

# Incidence and risk factors for medical care interruption in HIV-infected patients

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## INTRODUCTION

- **Retention in care** is crucial to
  - reduce mortality of people who live with HIV
  - achieve the WHO target of 90% of viral suppression in HIV-treated patients by 2020.
- Now that HIV has become a chronic disease with lifelong treatment, the challenge is to maintain, enhance, and facilitate retention of HIV-infected patients in the care system.

## Objectives

In a high income country, to

- estimate the incidence rate of **medical care interruption (MCI)**
- identify HIV-infected patients at risk of MCI in a high income country

## METHODS

- We estimated the incidence rate of MCI in 4,796 individuals followed in a HIV clinical cohort in Paris (infectious diseases department, Bichat hospital) between January 2010 and May 2016.
- Patients enrolled were:
  - Aged  $\geq 18$
  - Seen at the clinic at least twice after HIV diagnosis between January 2010 and October 2014

## MCI definition

Patients were considered in MCI if they did not attend for at least 18 months

- any care in or outside the clinic
- any medical encounter (specialist or general practitioner)
- any blood test
- regardless of whether or not they came back after interruption

We actively searched for any medical encounter by reaching their infectious diseases specialist or primary care physician.

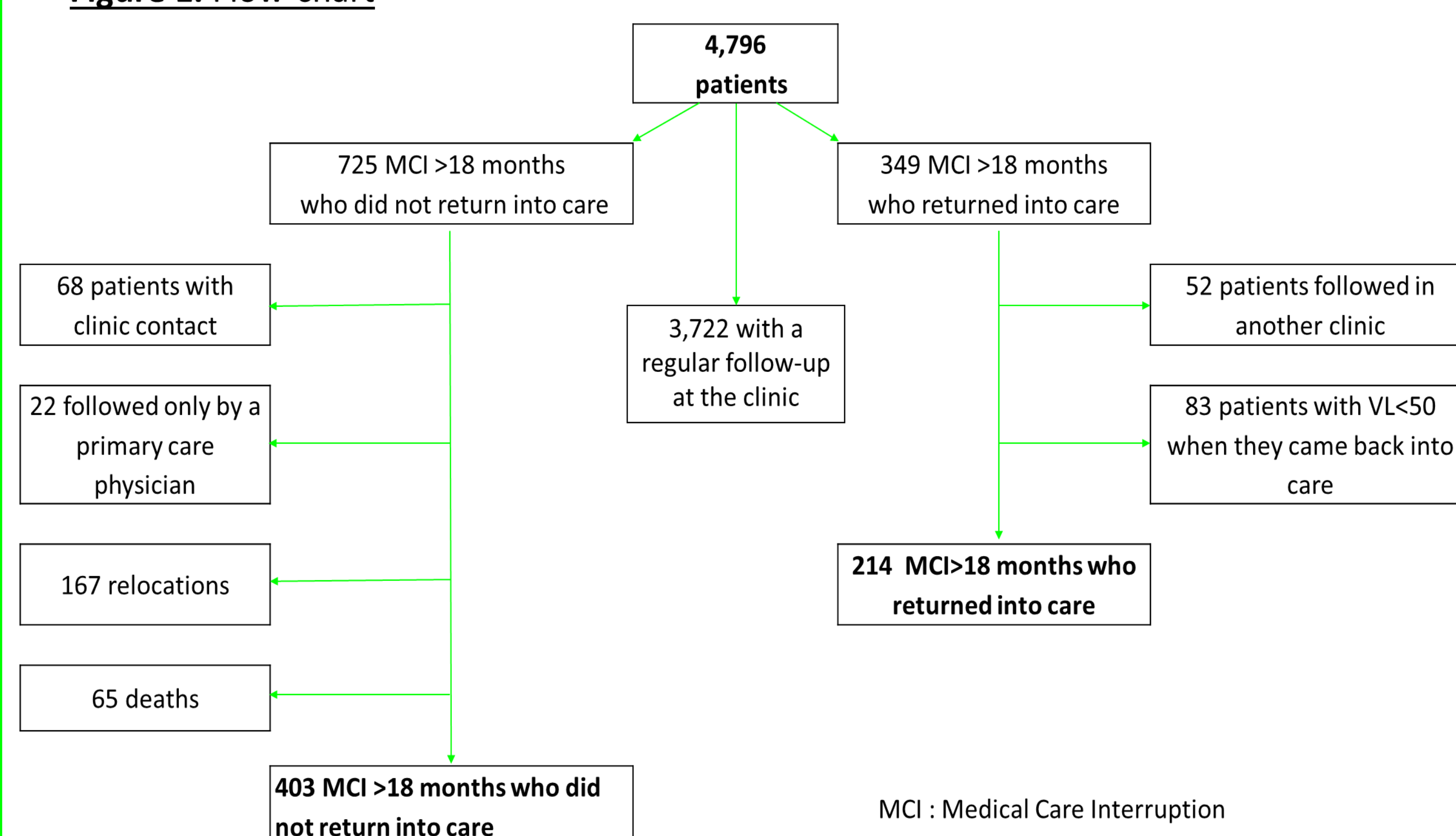
## Statistical analysis

- We investigated sociodemographic, clinical and immuno-virological characteristics at HIV diagnosis and during follow-up collected prospectively through the Nadis software by physicians and other health care workers.
- Factors associated with MCI were assessed using a multivariate a Cox regression model

## RESULTS

### Number of patients with a MCI

**Figure 1.** Flow-chart



## RESULTS

### Incidence rate of MCI

**2.5 per 100 persons-years** (95% confidence interval = 2.3-2.7).

### Independent risk factors for MCI

- At HIV diagnosis
  - a time period between HIV diagnosis and linkage to care >6 months
  - not having a primary care physician
  - Not being born in Sub-Saharan Africa
- During follow-up, the risk of MCI increased when
  - CD4 count was  $\leq 350$
  - The patient was not on antiretroviral therapy

**Table 1.** Independent factors associated with MCI at time of HIV diagnosis and during follow-up (Cox regression model)

Factors	MCI N=617	Regular follow-up N=4179	Hazard ratio (95% CI)	p-value
<b>Fix variables</b>				
Country of birth				
France	256 (14.0%)	1568 (86.0%)	1	
Sub-Saharan Africa	221 (11.5%)	1695 (88.5%)	0.75 (0.62-0.90)	0.002
Other countries	115 (11.7%)	868 (88.3%)	0.82 (0.66-1.03)	0.091
Primary care physician <sup>a</sup>				
Yes	283 (10.7%)	2359 (89.3%)	1	
No	334 (15.5%)	1820 (85.5%)	2.36 (2.00-2.79)	<0.001
Time period before first visit <sup>b</sup>				
$\leq 6$ months	368 (11.6%)	2797 (88.4%)	1	
> 6 months	249 (15.3%)	1382 (84.7%)	1.05 (1.02-1.08)	0.001
<b>Time-dependant variables</b>				
CD4-T cells count (/mm <sup>3</sup> )				
>500	NA	NA	1	
[351-500]			1.42 (0.97-2.10)	0.075
$\leq 350$			2.80 (1.98-4.00)	<0.001
ART <sup>c</sup>				
Yes	NA	NA	1	
No			3.63 (2.87-4.61)	<0.001

<sup>a</sup> Primary care physician declared by the patient, written in the computer file, whose consult letters from the clinic sent;

<sup>b</sup> Time between HIV diagnosis and first medical visit in or outside the clinic; <sup>c</sup> Antiretroviral therapy (ART) received during the follow-up; NA: not applicable

## DISCUSSION

- The incidence rate of MCI in this Northern country clinical cohort is lower than in other French or European studies. It may be explained by:
  - The time period with no medical encounters chosen to define MCI: 18 months vs. 12 months in other studies; 18 months being more in agreement with current follow-up schedule of HIV infected patients
  - Very active research of all care encounters not only visits in the infectious diseases department
  - A comprehensive care and social offer for HIV-infected patients already implemented in the center to improve retention in care.
- Surprisingly, patients born in Sub-Saharan Africa were less likely to had MCI. This may also explain by the comprehensive care and social offered in the setting and involvement of community NGOs.

## Conclusion

Our findings may help clinicians to identify patients who are at risk of interrupting care and to initiate appropriate interventions earlier for HIV-infectious patients who are linked to care late, who are not linked to care outside the hospital, who are not migrant, who are immunocompromised during follow-up, who are not under ART or are under a first ART line.