

# Routine HIV screening in 6EDs in Paris area: the ANRS URDEP study

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# Objectives

- The main objective was to evaluate the feasibility of HIV screening in the emergency departments
- The secondary objectives were to evaluate :
  - the proposal, acceptance and realization rates of rapid HIV tests, and factors associated with them
  - the rate of follow-up on newly diagnosed HIV infected patients and their clinical characteristics
  - whether the prevalence of newly identified HIV infected patients was above 0.1%, a prevalence shown to be cost-effective for HIV screening programs, both in the USA and France
- The study was approved by the ethic committee of Saint-Germain-en-Laye
- It was held in 6 university hospitals, and began between December 2009 and march 2010, for 12 month in each site



# Patients

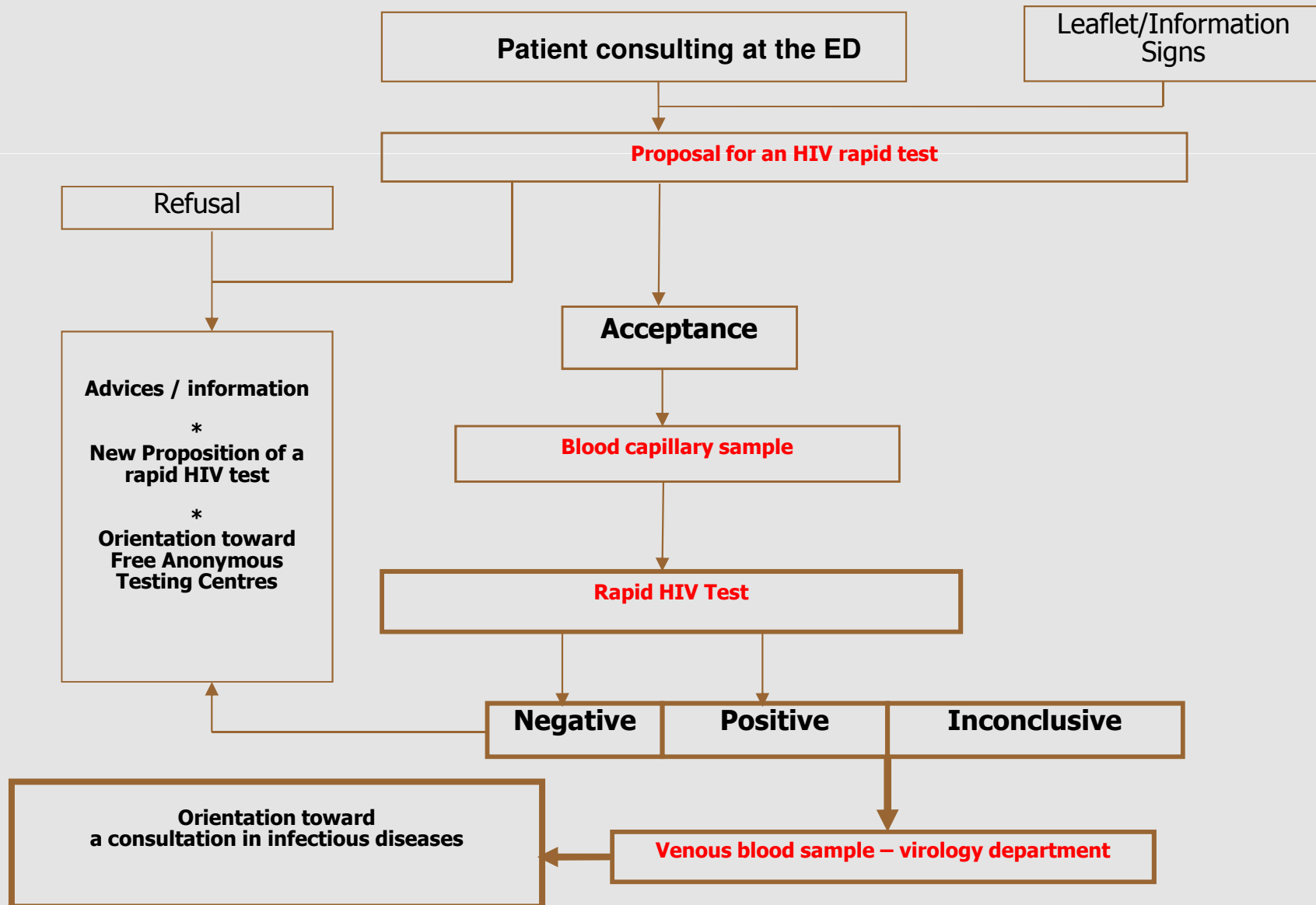
## ✓ Inclusion criteria

- Any patient consulting in the emergency department
- 18 to 70 years of age
- Unknown HIV status or negative HIV serology dating from more than 6 months
- Signed inform consent

## ✓ Non inclusion criteria

- Patient in a clinical state incompatible with the expression of his agreement (conscience disorders, severe psychiatric disorders, short-term or medium-term vital emergency)
- Known HIV positive status
- We secondary excluded individuals who came for sexual or blood HIV exposure or screening

# General framework



# Results (1) : eligible patients

Centre	A	B	C	D	E	F	TOTAL
<b>Persons examined at EDs</b>	51111	44611	68234	42525	68511	36161	311153
<b>Eligible persons</b>	30284	24872	28182	28499	45178	26942	183957
<b>Offered HIV testing</b>	782 (2.6%)	1085 (4.4%)	1291 (4.6%)	2537 (8.9%)	2815 (6.2%)	2891 (10.7%)	11401 (6.2%)
<b>Accepting HIV testing</b>	633 (80.9%)	789 (72.7%)	1032 (79.9%)	1370 (54.0%)	1955 (69.4%)	2157 (74.6%)	7936 (69.6%)
<b>Tested for HIV</b>	617 (97.5%)	567 (71.9%)	988 (95.7%)	983 (71.8%)	1917 (98.1%)	2143 (99.4%)	7215 (90.9%)
<b>Rate tested for HIV among ED patients</b>	2.0%	2.3%	3.5%	3.5%	4.2%	8.0%	3.9%
<b>Positive rapid test</b>	6	3	11	5	13	12	50
<b>Positive test in previously unknown HIV patients</b>	5	3	9	5	11	11	44
<b>WB confirmatory test performed</b>	5 (100%)	3 (100%)	9 (100%)	4 (80.0%)	10 (91%)	10 (91%)	41 (93%)
<b>Newly identified HIV case</b>	5	3	8	4	10	10	40
<b>Rate of newly identified HIV case among tested eligible ED patients</b>	0.81%	0.53%	0.81%	0.41%	0.52%	0.47%	0.55%
<b>Linked to care</b>	5 (100%)	2 (67%)	7 (87%)	4 (100%)	9 (90%)	10 (100%)	37 (92.5%)
<b>Not lost to follow-up at month 6</b>	4 (80%)	2 (100%)	4 (57%)	3 (75%)	5 (56%)	10 (100%)	28 (76%)

# Results (2) : non eligible patients

Centre	A	B	C	D	E	F	TOTAL
<b>Persons examined at EDs</b>	51111	44611	68234	42525	68511	36161	311153
<b>Non eligible persons</b>	20827	19739	40052	14026	23333	9219	127196
<b>Offered HIV testing</b>	175 (0.8%)	414 (2.1%)	222 (0.6%)	944 (6.7%)	552 (2.4%)	213 (2.3%)	2520 (2.0%)
<b>Accepting HIV testing</b>	150 (85.7%)	350 (84.5%)	197 (88.7%)	710 (75.2%)	474 (85.9%)	182 (85.4%)	2063 (81.9%)
<b>Tested for HIV</b>	140 (93.3%)	285 (81.4%)	186 (94.4%)	599 (84.4%)	466 (98.3%)	181 (99.5%)	1857 (90.0%)
<b>Rate tested for HIV among non eligible ED patients</b>	0.7%	1.4%	0.5%	4.3%	2.0%	2.0%	1.5%
<b>Positive rapid test</b>	0	6	1	7	9	0	23
<b>Positive test in previously unknown HIV patients</b>	0	4	1	6	9	0	20
<b>WB confirmatory test performed</b>	0	4 (100%)	1 (100%)	3 (50%)	7 (78%)	0	15 (81%)
<b>Newly identified HIV case</b>	0	4	1	3	7	0	15
<b>Rate of newly identified HIV case among tested non eligible ED patients</b>	0.00%	1.40%	0.54%	0.50%	1.50%	0.00%	0.81%
<b>Linked to care</b>	0	3 (75%)	0 (0%)	3 100%	5 (71%)	0	11 (73%)
<b>Not lost to follow-up at month 6</b>	0	2 (67%)	0 (0%)	2 (67%)	4 (80%)	0	8 (73%)



## Results (3)

- Eligible population
  - Proposition rates ranging from 2.6 to 10.7%
  - Acceptance rates ranging from 54 to 81%
  - Overall, 3.9% of eligible patients were tested
- Non eligible population
  - Proposition rates ranging from 0.6 to 6.7%
  - Acceptance rates ranging from 75 to 89%
  - Overall, 1.5% of non eligible patients were tested

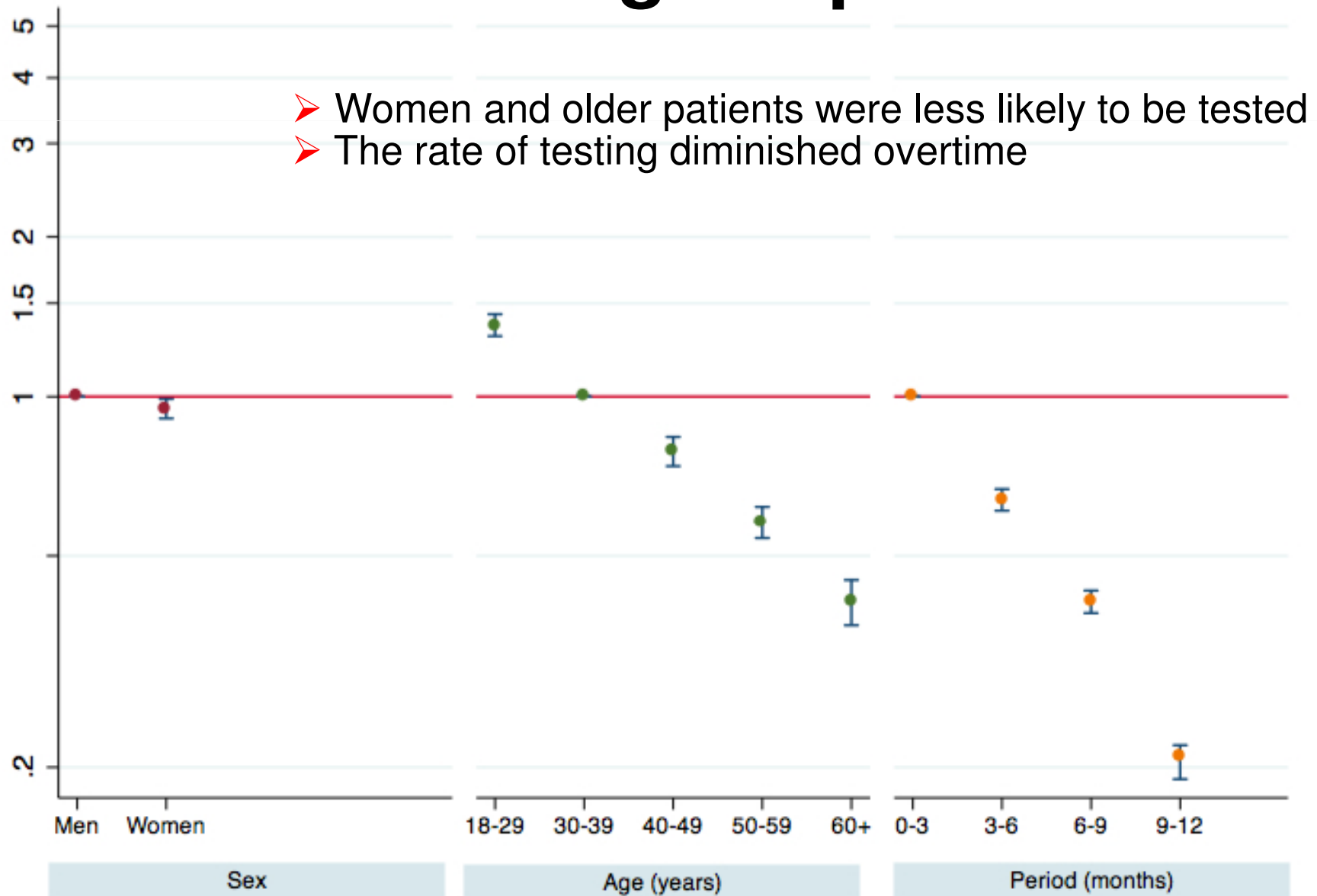


# Inconclusive tests

- 28 results were inconclusive
- 0.31%, IC95%=0.21%-0.45%
- 19 were retested and all found negative



# Factors associated with being tested in eligible patients





## Patients found HIV positive

- 73 patients were detected HIV positive including 9 who knew their status
- **A false-positive was found among the 64 patients detected**
  - with no band on the Western Blot,
  - a negative Ag test and 2 negative Ab-Ag tests
- Out of the remaining 63, 55 had a WB test and they were confirmed
- overall prevalence: 0.61% (95% CI: 0.46-0.79)
  - 40/7215 in eligible: 0.55% (95% : 0.40-0.75%)
  - 15/1857 in non-eligible: 0.81% (95% CI: 0.45-1.33%)
    - P=0.210



# Confirmation and linkage to care

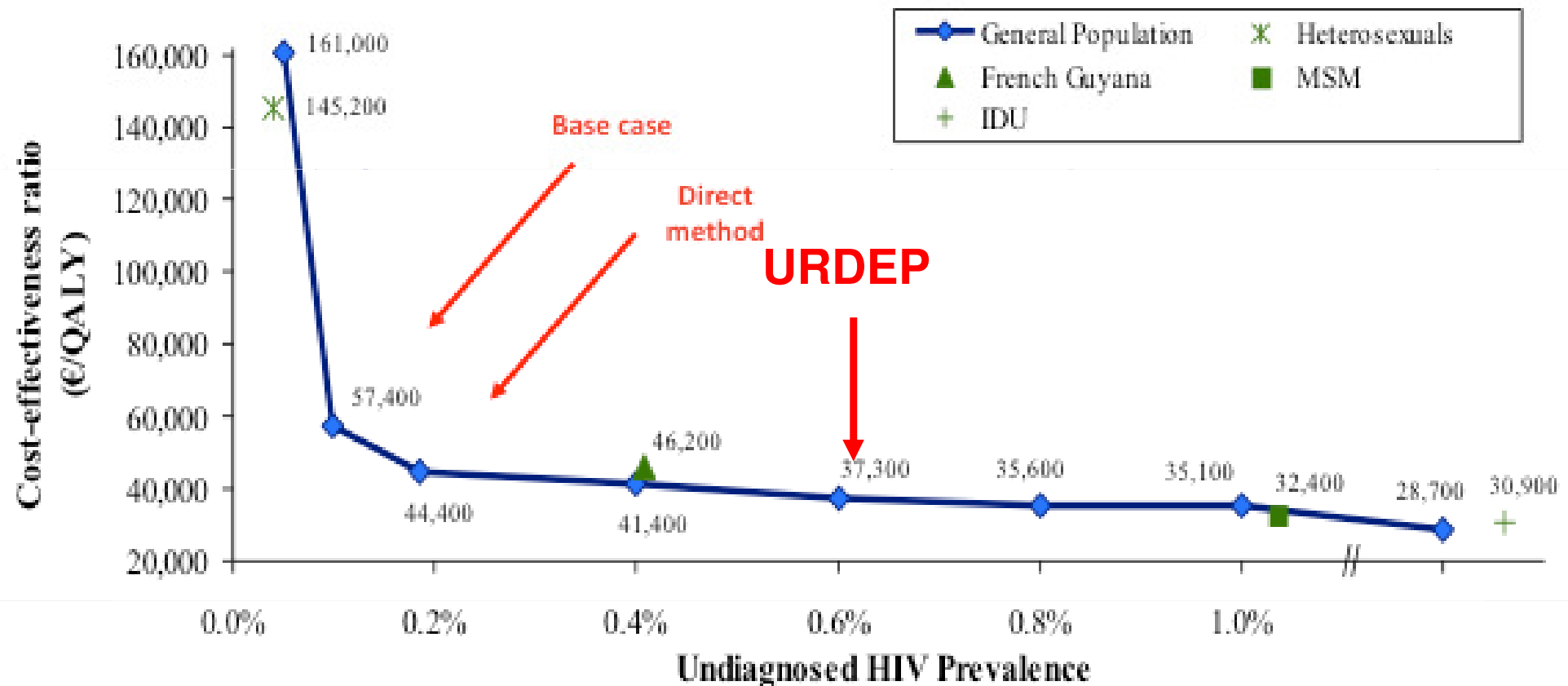
- 55 patients were confirmed as newly diagnosed by WB
- 48 were linked to care
- **87% (76%-95%) linked to care**
- Among those, 36 (75% of those linked to care) were still under care at month 6 (65% of those newly diagnosed)



## Characteristics of the patients linked to care

- 77% were men, 40% were men who have sex with men, 46% were from sub-Saharan-Africa
- 35% were 30 years of age or younger and 15% above 50 years of age
- 54% were not in an advanced stage (no AIDS and a CD4 cell count  $> 200/\text{mm}^3$ ) and the median CD4 cell count was  $241/\text{mm}^3$  (interquartile range:  $52\text{-}423/\text{mm}^3$ )
- 44% had not been tested before, 33% had been tested more than 2 years ago, and only 19% had been tested in the last 2 years
- Among those presenting late (with AIDS or a CD4 cell count  $\leq 350/\text{mm}^3$ ), 60% had not been tested before, while this was the case for 29% of those not presenting late ( $p=0.042$ )
- There were no differences between eligible and non-eligible individuals

# Cost-effectiveness




Yazdanpanah et al, Plos One 2010

According to the model of cost-effectiveness of routine HIV screening in France, published in 2010, this strategy of HIV screening is highly cost effective

# Summary of studies reporting non targeted HIV screening program in EDs, using rapid test since 2006

	Publication Year	Dedicated staff	Consent approach	Number eligible	Number tested	screening rate
MMWR NY	2007	N	Opt-in	72948	1288	0.018
MMWR La	2007	N	Opt-in	47736	1700	0.036
MMWR OAK	2007	Y	Opt-in	66731	6368	0.095
Brown	2007	Y	Opt-out	13240	2486	0.188
Lyss	2007	Y	Opt-in	4849	2824	0.582
Silva	2007	Y	Opt-in	3030	1428	0.471
Walenski	2008	Y	Opt-in	2356	854	0.362
White	2009	N	Opt-in	118324	7923	0.067
Haukoos	2010	N	Opt-out	28043	6933	0.247
Torres F	2011	N	Opt-in	52542	3623	0.069
Torres C	2011	Y	Opt-in	27913	1300	0.047
White	2011	Y	Opt-in	23236	4053	0.174
White	2011	Y	Opt-out	26757	4679	0.175
Sattin	2011	Y	Opt-out	13035	8504	0.652
D'Almeida	2012	Y	Opt-in	78411	12754	0.163



## Summary of studies reporting non targeted HIV screening program in EDs, using rapid test since 2006

	Dedicated staff	Consent approach	Number eligible	Number tested	screening rate
No dedicated staff, opt-in	N	Opt-in	291550	14534	<b>0.050</b>
Dedicated staff, opt-in	Y	Opt-in	206526	29581	<b>0.143</b>
No dedicated staff, opt-out	N	Opt-out	28043	6933	<b>0.247</b>
Dedicated staff, opt-out	Y	Opt-out	53032	15669	<b>0.295</b>



# Conclusion

- The acceptance rates in the eligible population was high, varying from 54 to 81 % depending of the centre
- The rates of tested patient varied from 2.0 to 8.0 %, in the range of those observed in similar studies conducted without dedicated staff using an opt-in approach
- The proposal rate diminished over time, probably because of an absence of visibility on the utility of the approach for the ED's teams and lack of reinforcement during the study period
- Even though the HIV test should have been offered systematically, the ED staff implicitly selected patients to whom they offer the test, based on their own beliefs
- The prevalence of newly diagnosed HIV infection was estimated as **0.61 % (95% CI : 0.46-0.79)**
- The rate observed was similar to that observed in the free anonymous testing centres in Paris area (0.6%: BEH 45-46, November 30th, 2010) and it matched with rates for which testing is cost-effective showing **the utility of promoting HIV screening with rapid tests in the emergency departments of Paris area**