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HIV Testing in Acute Care

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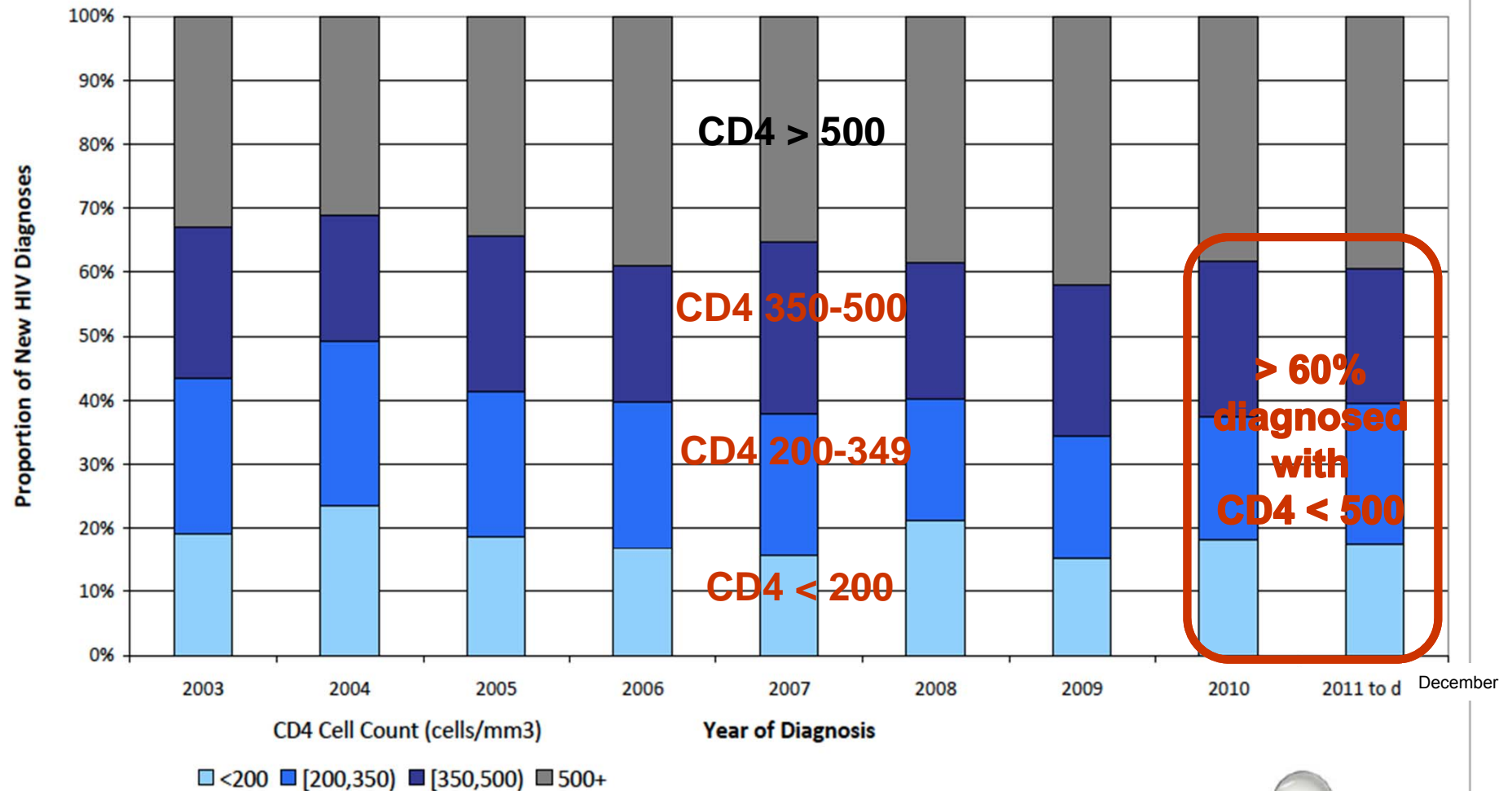
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The goal of HIV testing programs is diagnosis at the earliest possible stage of infection

- Early diagnosis ensures best possible clinical outcome for the patient
- Early diagnosis prevents transmission

Early diagnosis is the exception

Figure 4a
Proportion of Patients by CD4 Cell Count at Diagnosis and Year of Diagnosis [VCH45]

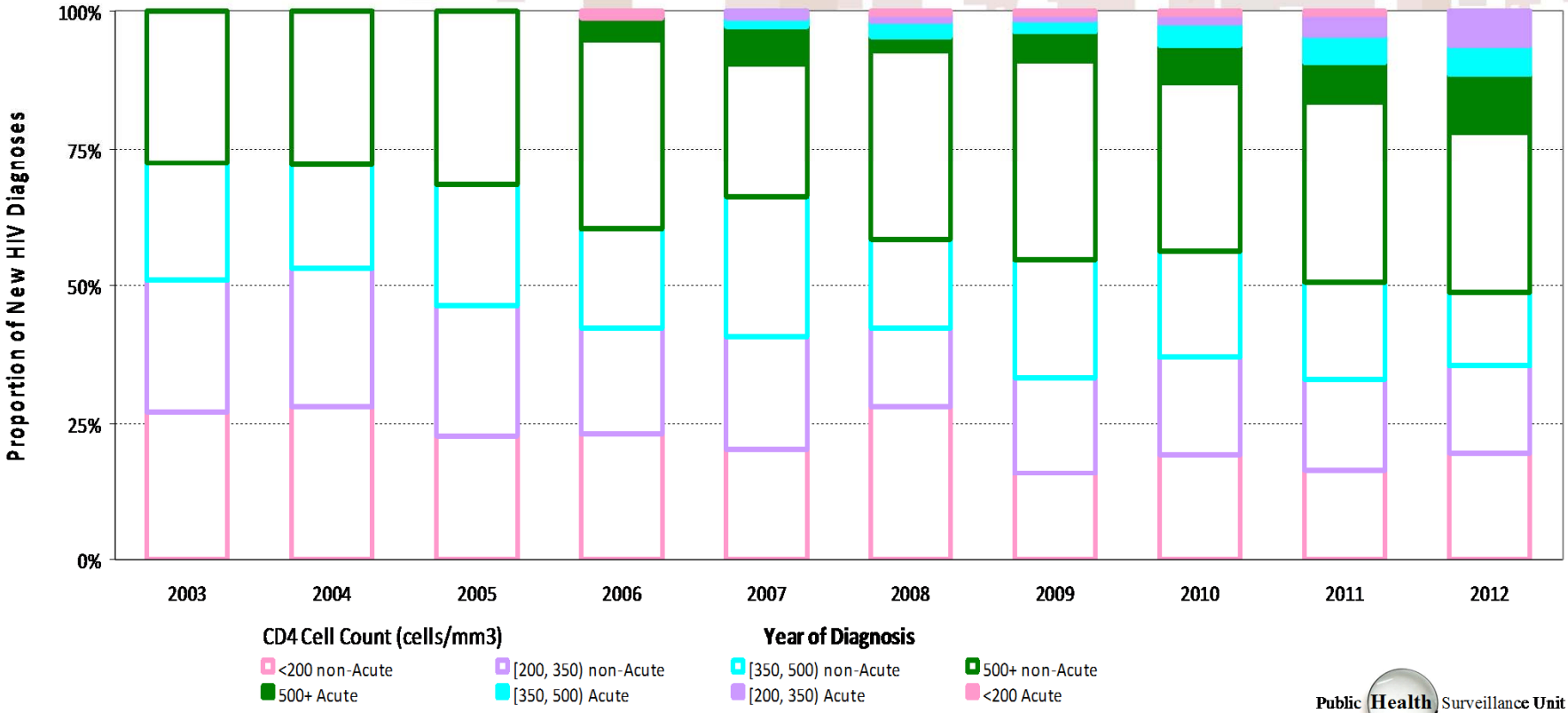


Source: Public Health Surveillance Unit (HIV Surveillance Data) & BC CFE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. December 22, 2011.

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Proportion of Patients by CD4 Cell Count at Diagnosis, stage of infection and Year of Diagnosis



Source: Public Health Surveillance Unit (HIV Surveillance Data) & BC CFE Drug Treatment Program Data.
 Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. February 28, 2013.



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Multiple Missed Opportunities for Earlier Diagnosis

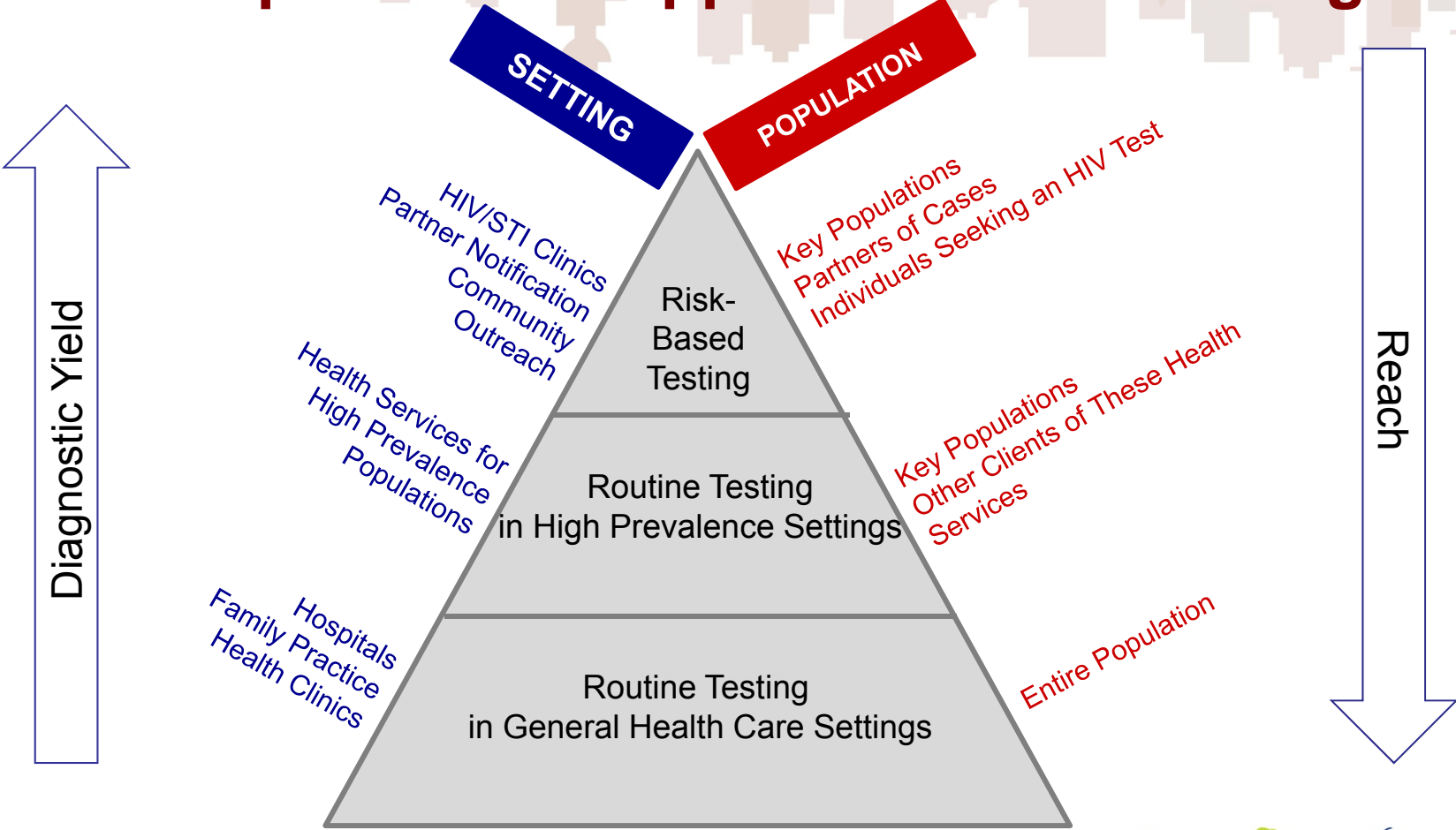
Percent & proportion of new HIV diagnoses with ≥ 1 prior Outpatient, Lab, ER or Inpatient encounter, by CD4 count

CD4 Count*	≥ 1 prior encounter
< 200	58% (30/52)
< 350	60% (64/107)
< 500	55% (97/177)

Only 57.5% (291/506) of new HIV Dx had a CD4 count on record at time of Dx

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Comprehensive approach to HIV testing



Acute Care Testing

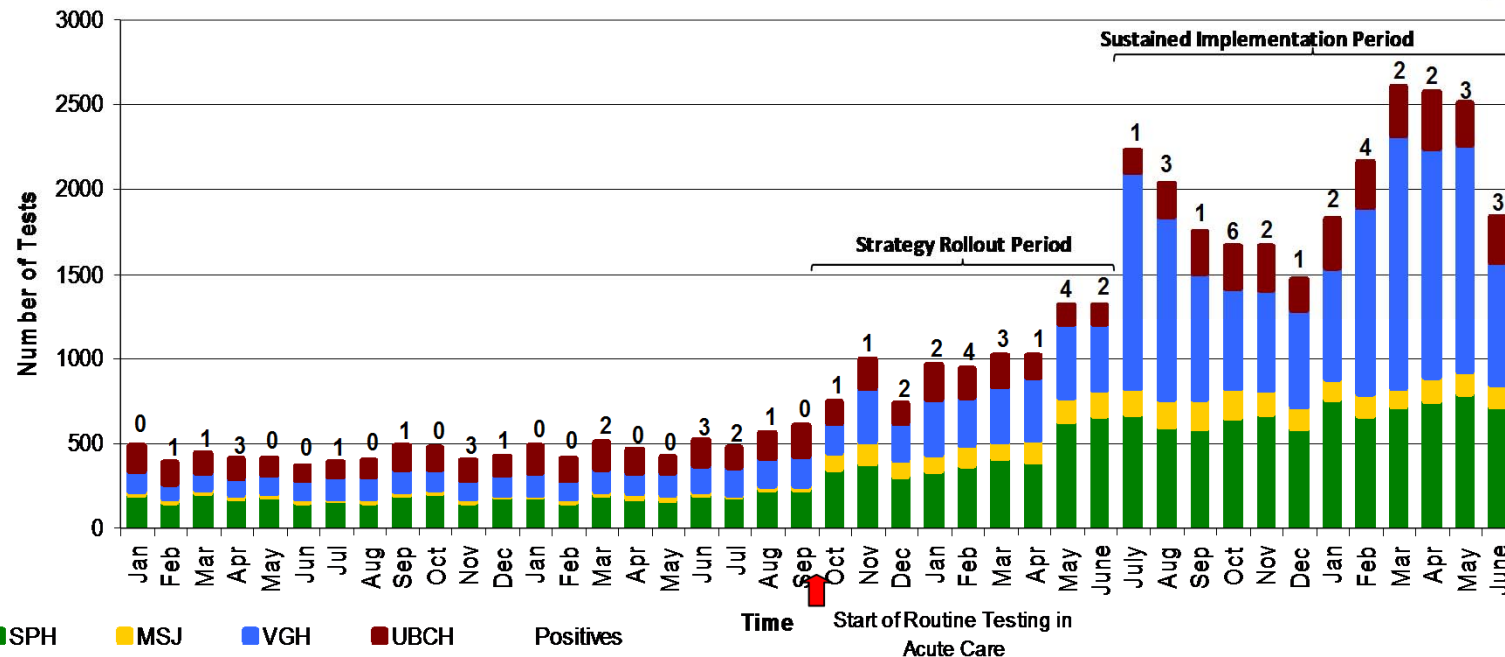
- Three acute care hospitals in Vancouver offered an HIV test to patients presenting to hospital irrespective of perceived risk as part of general hospital care

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Routine testing in acute care is feasible



Figure 1. Number of HIV Tests at Vancouver Hospitals by Month and New Positives at all Sites, 2010-2013



Graph represents all tests ordered (except SPH Immunodeficiency Clinic) in an acute facility regardless of admission status. Values above bars represent number of positives diagnosed each month from all sites. Time parameters determined by date of test. Source: Providence Health Care Virology Laboratory Database & Vancouver General Hospital Laboratory Database.





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Results October 1, 2011-June 30, 2013

Inpatient Results

- 12,819 HIV tests have been completed, which corresponds to **14%** of all admissions.
- 2013 test volumes to date are nearly **48%** higher than the equivalent time period in 2012.
- **40** admitted patients have been diagnosed with HIV at participating AC facilities since the launch of the Acute Care Strategy
- Percent positivity = **0.3%**



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Results July 1, 2012-June 30, 2013

Emergency Department Outpatient Results

- **5,452** HIV tests have been completed, which corresponds to **3.6%** of all visits.
- 2013 test volumes to date are nearly **4 times** higher than the equivalent time period in 2012.
- 10 patients have been diagnosed with HIV at participating AC facilities since the launch of the Acute Care Strategy
- Percent positivity = **0.2 %**

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What do the patients say?

Department of Medicine: October 2011 – Mar 3, 2013

Site	Number of Admissions	Number Offered	Number Tested	Acceptance Rate	% Offered	% Tested	Number of Positives	Positivity Rate per 1000
SPH	4667	2188	1844	97%	47%	40%	13	~ 7/1000
MSJ	2060	1258	975	85%	61%	47%	4	~ 4/1000
VGH	5532	2036	1669	96%	37%	30%	4	~ 2/1000
Total	12259	5482	4488	94%	45%	37%	21	~ 5/1000

6 % refuse when offered

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How Acute Care Positive Patients Compare to all other Vancouver Patients

- ↑ • Heterosexual
- ↓ • MSM
- ↑ • Advanced stage of disease

Mean CD4 (Δ 193 cells per mm³; 95% CI 88 – 299)

All differences are significant at $p < 0.001$

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Case 1

Case Details:

- 52 y.o. male
- Ethnic/language: **Caucasian**
- Admission diagnosis: **Abdominal pain, nausea**
- Admission date: **June 6, 2012**
- HIV test date: **June 7, 2012**
- Stage of disease: **CD4: 100, VL: 2,679,199**
- Primary care: **has family MD**
- Outcome: **family MD to provide HIV care**

2010

Missed Opportunities - 11

Admission June
2012

ED visits – 2 (Abdominal pain x2)

Day surgery – 2 (GI/Cardiac)

Community lab visits – 7 (various outpatient clinics)

Case 2

Case Details:

- 48 y.o. male
- Ethnicity/language: **Caucasian**
- Admission diagnosis: **TIA**
- Admission date: **Nov.18, 2011**
- HIV test done: **Nov.21, 2011**
- Stage of disease: **CD4: 70, VL: 1,061,439**
- Primary Care: **no primary care**
- Outcome: **Linked to care**

2010

Missed Opportunities - 14

Admission June
2012

Acute care admissions – 1 (cholecystectomy)

Day surgery – 1 (GI)

ED visits – 6 (nasal congestion; nausea/vomiting; abdominal pain/fever;
post-op complications; anorexia; abdominal pain)

Community lab visits - 6

Case 3

Case Details:

- 32 y.o. female
- Ethnic/language: **Caucasian**
- Admission diagnosis: **Perinephric abscess**
- Admission date: **March 12, 2012**
- HIV test date: **March 13, 2012**
- Stage of disease: **CD4: 920, VL: 3,138**
- Primary care: **no family MD**
- Outcome: **homeless, referred to STOP Outreach Team**

Nov
2011

Missed Opportunities - 0

Admission
March 2012

Patient known to use injection drugs and was last tested at SPH ED Nov 2011

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Case 4

Case Details:

- 31 y.o. male
- Ethnicity/language: **Caucasian**
- ED visit reason: **Abdominal pain**
- Visit date: **August 20, 2012**
- Stage of disease: **CD4: 330, VL: >10 million**
- Primary Care: Has primary care
- Outcome: Linked to care

Last
HIV
test

Missed Opportunities - 0

Date of
Diagnosis

Patient is well known to health system with approximately 19 encounters in the past 3 years.
This patient is regularly tested for HIV. Last test on July 4, 2012.

Conclusions

- The majority of patients with late diagnosis have multiple missed opportunities for earlier diagnosis in the health care system
- Routine HIV testing in acute care
 - is feasible
 - in Vancouver is cost effective
 - highly acceptable to patients
 - ensures HIV testing is done when **medically** indicated
 - provides an opportunity for diagnosis
 - for those who do not otherwise access testing
 - for those who seek testing in the community
 - is a key component of quality health care and a comprehensive strategy for early diagnosis of HIV
- Implementation does not fit into a 10 minute presentation!