CROI ICAR AWARDS 2024
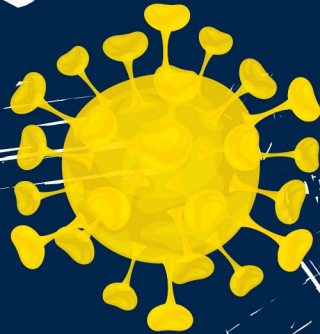
CROI Affiliated Event for
Italian Young Investigators

CHAIRS:
F. Kirchhoff
(Ulm, Germany, EU)
D. Margolis
(Chapel Hill, North Carolina, USA)

Denver, Colorado
March 4th, 2024
h 06.00 - 07.30 pm

CROI **31**st CONFERENCE ON
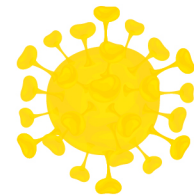**Retroviruses and Opportunistic Infections**
MARCH 3-6 2024 DENVER, COLORADO

ICAR **16**th NATIONAL CONGRESS
Italian Conference on AIDS and Antiviral Research
JUNE 19-21 ROME, ITALY

I HAVE NO CONFLICTS OF INTEREST TO DECLARE.

«PEP should start ideally within 4 hours from risk exposure, and not later than 48/72 hours»[1]
Efficacy granted within the first 24 hours.[2]
BUT WHAT HAPPENS IN REAL LIFE?

AIM

Evaluate factors associated to nPEP start time since risk exposure assessing:

- Time from sex to ED access.
- Time while in the ED waiting for nPEP prescription.

**Retrospective Monocentric Observational study**

WHERE?

WHO AND WHEN?

WHAT?

HOW?

560 individuals presenting to our ED between Jan 2011 and Feb 2024 asking for nPEP.

Demographic data and sexual orientation, type of risk exposure, additional risky behaviors, previous HIV serology and nPEP courses, HIV serostatus of source individual, time (hour, day, month).

Binary regression analysis to test factors associated to ED early presentation (<24 hours). Poisson regression analysis to test factors related to longer waiting time in ED.

[1]EACS Guidelines 12.0, 2023. [2]García-Lerma JG et Al., Sci Transl Med, 2010
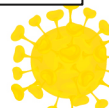
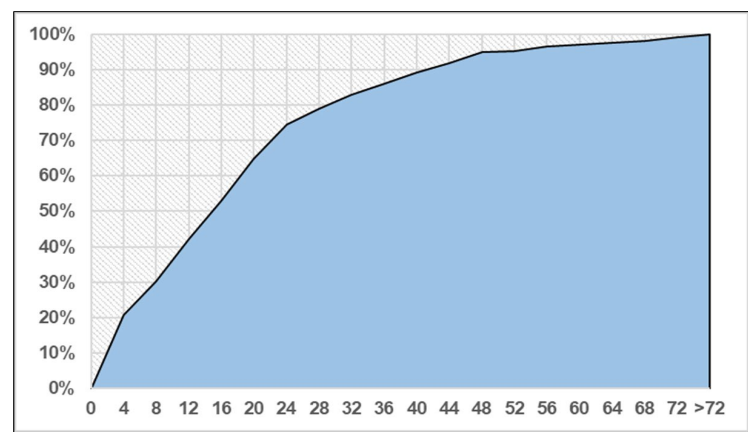|			Overall (N=560)	Arrived within 24 hours (N=415)	Arrived after 24 hours (N=145)
Sex, n (%)		Male	522 (93.2)	389 (93.7)	133 (91.7)
		Female	36 (6.4)	25 (6.0)	11 (7.6)
		TGW	2 (0.4)	1 (0.3)	1 (0.7)
Age, years, median (IQR)			32.1 (26.9-39.4)	31.9 (27.0-39.7)	32.4 (26.6-38.2)
Born in Italy, n (%)			457 (81.6)	349 (84.1)	108 (74.5)
Sexual orientation, n (%)		MSM	382 (68.2)	286 (68.9)	96 (66.2)
		MSW/WSM	163 (29.1)	117 (28.2)	46 (31.7)
		Not applicable	15 (2.7)	12 (2.9)	3 (2.1)
Type of exposure, n (%)		Anal, receptive	239 (42.7)	176 (42.4)	63 (43.4)
		Anal, insertive	151 (26.9)	112 (27.0)	39 (26.9)
		Vaginal, insertive	81 (14.5)	59 (14.2)	22 (15.2)
		Vaginal, receptive	24 (4.3)	15 (3.6)	9 (6.2)
		Oral	44 (7.9)	37 (8.9)	7 (4.8)
		Ocular	6 (1.1)	4 (1.0)	2 (1.4)
		Nonsexual	15 (2.7)	12 (2.9)	3 (2.1)
Condomless intercourse, n (%)			247 (45.3)	172 (42.7)	75 (52.8)
Semen/ano-genital mucosa contact, n (%)			283 (60.2)	212 (61.3)	71 (57.2)
Additional risk factors, n (%)		None	353 (63.0)	268 (64.6)	85 (58.6)
		Sex work	104 (18.6)	82 (19.8)	22 (15.2)
		Sex under alcohol or recreational drugs	60 (10.7)	33 (7.9)	27 (18.6)
		Violence	19 (3.4)	14 (3.4)	5 (3.5)
		Group sex/Cruising sex venue	18 (3.2)	14 (3.4)	4 (2.7)
		PHI	6 (1.1)	4 (0.9)	2 (1.4)
HIV status of source individual, n (%)		Unknown	411 (73.4)	303 (73.0)	108 (74.5)
		Positive	122 (21.8)	94 (22.7)	28 (19.3)
		On PrEP	27 (4.8)	18 (4.3)	9 (6.2)
Previous nPEP course, n (%)			98 (17.5)	81 (19.6)	17 (11.7)
Previous HIV testing, n (%)			434 (77.6)	333 (80.4)	101 (69.7)
Accessing Emergency Department during weekend, n (%)			266 (47.6)	216 (52.1)	50 (34.7)
Accessing Emergency Department during summer months, n (%)			137 (24.5)	107 (25.8)	30 (20.7)

Table 1. Population main demographic and behavioral features, stratified by Emergency Department presentation time since risk exposure.

Figure 1. ED Presentation Time distribution (hours since risk exposure) and cumulative perchentage.

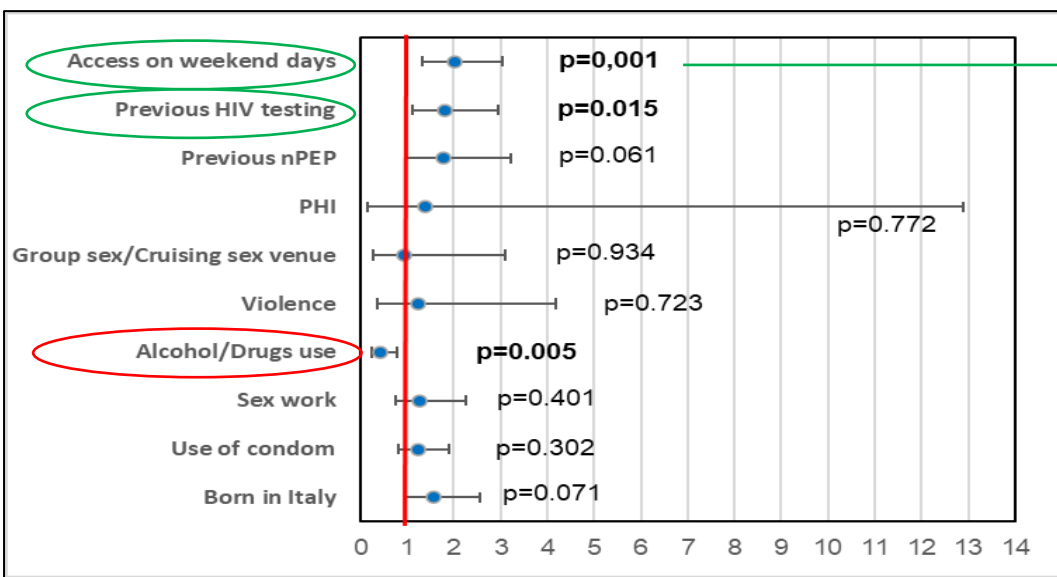|	
ED access <24 hours	415 (74.1%)
ED access <4 hours	112 (20%)
Overall median ED arrival time	14.88 hours (IQR 5.52-24.48)
Overall median time for nPEP start	16.56 hours (IQR 6.96-25.92)

Figure 2. Binary regression analysis showing factors associated to early (<24 hours) ED presentation (adjusted odds-ratios, aOR). Results are adjusted for all the items listed.

Figure 3. ED accesses: distribution over the days of a week.

- **ED ACCESS ON WEEKEND DAYS:** aOR 2.02, 95% CI 1.34-3.05
- **PREVIOUS HIV SEROLOGY:** aOR 1,82, 95% CI 1.12-2.94
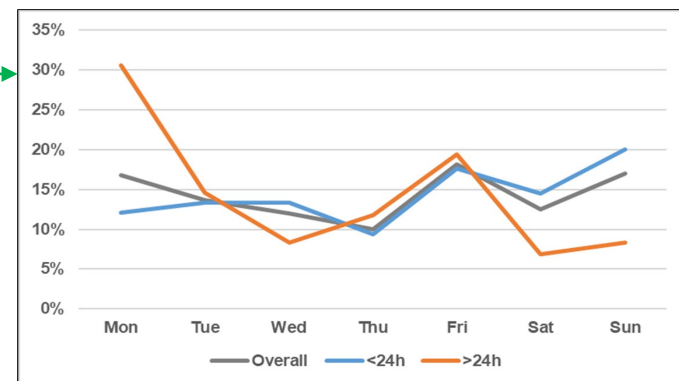- **ALCOHOL/DRUGS USE:** aOR 0.43, 95% CI 0.24-0.48

WHAT ABOUT WAITING TIME IN ED?

			IRR	95%CI	p
Age			0.99	0.96-1.03	0.687
Sex	Female		1	Ref	
	Male		1.11	0.30-4.19	0.876
	TGW		0.68	0.00-0.24	0.980
Born in Italy			0.82	0.38-1.77	0.617
Sexual orientation	MSW/WSM		1	Ref	
	MSM		0.89	0.45-1.75	0.733
	Nonsexual		0.74	0.09-6.38	0.783
Use of condom			1.08	0.57-2.05	0.804
Additional risk factor	None		1	Ref	
	Sex work		1.12	0.50-2.51	0.791
	Sex under alcohol or recreational drugs		1.15	0.44-3.00	0.772
	Violence		0.89	0.13-5.89	0.904
	Group sex/Cruising sex venue		1.25	0.25-6.24	0.786
	PHI		0.75	0.02-24.9	0.874
HIV status of source individual		Unknown	1	Ref	
		Positive	0.95	0.44-2.03	0.886
		PrEP	0.76	0.14-4.22	0.756
Previous nPEP			0.84	0.35-2.01	0.692
Access during weekend			0.94	0.50-1.75	0.837
Access during night shift			0.83	0.43-1.61	0.581
Access during summer months			0.85	0.40-1.82	0.684

Table 2. Poisson regression analysis investigating features associated to longer waiting time in Emergency Department.

- Overall median waiting time in ED before nPEP prescription: 1.44 hours (IQR 0.72-2.40)
- No factor was associated with longer waiting time.

CONCLUSIONS AND DISCUSSION POINTS

- Most of individuals included in our study experienced an early access to nPEP, even if there is still someone who presented too late.

- Previous HIV testing is associated to an early ED presentation, especially for subjects undergoing regular STIs screening, who might be more «educated».

- Sexual intercourses during weekend seem to be associated with a prompt nPEP start. Daily working routine might be a barrier to prompt ED access, and might represent also a risk underestimation.

- Use of alcohol and recreational drugs during sexual intercourses represents an important risk factor for HIV acquisition not only in terms of dangerous exposure, but also for delayed nPEP start.

- According to our study, no factor has influence on ED waiting time before nPEP prescription.

THANKS FOR YOUR ATTENTION!

Thanks to:
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