hospitalisations, decreased life expectancy (1, 2) and increased treatment and care costs to the NHS (3).
- Individuals with undiagnosed HIV are likely to be responsible for the majority of transmissions because successfully treated individuals are unlikely to infect others (4).
- Very late diagnosis of HIV is defined as an individual presenting with a CD4 count <200 cells/mm<sup>3</sup> or with an AIDS defining condition (5).
- Serious Incident reporting (SIR) may be useful in identifying reasons for late diagnosis across the entire patient pathway, impacting testing policies and preventing future occurrences.
- In 2011 the South West Office for sexual health under guidance from the South West Sexual Health Board established a pilot study to report very late diagnosis of HIV as serious incidents.
- NHS Bournemouth and Poole, and NHS Bristol were invited to pilot a review of all cases of very late diagnosis of HIV in line with the national framework for reporting and learning from serious adverse incidents.
- Chosen areas have diagnosed HIV prevalence around the threshold of 2/1000 adult population (6).
- Above this threshold NICE guidelines recommend routinely offering HIV tests to new registrants in primary care and to people from high risk groups (7).

### AIMS

The aims of the study were:

- to pilot the use of Serious Incident Reporting (SIR) to enable root-cause analysis (RCA) of very late HIV diagnosis in primary and secondary care settings.
- to formulate and implement an action plan based on the causes identified.
- to review whether the SIR process was an effective catalyst for improving access to testing and preventing very late HIV diagnosis.

Fundamentally, we aimed to understand the effect of SIR across the health community as a public health intervention.

## Results

### Action as a result of the audit in Bournemouth and Poole

**Primary Care** : • Programmes to increase awareness of clinical indicators (CIs) in GP settings • Development HIV practice website • GPs attended In-house education • Attendance on HIV education days • practice meetings raising awareness about testing guidance and CIs • A pilot testing programme was launched in a higher prevalence area inviting patients to test

**Secondary Care**: • Increased testing for HIV within hospital specialities and a campaign to increase awareness of CIs within Emergency Dept • Posters of CIs displayed in all Depts • Monthly HIV educational update sessions for staff at Poole Hospital with feedback on lab HIV positivity rates • Royal College of Emergency Medicine was successfully lobbied to change HIV testing recommendations • Increased testing was commissioned in core sexual health services

**Community** : • A community testing programme targeting very high risk groups for education events and testing was established • A tendering process is underway to develop more integrated sexual health services and develop outreach GUM clinics in high prevalence areas

### Action as a result of the audit in Bristol

**Primary care** : • Sexual health annual study day – audit data and any identified issues relating to very late diagnosis presented to GPs in Bristol

- Practices encouraged to offer HIV testing at the point of registration to individuals from high prevalence countries
- GPs asked to document that HIV test had been offered as audit revealed that information on sexual health screen was not well recorded in GP records
- Attendance on HIV education days, practice meetings raising awareness about testing guidance and clinical indicators
- Web link and power point presentation on guidance for testing individuals from high HIV prevalence countries were made available for use by GPs and nurses

**Secondary Care**: no action was required as health professionals had previously received training

## Discussion and Conclusions

- SIR of very late HIV diagnoses was an effective intervention for raising awareness across the health community and helped drive through change. Implementing SIR should be a consideration for local areas wanting to reduce late and very late diagnosis of HIV.
- Although the SIR process was triggered in the acute HIV treatment setting, the RCA involved tracing hospital notes and contacting GPs, which enabled a strategic response, informed by the audit, that has changed testing practice.
- There were missed opportunities for earlier diagnosis, particularly in primary care. Patients were accessing primary and secondary services with opportunistic infections, ranging from 0-11 times before an HIV test was offered.
- Many patients had HIV CIs supporting the need to improve their recognition in primary and secondary care where HIV could be part of the differential diagnosis.
- Risk factors were recorded in the majority of notes, highlighting that risk and CIs were not being matched as part of a more holistic diagnosis to request an HIV test.
- The impact of this pilot was greater in Bournemouth and Poole, where it changed policy and strategy and the way organisations address HIV testing. In Bristol completion of the full SIR process was disrupted due to the timing of the 2013 NHS reorganisation and changes in commissioning structure.

### Conclusions

- SIR provides an opportunity to systematically review cases, and is a process that should relate to the entire patient pathway and involve the whole health community.
- We found many missed opportunities for earlier HIV diagnosis in primary care and therefore increasing HIV testing in primary care should be a commissioning priority.
- Health professionals in primary and secondary care require ongoing education & training on risk factors and recognising HIV ICs for HIV acquisition (8).
- SIR and RCA should be recommended as valuable tools for achieving earlier diagnosis of HIV.

## Methods

- We developed a:
  - RCA tool to determine whether patients had previously presented with risk factors or clinical indicators for HIV
  - protocol and case review template for hospital and primary care data collection

- The project reported all cases of very late diagnosis of HIV as serious incidents in 6 month batches.
- The batched late diagnoses were submitted via the Strategic Executive Information System (SEIS).

**Audit 1** - January to June 2011 in Bristol; June to December 2011 in Bournemouth and Poole submitted in February 2012

**Audit 2** - January to June 2012 in both sites submitted in September 2012

- The SIR process triggered consideration of late diagnoses by Director of Public Health and a RCA of each case.
- For each case demographic characteristics, HIV indicator conditions (www.bhiva.org/documents/guidelines/testing) CD4 count, risk factors and prior visits to a GP or hospital were recorded from medical records (after gaining patient consent).
- Data were compiled, analysed, reviewed and an action plan formulated.

## Results

**Table 1: Summary of findings from audits 1 and 2 in Bournemouth and Poole and Bristol**

Variable	Bournemouth and Poole		Bristol	
	Audit 1 (June-Dec 2011)	Audit 2 (Jan-June 2012)	Audit 1 (Jan-June 2011)	Audit 2 (Jan-June 2012)
Total sample size	10	5	10	8
Age range (Average age)	32-63 years (49 years)	39-59 years (52 years)	30-67 years (47 years)	32-61 years (43 years)
Sex	Male (6) Female (4)	Male (3) Female (2)	Male(7) Female(3)	Male (5) Female (2) NR (1)
Ethnicity	White British (7) Black African(2) Black British (1)	White British (3) Black African (2)	White British (2) Black African (4), Eastern European (4)	White British (5) Black African (1) Asian (1) Not recorded (1)
% with at least 1 risk factor	90%	100%	90%	88%
% with 2 or more risk factors	40%	80%	20%	38%
Risk factors recorded by type	MSM (4), High prevalence area (3), Partner HIV + (4), Blood transfusion (1)	MSM (3), High prevalence area (2), Sex abroad (2)	MSM (2),Partner HIV + (3), Sub Saharan African (4), High prevalence area (1), Unprotected sex (1), Drug user (1)	MSM (2), STIs (2), Sub Saharan African (1), Partner HIV+ (4), High prevalence area (1), Partner from high prevalence area (1)
% diagnosed in secondary care	90%	100%	60%	50%
% HIV clinical indicator conditions	80%	80%	60%	75%
Attendance (ever) at primary care pre diagnosis by %	90% (1-11 times)	100% (1-7 times)	60% (1-5 times)	88% (1-6 times)
No. of times seen in primary care in previous year	(range 0-11 times)	(range 1-4 times)	(range 0-5 times)	(range 1-4 times)
Evidence of sexual history having been taken and no HIV test being offered	14%	0%	0%	0%
Evidence of test offered in primary care in previous year	57%	0%	0%	25%
Evidence of patient refusing test in previous year	0%	0%	0%	0%
% with record of previous negative test	28%	0%	10%	12%
N (% of practices undertaking case review as result of audit	7 (70%)	4 (80%)	8 (80%)	7 (88%)
N (% of practices taking up education sessions	7 (70%)	3 (60%)	NOT APPLICABLE	NOT APPLICABLE

**Table 1:** shows the summary of findings of the 33 patients included in the two-stage audit by area.

- Their ages ranged from 30 to 67 years, and 21 (66%) were male.
- Black African (27%) and Eastern European (12%) ethnicities were over-represented compared with the background population, although the majority were white British (52%).
- Nearly all patients had at least one risk factor for HIV acquisition, 13 (39%) had two or more, and one three risk factors.
- Frequently identified risk factors were: Men who have sex with men (n=11), partner HIV-positive (n=11), patient from a high prevalence area (n=7), or from sub Saharan Africa (n=5).
- Percentage of individuals recorded as having clinical indicators was high in both audits across both areas.

## References

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