# INDICATOR CONDITION GUIDED HIV TESTING – PROGRESS AND CHALLENGES

A Sullivan

Malta, February 2016

# HIV Indicator Condition Guided Testing

Indicator conditions are conditions associated with an excess risk of being HIV-positive

Opportunistic healthcare focused strategy

Routine HIV testing is cost effective when the undiagnosed HIV prevalence in the target group >0.1%

Included in a number of testing guidelines but very variable implementation

HIV in Europe 2007
Working Together for
Optimal Testing and Earlier Care

> 300 delegates from 53 countries of WHO Europe Region

To identify strategies for overcoming obstacles to optimal testing and earlier care
Indicator Condition guided testing

Recommended actions:
Produce evidence on prevalence and missed opportunities for testing
Completion of Indicator Disease Guidance

NOV
2007


HIV in Europe 2007
Working Together for
Optimal Testing and Earlier Care




SEP 2009 –
FEB 2011

# HIV Indicator Diseases Across Europe Study – Phase 1

Pilot study (2009-2011)

Routine test offer to all 18-65 year olds of unknown HIV status presenting for care of an Indicator Condition

17 sites in 14 European countries

## Results

| | |
|---|---|
| HIV tests | 3588 patients |
| | 66 new HIV diagnoses |
| **HIV prevalence 1.8%** | **95% CI 1.4 - 2.3** |

Potential missed opportunities in preceding 5 years

| | |
|---|---|
| 20% | previous potentially HIV-related presentations |
| | 23% had more than one presentation |
| 11% | hospitalised |
| | 71% AIDS diagnosis or infection |

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# Results – HIV diagnoses per Indicator Condition

| | HIV test | HIV + | Prevalence (95%CI) |
|---|---|---|---|
| **Total** | **3588** | **66** | **1.84 (1.42-2.34)** |
| STI | 764 | 31 | 4.06 (2.78-5.71) |
| On-going mononucleosis-like illness | 441 | 17 | 3.85 (2.26-6.10) |
| Leuco/thrombocytopaenia | 94 | 3 | 3.19 (0.66-9.04) |
| Herpes Zoster <65 yrs old | 207 | 6 | 2.89 (1.07-6.21) |
| Seborrheic dermatitis | 97 | 2 | 2.06 (0.25-7.24) |
| Hepatitis B/C | 1099 | 4 | 0.36 (0.10-0.93) |
| Cervical or anal dysplasia | 542 | 2 | 0.37 (0.04-1.32) |
| Malignant lymphoma | 344 | 1 | 0.29 (0.01-1.61) |

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# Barriers to testing

Clinician barriers identified within the study

- motivation of colleagues in other specialties to deliver testing
- time pressure on service delivery
- skills - education and training of staff

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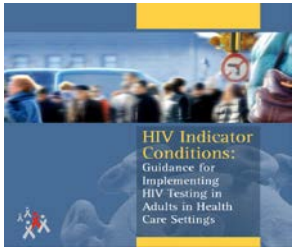


2012

**Table 1: Definitions of indicator conditions and recommendations for HIV testing**

## 1. Conditions which are AIDS defining among PLHIV*

**Strongly recommend testing:**

**Neoplasms:**
- Cervical cancer
- Non-Hodgkin lymphoma
- Kaposi's sarcoma

**Bacterial infections**
- Mycobacterium Tuberculosis, pulmonary or extrapulmunary
- Mycobacterium avium complex (MAC) or Mycobacterium kansasii, disseminated or extrapulmonary
- Mycobacterium, other species or unidentified species, disseminated or extrapulmunary
- Pneumonia, recurrent (2 or more episodes in 12 months)
- Salmonella septicaemia, recurrent

**Viral infections**
- Cytomegalovirus retinitis
- Cytomegalovirus, other (except liver, spleen, glands)
- Herpes simplex, ulcer(s) >1 month/bronchitis/pneumonitis
- Progressive multifocal leucoencephalopathy

**Parasitic infections**
- Cerebral toxoplasmosis
- Cryptosporidiosis diarrhoea, >1 month
- Isosporiasis, >1 month
- Atypical disseminated leismaniasis
- Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)

**Fungal infections**
- Pneumocystis carinii pneumonia
- Candidiasis, oesophageal
- Candidiasis, bronchial/ tracheal/ lungs
- Cryptococcosis, extra-pulmonary
- Histoplasmosis, disseminated/ extra pulmonary
- Coccidiodomycosis, disseminated/ extra pulmonary
- Penicilliosis, disseminated

## 2a. Conditions associated with an undiagnosed HIV prevalence of >0.1 %**

**Strongly recommend testing:**
- Sexually transmitted infections
- Malignant lymphoma
- Anal cancer/dysplasia
- Cervical dysplasia
- Herpes zoster
- Hepatitis B or C (acute or chronic)
- Mononucleosis-like illness
- Unexplained leukocytopenia/ thrombocytopenia lasting >4 weeks
- Seborrheic dermatitis/exanthema
- Invasive pneumococcal disease
- Unexplained fever
- Candidaemia
- Visceral leishmaniasis
- Pregnancy (implications for the unborn child)

## 2b. Other conditions considered likely to have an undiagnosed HIV prevalence of >0.1%

**Offer testing:**
- Primary lung cancer
- Lymphocytic meningitis
- Oral hairy leukoplakia
- Severe or atypical psoriasis
- Guillain–Barré syndrome
- Mononeuritis
- Subcortical dementia
- Multiplesclerosis-like disease
- Peripheral neuropathy
- Unexplained weightloss
- Unexplained lymphadenopathy
- Unexplained oral candidiasis
- Unexplained chronic diarrhoea
- Unexplained chronic renal impairment
- Hepatitis A
- Community-acquired pneumonia
- Candidiasis

## 3. Conditions where not identifying the presence of HIV infection may have significant adverse implications for the individual's clinical management despite that the estimated prevalence of HIV is most likely lower than 0.1%

**Offer testing:**
- Conditions requiring aggressive immuno-suppressive therapy:
  - Cancer
  - Transplantation
  - Auto-immune disease treated with immunosuppressive therapy
- Primary space occupying lesion of the brain.
- Idiopatic/ Thrombotic thrombocytopenic purpura

* Based on CDC and WHO classification system [46]
** References in appendix 2

Updates to the table based on future evidence of HIV prevalence in indicator conditions under 2b can be found at www.hiveurope.eu

HIV in Europe 2007
Working Together for
Optimal Testing and Earlier Care

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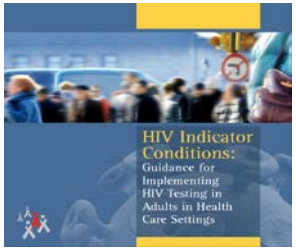
HIV indicator diseases across Europe study

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2012 –
2014

# HIDES 2 - Audit

Audit of HIV testing in Indicator Conditions
Retrospective from May 2013, n=100 or 12 months

| | | |
|---|---|---|
| Tuberculosis | non-Hodgkins lymphoma | anal and cervical Ca |
| hepatitis B and C | oesophageal candidiasis | |

49 audits from 23 centres, representing 7037 patients

| The median test rate | % | IQR |
|---|---|---|
| **All audits** | **72** | **32–97** |
| North | 44 | 22–68 |
| South | 68 | 21-98 |
| Central | 78 | 30-91 |
| East | 99 | 86–100 |

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# HIDES 2

2012 - 2014

Routine offer of HIV test to patients (18-65 yrs) presenting with indicator condition

**Primary endpoint:**
demonstration of previously undiagnosed HIV infection >0.1% in each indicator condition (IC)

150 surveys were performed, across 42 clinical centres in 20 countries across four regions of Europe

| Disease Area | Indicator Conditions |
|---|---|
| Malignancies | Lymphoma<br>Cervical dysplasia or cancer (CIN II and above)<br>Anal dysplasia or cancer (AIN II and above)<br>Primary lung cancer |
| Viral infections | Hepatitis B infection<br>Hepatitis C infection<br>Hepatitis B & C co-infection<br>Ongoing mononucleosis-like illness |
| Haematological disorders | Leucocytopaenia and / or thrombocytopaenia<br>Lymphadenopathy |
| Dermatological | Severe psoriasis<br>Seborrhoeic dermatitis |
| Other | Pneumonia (hospitalised)<br>Peripheral neuropathy |

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# Results

| | | |
|---|---|---|
| Total number | 9471 | |
| Male | 54% | |
| Median age | 37 yrs | (IQR 29 – 49 yrs) |
| White | 86.6% | |
| Previous HIV test | 14.4% | |

| | | |
|---|---|---|
| **HIV positive test** | **235** | |
| **HIV prevalence** | **2.5%** | **[95%CI 2.2 – 2.8]** |

| | | |
|---|---|---|
| Median $CD_4$ count | 200 cells/μl | [IQR 65 – 390] |
| Late presenters | 143 | 71.9% |
| Hx of HIV-associated symptoms | 61 | 28.2% |

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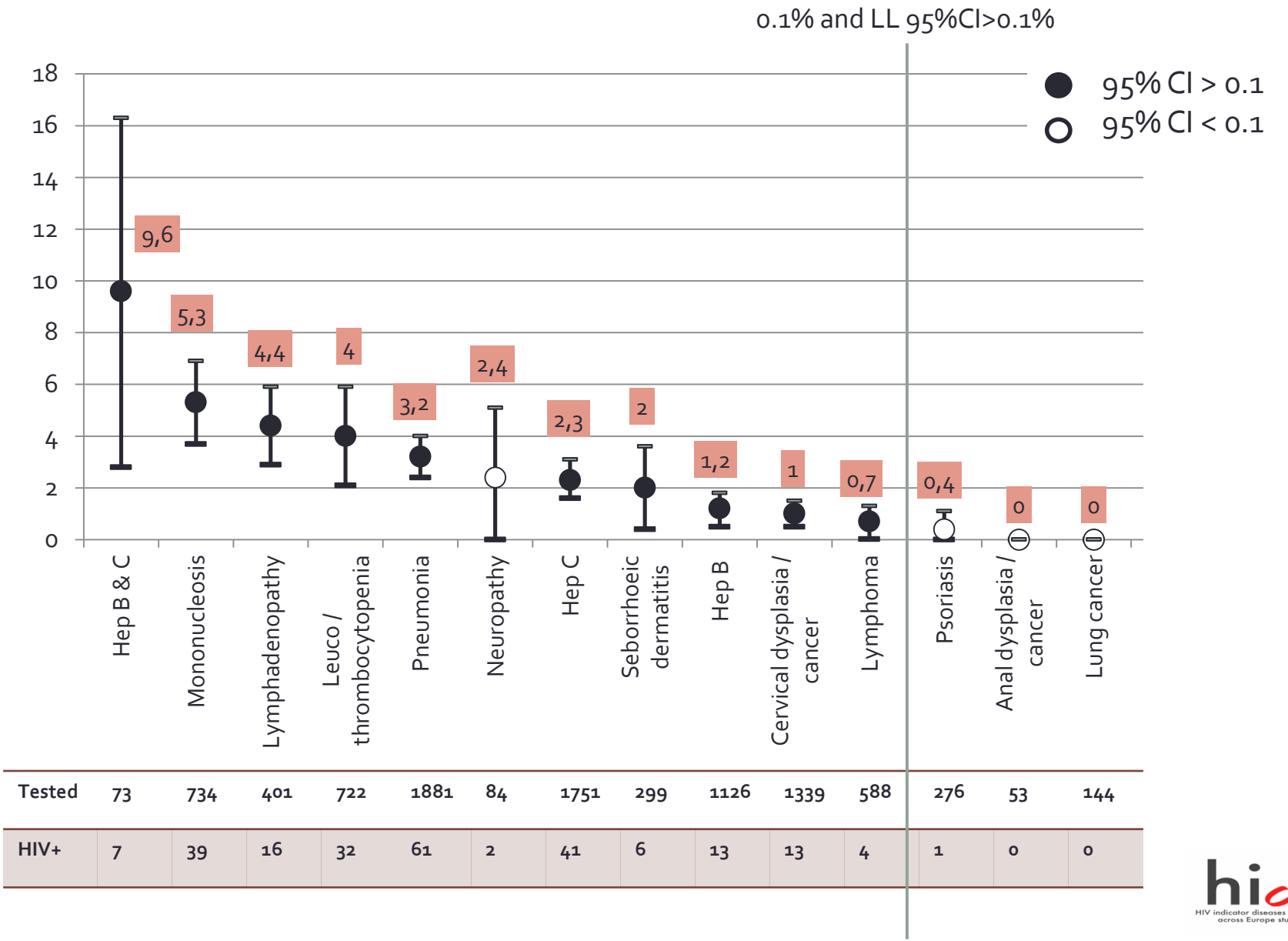
# HIV prevalence by indicator condition




| | Hep B & C | Mononucleosis | Lymphadenopathy | Leuco / thrombocytopenia | Pneumonia | Neuropathy | Hep C | Seborrhoeic dermatitis | Hep B | Cervical dysplasia / cancer | Lymphoma | Psoriasis | Anal dysplasia / cancer | Lung cancer |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tested | 73 | 734 | 401 | 722 | 1881 | 84 | 1751 | 299 | 1126 | 1339 | 588 | 276 | 53 | 144 |
| HIV+ | 7 | 39 | 16 | 32 | 61 | 2 | 41 | 6 | 13 | 13 | 4 | 1 | 0 | 0 |

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# HIDES 2 extension

INF MONO extension to June 2015

European primary care centres and acute hospitals from HIDES 2

| | |
|---|---|
| Number | 1248 |
| HIV positive | 74 |
| Prevalence | 5.9 (4.6 – 7.2)* |

*(95% confidence limit)

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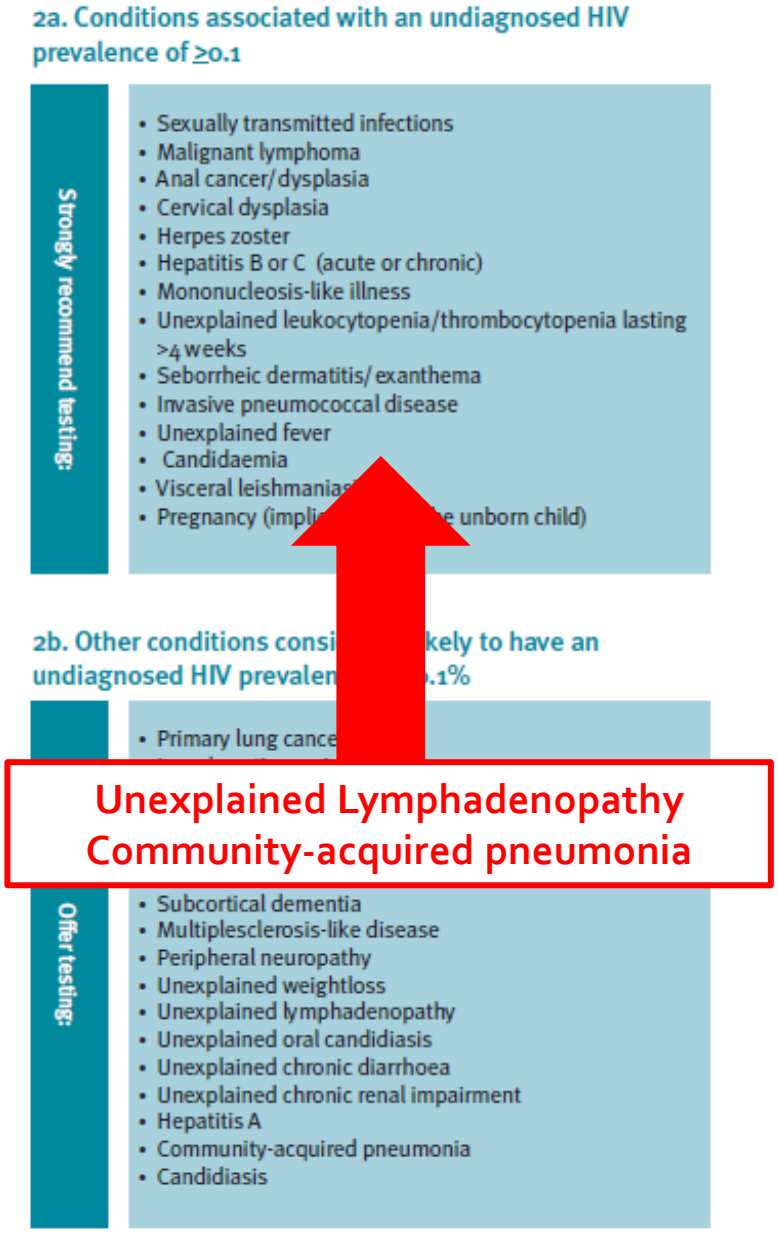
# Indicator Conditions Guidelines

Table of Indicator Conditions and HIV testing recommendations have been updated according to the findings in HIDES 2



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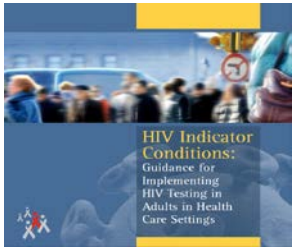


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JUN
2014

**Co-funded by the 2nd Health Programme of the European Union**

# OptTEST

EU funded programme to increase HIV testing and access to treatment and care

Denmark

Czech Republic, Estonia, France, Greece, Poland, Spain, United Kingdom

Belarus, Georgia, Ukraine

Ireland, Netherlands

HIV Indicator Condition testing

- Hepatitis B and C
- Pneumonia
- Infectious Mononucleosis-like syndrome

Transfer to Care

Cost Effectiveness

Stigma and Legal barriers

Co-funded by the 2nd Health Programme of the European Union

# Indicator Condition guided HIV testing

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Strategic pack
- slide set
- specialty guideline review
- missed diagnosis review and cost burden analysis
- business case proforma

Interactive service design module
- staff roles and responsibilities
- care pathways (incl transfer to care)
- test selection
- results governance

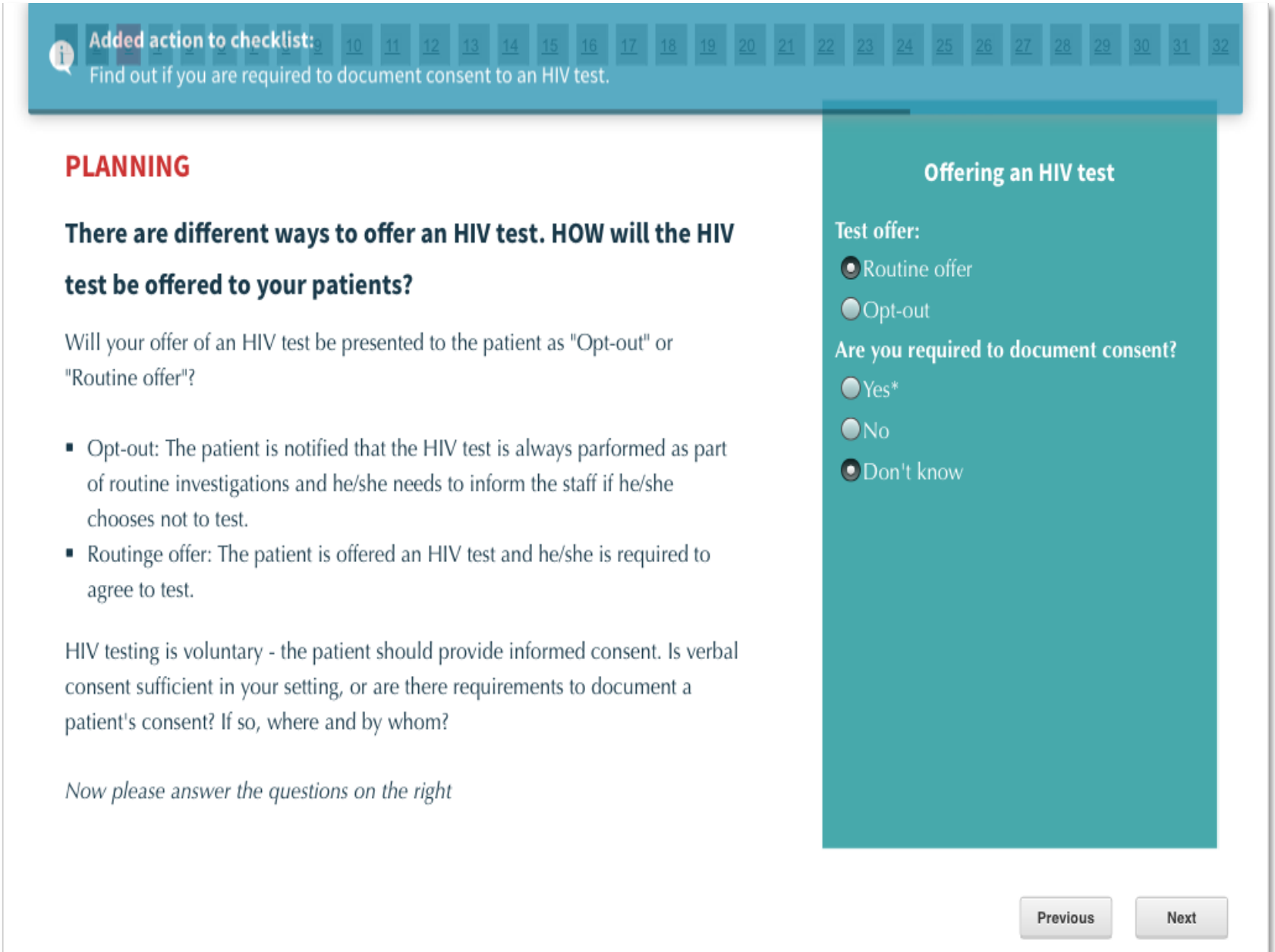
Staff training module
- interactive
- testing scenarios
- assessment

Resource pack
- patient support
- evidence, guidelines

Quality Improvement methodology (PDSA, SPC) to increase coverage

Co-funded by the 2nd Health Programme of the European Union

# Interactive service design module



# PLANNING

## Who will offer an HIV test?

In your service, are there any restrictions on which members of staff can offer an HIV test?

Offering an HIV test should be within the competence of any health care professional.

There is no need for special counselling skills beyond those required for routine clinical practice. Additional training can be found in Tool 3 (education and training for staff).

Are there opportunities to involve other health care workers or other members of the team in HIV testing - phlebotomists, health care assistants, receptionists etc.?

Consider which members of staff could offer an HIV test (with additional education/training/support)

*Now please answer the questions on the right*

### Who will offer an HIV test?

**Who can offer the HIV test?**

- [ ] Doctor
- [ ] Nurse
- [ ] Physician's assisstant
- [ ] Health Care assisstant
- [ ] Phlebotomist
- [x] Other*

***Please give details below:**

**Who could offer the HIV test?**

- [ ] Doctor
- [ ] Nurse
- [ ] Physician's assisstant
- [ ] Health Care assisstant
- [ ] Phlebotomist
- [ ] Other**

# Check list

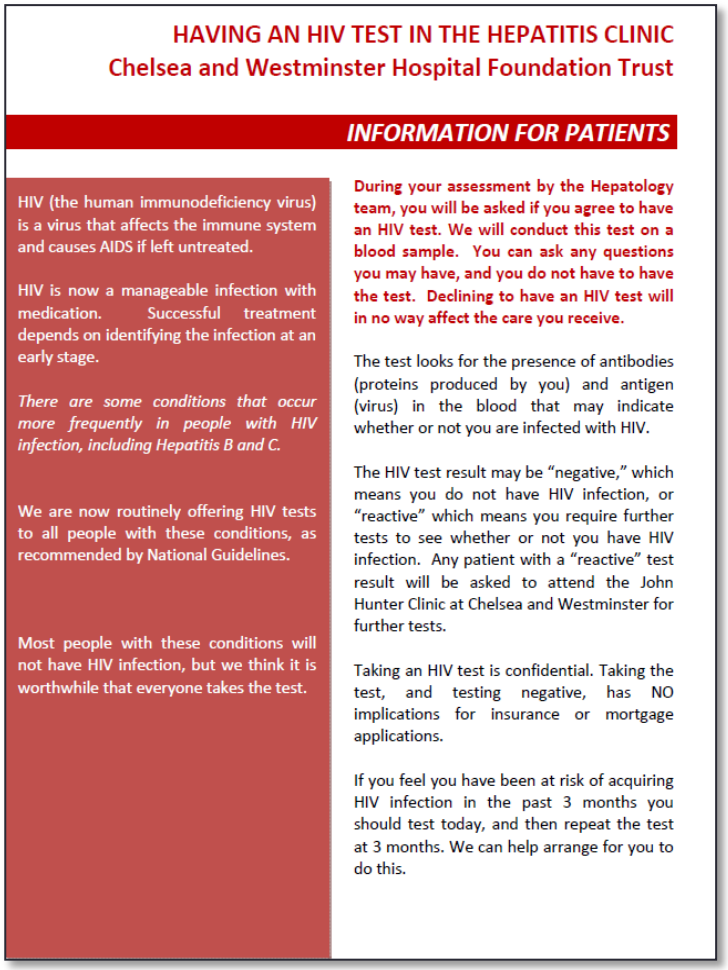
OptTEST WP5 Tool 2 – Checklist to support planning for introduction of indicator-condition guided HIV Testing

Key groups to involve in the planning:

| Your team | Lab team | HIV Team | Your patients |
|---|---|---|---|

| Points to Consider | Your Plan for your Service – Based on your Tool 2 Responses | Any Further Action Needed to complete planning? |
|---|---|---|
| Planning - Offering an HIV test in your service | | |
| HOW will the HIV test be offered to your patients? (•Routine offer or •Opt-out?) | ROUTINE OFFER | |
| Are you required to document CONSENT to an HIV test? (•Yes – where and by whom? •No, •Don't know) | DON'T KNOW →→ | "Don't know" response = ACTION: Discuss with your local HIV and/or local information governance team. |
| WHO can currently offer an HIV test to your patients? (•Doctor, •Nurse, •Physician's Assistant, •Health Care Assistant, •Phlebotomist, •Other – if Other please give details of other staff groups) [S6] | DOCTOR, NURSE | |
| WHO could offer an HIV test with additional training/education/support? (•Doctor, •Nurse, •Physician's Assistant, •Health Care Assistant, •Phlebotomist, •Other – if Other please give details of other staff groups) [S6] | HEALTH CARE ASSISTANT | |
| When are patients' CONTACT DETAILS verified: (•At reception, •When obtaining consent, •When taking blood sample, •Other – if Other, please give details) [S7] | WHEN OBTAINING CONSENT | |
| Pre-test discussion / Patient information leaflet (PIL) Will you use a patient information leaflet in your service? (•Yes- see additional question below, •No) [S8] | YES | |

# Example of a patient information leaflet



**HAVING AN HIV TEST IN THE HEPATITIS CLINIC**
**Chelsea and Westminster Hospital Foundation Trust**

***INFORMATION FOR PATIENTS***

HIV (the human immunodeficiency virus) is a virus that affects the immune system and causes AIDS if left untreated.

HIV is now a manageable infection with medication. Successful treatment depends on identifying the infection at an early stage.

*There are some conditions that occur more frequently in people with HIV infection, including Hepatitis B and C.*

We are now routinely offering HIV tests to all people with these conditions, as recommended by National Guidelines.

Most people with these conditions will not have HIV infection, but we think it is worthwhile that everyone takes the test.

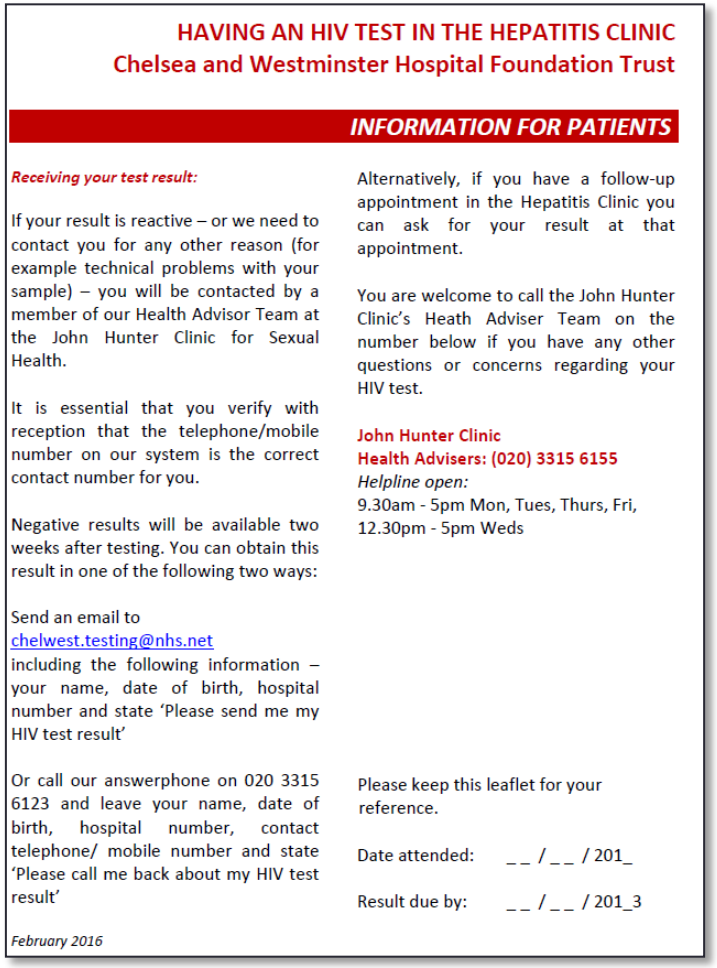
**During your assessment by the Hepatology team, you will be asked if you agree to have an HIV test. We will conduct this test on a blood sample. You can ask any questions you may have, and you do not have to have the test. Declining to have an HIV test will in no way affect the care you receive.**

The test looks for the presence of antibodies (proteins produced by you) and antigen (virus) in the blood that may indicate whether or not you are infected with HIV.

The HIV test result may be "negative," which means you do not have HIV infection, or "reactive" which means you require further tests to see whether or not you have HIV infection. Any patient with a "reactive" test result will be asked to attend the John Hunter Clinic at Chelsea and Westminster for further tests.

Taking an HIV test is confidential. Taking the test, and testing negative, has NO implications for insurance or mortgage applications.

If you feel you have been at risk of acquiring HIV infection in the past 3 months you should test today, and then repeat the test at 3 months. We can help arrange for you to do this.



**HAVING AN HIV TEST IN THE HEPATITIS CLINIC**
**Chelsea and Westminster Hospital Foundation Trust**

***INFORMATION FOR PATIENTS***

***Receiving your test result:***

If your result is reactive – or we need to contact you for any other reason (for example technical problems with your sample) – you will be contacted by a member of our Health Advisor Team at the John Hunter Clinic for Sexual Health.

It is essential that you verify with reception that the telephone/mobile number on our system is the correct contact number for you.

Negative results will be available two weeks after testing. You can obtain this result in one of the following two ways:

Send an email to
chelwest.testing@nhs.net
including the following information – your name, date of birth, hospital number and state 'Please send me my HIV test result'

Or call our answerphone on 020 3315 6123 and leave your name, date of birth, hospital number, contact telephone/ mobile number and state 'Please call me back about my HIV test result'

*February 2016*

Alternatively, if you have a follow-up appointment in the Hepatitis Clinic you can ask for your result at that appointment.

You are welcome to call the John Hunter Clinic's Heath Adviser Team on the number below if you have any other questions or concerns regarding your HIV test.

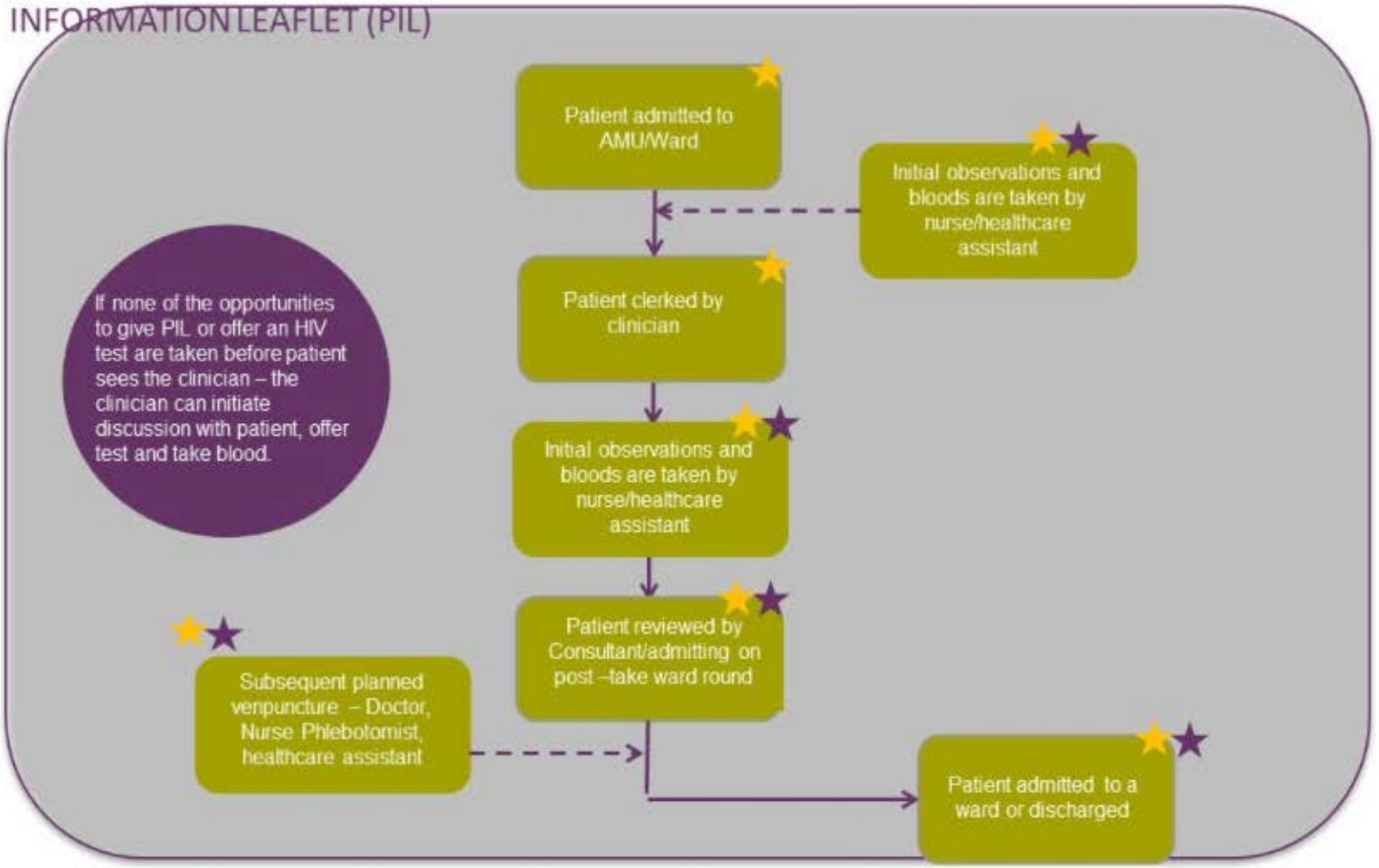
**John Hunter Clinic**
**Health Advisers: (020) 3315 6155**
*Helpline open:*
9.30am - 5pm Mon, Tues, Thurs, Fri,
12.30pm - 5pm Weds

Please keep this leaflet for your reference.

Date attended: _ _ / _ _ / 201_

Result due by: _ _ / _ _ / 201_3

# 2. EXAMPLE OF TESTING PATHWAY IN ACUTE MEDICAL ADMISSION UNIT OR INPATIENT WARD- HIGHLIGHTING OPPORTUNITIES FOR HIV TESTING AND PROVISION OF PATIENT INFORMATION LEAFLET (PIL)



## We will now take you through the steps to produce your own pathway, asking you to identify where there are the opportunities for HIV testing

Enter the role corresponding to the staff member the patient would encounter at each step of the pathway against each number below. Entering a zero against a number will remove that part of the pathway.

If your pathway is much more complex please click **here** to go to a proforma you can adapt

1 =
2 =
3 =
4 =
5 =
6 =

**While it will be technically possible to generate a personalised pathway via these webpages, we don't have that functionality available at the moment. Please enter below the names of staff the patient would encounter as they travel through your service:**

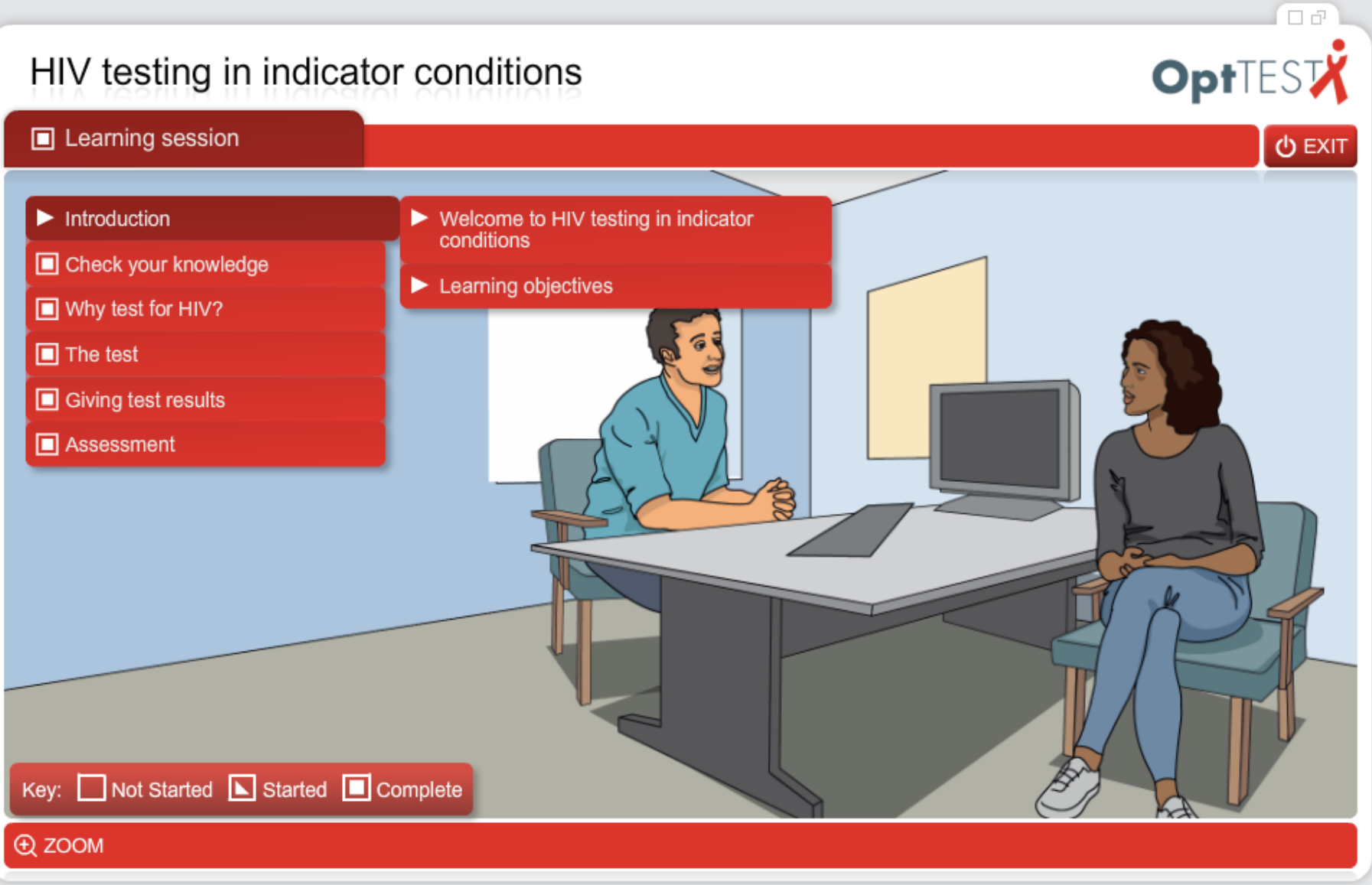
1 =
2 =
3 =
4 =
5 =
6 =

Update pathway



Login

# Online Staff Training module



# HIV testing in indicator conditions

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Learning session | Why test for HIV? | MENU

## HIV indicator conditions

*You can see the list of indicator conditions associated with each specialty by clicking on the buttons below. We recommend that you click on your own specialty at least. Alternatively you can click here to see the full list of indicator conditions*

| | | | |
|---|---|---|---|
| Respiratory/ Pulmonology | Neurology and neurosurgery | Dermatology/ genitourinary medicine | Gastroenterology/ hepatology |
| Oncology | Gynecology/ Obstetrics | Haematology | Infectious Diseases/ Internal medicine |
| Rheumatology | Ophthalmology | Ear Nose Throat | Nephrology |

Replay

ZOOM

# HIV testing in indicator conditions



## HIV indicator conditions

*You can see the list of indicator conditions associated with each specialty by clicking on the buttons below. We recommend that you click on your own specialty at least. Alternatively you can click here to see the full list of indicator conditions.*

Respiratory/ Pulmonology | Neurology and neurosurgery | Dermatology/ genitourinary medicine | Gastroenterology/ hepatology

Oncology | Gynecology/ Obstetrics | Haematology | Infectious Diseases/ Internal medicine

Rheumatology | Ophthalmology | Ear Nose Throat | Nephrology

**Yellow:** Conditions which are AIDS defining among PLHIV - strongly recommend testing.
**Blue:** Conditions associated with an undiagnosed HIV prevalence of >0.1% - strongly recommend testing. Other conditions considered likely to have an undiagnosed HIV prevalence of >0.1% - offer testing.
**Green:** Conditions where not identifying the presence of HIV infection may have significant adverse implications for the individual's clinical management despite that the estimated prevalence of HIV is most likely lower than 0.1% - Offer testing.

| Specialty: Dermatology/dermatovenereology/ genitourinary medicine |
|---|
| Kaposi's sarcoma |
| Herpes Simplex ulcer(s) |
| Atypical disseminated leishmaniasis |
| Penicilliosis, disseminated |
| Seborrheic dermatitis/exanthema |
| Herpes zoster |
| Sexually transmitted infections |
| Hepatitis B or C (acute or chronic) |
| Severe or recalcitrant psoriasis |
| Candidaemia |
| Candidiasis |

# HIV testing in indicator conditions

OptTEST

Learning session | The test | MENU


ZOOM

# HIV testing in indicator conditions

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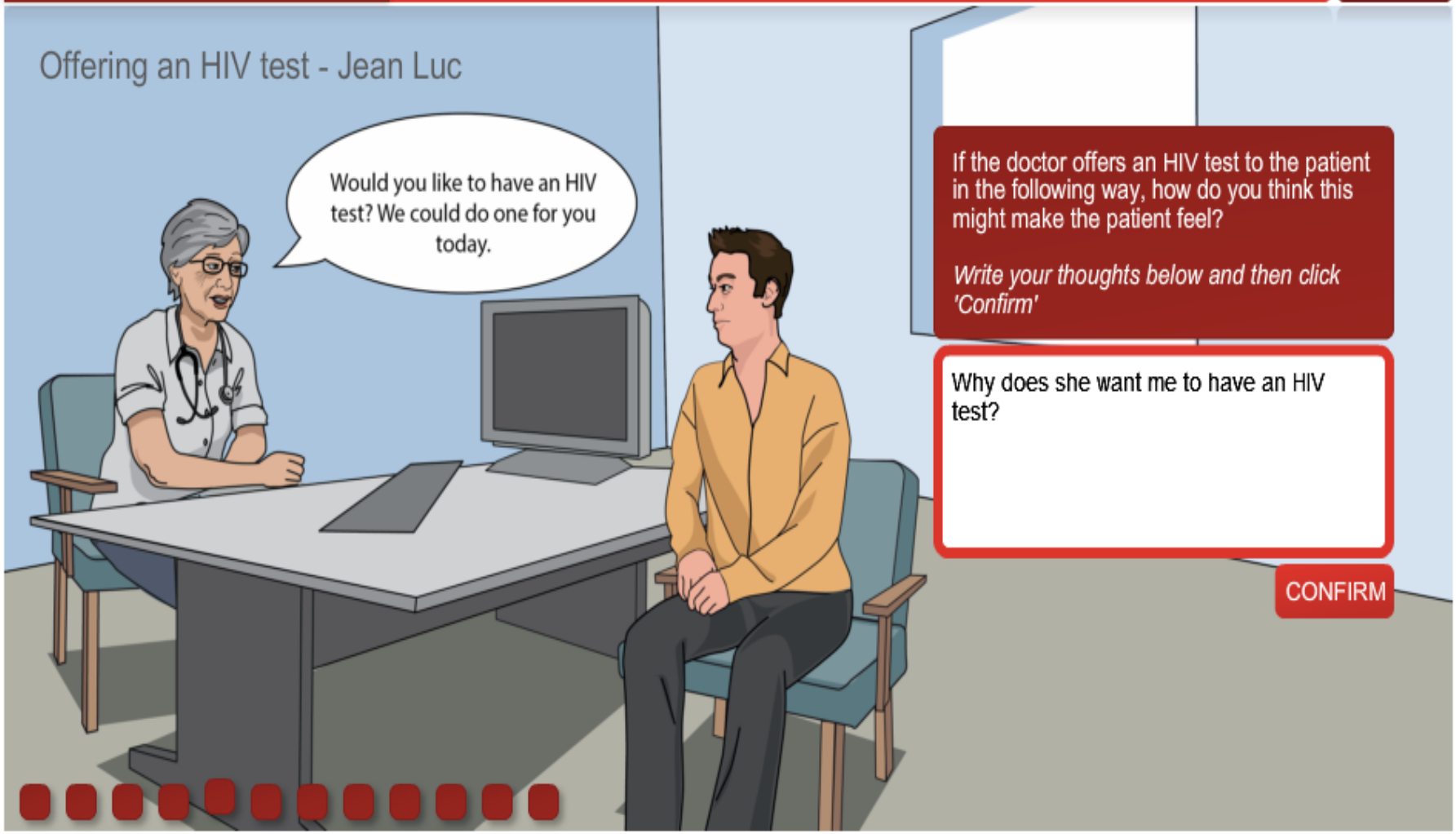
Learning session | The test | MENU

## Offering an HIV test - Jean Luc




If the doctor offers an HIV test to the patient in the following way, how do you think this might make the patient feel?

*Write your thoughts below and then click 'Confirm'*

Why does she want me to have an HIV test?

CONFIRM

ZOOM

# HIV testing in indicator conditions

OptTEST

Learning session | The test | MENU


ZOOM

## Giving a positive HIV test result - Elena, Peter and Joseph

Patients' responses to a positive HIV test result can vary greatly. Here are some examples of how you could give a positive result in ways that will help them understand and process this information.

***Click on the audio buttons to listen.***

You can click here to read Elena's history

You can click here to view the audio transcript

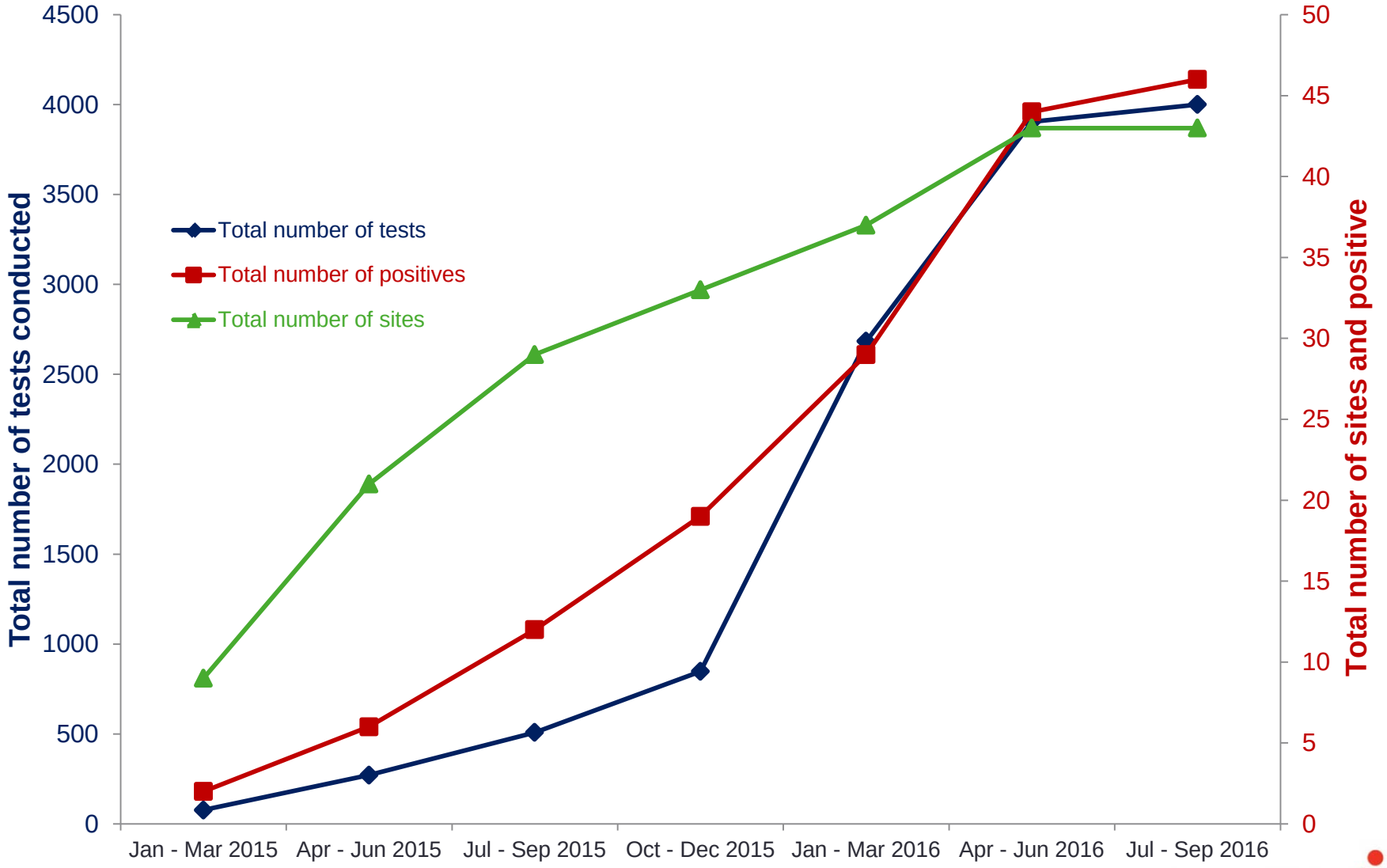
You can click here to read Peter's history

You can click here to view the audio transcript

You can click here to read Joseph's history

You can click here to view the audio transcript

# OptTEST site numbers

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# OptTEST results

## HIV positivity 1.5%

Preliminary linkage to care data

57 patients; 3 known positive (not engaged with care a time of testing)

| | | |
|---|---|---|
| Data available | 46 | |
| Linked to care | 38 | 82% |
| Not linked | 8 | 4 PWID (2 of whom also new HCV) |
| | | 2 foreign born; left the country |

Stage (n=30)

| | | |
|---|---|---|
| $CD_4$ cell count | 11-1041 cells/µL | |
| Median | 338 cells/µL | |
| Late Diagnosis | 16 | 53% |

2 had $CD_4$ count reported but not linked to care

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OPTIMISING TESTING AND LINKAGE TO CARE FOR HIV ACROSS EUROPE

# Challenges

| | |
|---|---|
| Motivation of colleagues in other specialties | Slide set<br>Specialty guideline review |
| Operational<br>time pressure<br>staff experience | Interactive service design module |
| Staff skills<br>HIV specific concerns: stigma, targeting, dealing with positive results | Staff training module<br>Resource pack (patient support groups) |
| Cost | Missed diagnosis review and cost burden analysis<br>Business case proforma<br>Outcome data |
| Sustainability | Business case proforma<br>Outcome data |

# Other challenges

Stigma and legal barriers – OptTEST work stream

website: http://legalbarriers.peoplewithhiveurope.org

Individuals' awareness

- public education
- patient and community organisations
- disease specific organisations

Infectious mononucleosis-like syndrome

- raise awareness especially in high risk groups
- PIL development with EATG

HIV in Europe 2007
Working Together for
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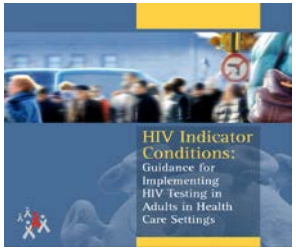


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# The website (www.opttest.eu)

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## Optimising testing and linkage to care for HIV

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Newsletters

Presentations

## News:

**OptTEST Newsletter #9**
Read about OptTEST national Continuum of Care meetings in Greece and Poland, national cost-effectiveness seminars in France, Spain and Estonia - and other activities and upcoming events here.

**Cost-effectiveness**
WP6 presented results at a national level meeting in Estonia on the 19th December. The meeeting took place in the Ministry of Social Affairs. The aim was to introduce the methods and