

12° CONGRESSO NAZIONALE

ICAR

**Italian Conference on
AIDS and Antiviral Research**

*Reach out
for including all*

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12-16 ottobre
2020

DIGITAL EDITION

Promosso da



e da
INMI, Istituto Nazionale per le Malattie Infettive
ISS, Istituto Superiore di Sanità
AMCLI, Associazione Microbiologi Clinici Italiani
SIICA, Società Italiana di Immunologia, Immunologia Clinica e Allergologia
SIMaST, Società Interdisciplinare per lo Studio delle Malattie Sessualmente Trasmissibili
SITA, Società italiana per la Terapia Antinfettiva
SIV-ISV, Società Italiana di Virologia - Italian Society for Virology
ANLAIDS, Associazione Nazionale per la lotta all'AIDS
ARCIGAY, Associazione LGBT Italiana
ASA Onlus, Associazione Solidarietà AIDS Onlus
EpaC Onlus, Associazione EpaC Onlus
LILA, Lega Italiana per la lotta contro l'AIDS
MARIO MIELI, Circolo di Cultura Omosessuale
NADIR, Associazione Nadir Onlus
NPS Italia Onlus, Network Persone Sieropositive
PLUS, Persone LGBT Sieropositive onlus

effetti



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Causes and incidence of hospitalization in patients enrolled in the ICONA cohort.

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Monforte⁸, Cristina Mussini⁴, Enrico Girardi² on behalf of ICONA Foundation Study Group.**

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La sottoscritta **SILVIA NOZZA**
in qualità di relatore
ai sensi dell'art. 3.3 sul Conflitto di Interessi, pag. 18,19 dell'Accordo Stato-Regione
del 19 aprile 2012

dichiara

che negli ultimi due anni ha avuto i seguenti rapporti anche di finanziamento
con soggetti portatori di interessi commerciali in campo sanitario:
GILEAD SCIENCES, VIIV HEALTHCARE, MSD, JANSSEN

Background and Aim of the study.

- Data on the rates of hospitalizations in the more recent HAART era are useful for both healthcare planning and the development of strategies to improve health status of persons living with HIV (PLWHIV).
- Recent data highlight the importance of considering and screening non AIDS related conditions, that are the principal causes of admission, involving all hospital departments.
- We aimed to describe the change in the incidence of hospitalization between 2008 and 2018, and the reasons for hospitalization among patients who started antiretroviral therapy (cART) from 2008 onwards, enrolled in the ICONA cohort.

Methods

- We included participants in the ICONA cohort who started cART from 2008. All the hospitalizations occurred during the first 30 days from the start of cART were excluded.
- The study differentiated hospitalizations in: AIDS defining conditions (ADC), infections non AIDS defining and non-infections/non-ADC (i.e. cardiovascular, pulmonary, renal-genitourinary, cancers, gastrointestinal-liver, psychiatric and other diseases).
- Hospitalization rates were reported per 100 person-years (PY). An individual patient could contribute multiple hospitalizations during the study period.
- Comparisons of rates across time were assessed using Poisson regression. Poisson multivariable model evaluated risk factors for hospitalizations, including both demographic and clinical characteristics.

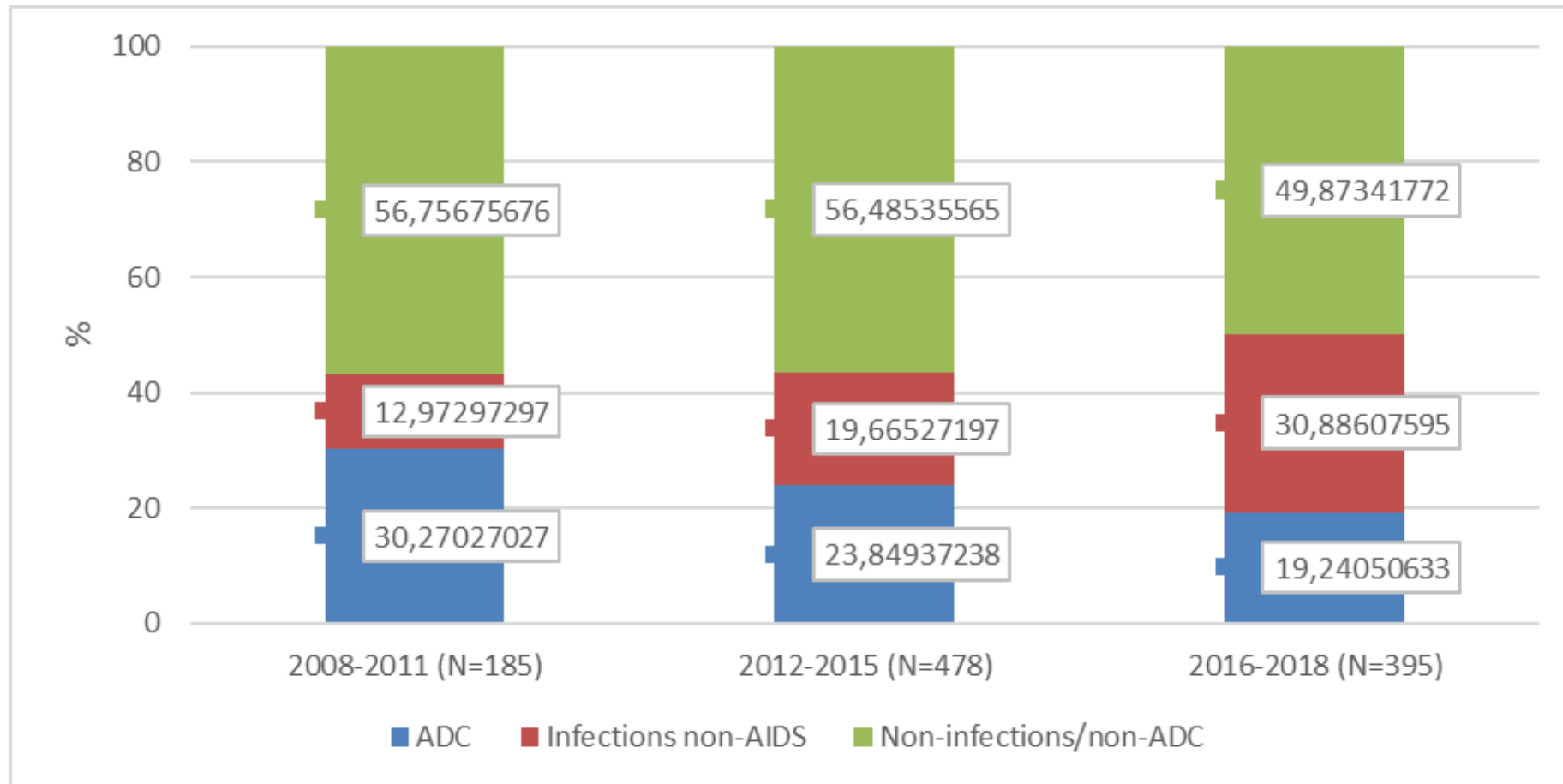
	All enrolled N=9524	Non-hospitalized N=8777	Hospitalized N=747	p-value**			
Follow-up (years) , median (IQR)	3,3	1.6-5.7	3,2	1.5-5.6	4,7	2.5-7.0	<0.01
Gender, n (%)							
Female	1.829	19,2	1.639	18,7	190	25,4	<0.01
Male	7.695	80,8	7.138	81,3	557	74,6	
Age at first ART (years), median (IQR)	39	32-48	39	31-47	43	35-51	<0.01
Ethnicity, n (%)							
Asian	116	1,2	109	1,2	7	0,9	0,637
Black	815	8,6	742	8,5	73	9,8	
Caucasian	7.901	83	7.289	83	612	81,9	
Hispanic/Latino	509	5,3	466	5,3	43	5,8	
Other/unknwon	183	2	171	1,9	12	1,6	
Nationality, n (%)							
Italian	7.414	77,9	6.838	77,9	576	77,1	0,614
Other	2.110	22,2	1.939	22,1	171	22,9	
HIV risk factor, n (%)							
Heterosexual	3.675	38,6	3.350	38,2	326	43,5	<0.01
IDU	647	6,8	554	6,3	93	12,4	
MSM	4.572	48	4.299	49	273	36,5	
Other/Unknown	630	6,6	574	6,5	56	7,5	
Zenith HIV viral load (log10 copies/ml), median (IQR)	4,9	4.3-5.4	4,9	4.3-5.4	5	4.5-5.6	<0.01
Nadir CD4, median (IQR)	300	150-433	308	163-439	186	54-322	<0.01
HIV viral load copies/ml (classes)*, n (%)							
<=50	201	2,1	186	2,1	15	2	0,671
51-10000	2.099	22	1.947	22,2	152	20,4	
>10000	7.187	75,5	6.609	75,3	578	77,4	
Missing	37	0,4	35	0,4	2	0,3	
HIV viral load (copies/ml)*, median (IQR)	48.959	10,756-186,200	48.168	10,584-181,170	61.830	12,675-264,700	
CD4 cell count (classes)*, n (%)							
<=200	2.571	27	2.260	25,8	311	41,6	<0.01
201-350	1.861	19,5	1.727	19,7	134	17,9	
351-500	2.032	21,3	1.918	21,9	114	15,3	
>500	3.032	31,8	2.846	32,4	186	24,9	
Missing	28	0,3	26	0,3	2	0,3	
CD4 (cell count)*, median (IQR)	371	183-560	379	193-566	268	77-500	<0.01
Time from HIV diagnosis to first ART (months), median (IQR)	2,3	0.8-21.2	2,3	0.8-20.4	2,1	0.7-34.3	0,702

**Characteristics of all
enrolled participants
(between 2008 and
2018) - ICONA cohort**

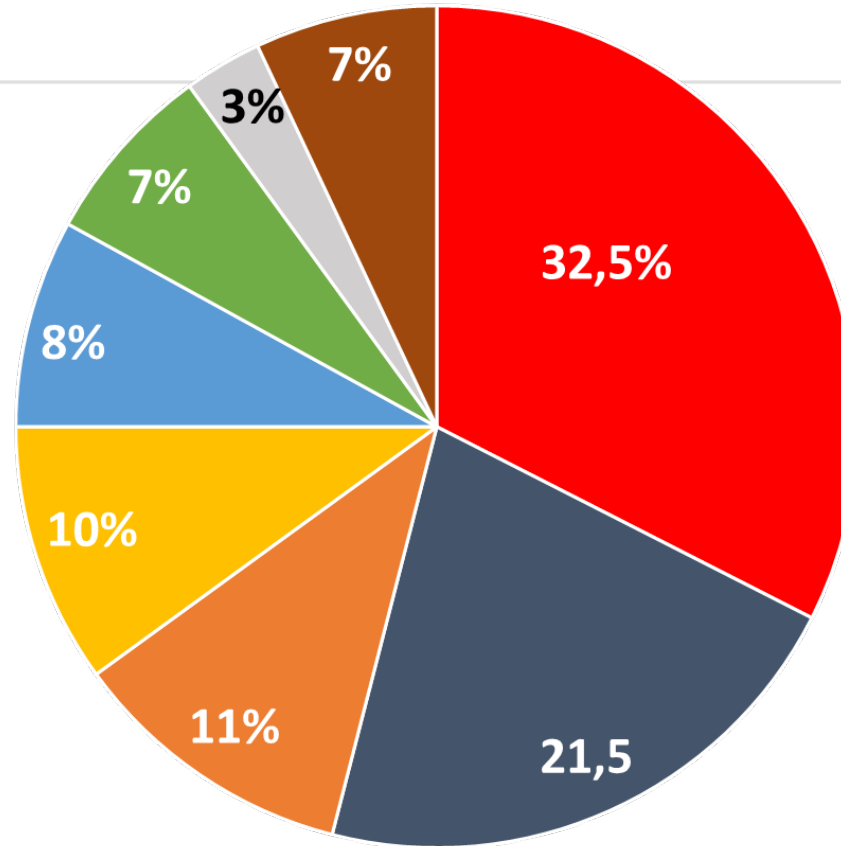
Note: *at enrollment in ICONA cohort

**Chi-square/Fisher exact test or Mann-Whitney test, as appropriated

Results: Causes of hospitalization per period



Results: Infections non AIDS



- Pneumonia
- Sepsis
- Gastrointestinal Infections
- Urinary Infections
- STI
- Viral Infections
- Cutaneous Infections
- Other



	Time at risk (years)	Subjects	Number of hospitaliz ations	IR*100	95%CI		
					L	U	
All hospitalizations							
2008-2011	3189	2167	185	5,80	5,02	6,70	
2012-2015	15116	6357	478	3,16	2,89	3,46	<0.01
2016-2018	17851	8567	395	2,21	2,00	2,44	<0.01
AIDS defining conditions							
2008-2011	3189	2167	56	1,76	1,35	2,28	
2012-2015	15116	6357	114	0,75	0,63	0,91	<0.01
2016-2018	17851	8567	76	0,43	0,34	0,53	<0.01
infections non-ADC							
2008-2011	3189	2167	24	0,75	0,50	1,12	
2012-2015	15116	6357	94	0,62	0,51	0,76	0,428
2016-2018	17851	8567	122	0,68	0,57	0,82	0,68
Non-infections/non-ADC							
2008-2011	3189	2167	105	3,29	2,72	3,99	
2012-2015	15116	6357	270	1,79	1,59	2,01	<0.01
2016-2018	17851	8567	197	1,10	0,96	1,27	<0.01

**Hospitalization rates,
overall and
for grouping,
per period.**

Factors	Univariate				Multivariable				
	IRR	P-value	[95% Conf. Interval]	IRR	P-value	[95% Conf. Interval]	IRR	P-value	[95% Conf. Interval]
Period	2008-2011 (ref.)								
	2012-2015	0,55	0,000	0,42	0,71	0,71	0,019	0,54	0,95
	2016-2018	0,38	0,000	0,29	0,5	0,57	0,000	0,42	0,76
Gender	Male vs Female	0,69	0,001	0,55	0,85	0,78	0,052	0,61	1,00
Class age (years)	<=35 (ref.)								
	36-42	1,1	0,519	0,83	1,45	1,07	0,642	0,81	1,40
	43-51	1,27	0,060	0,99	1,63	1,19	0,161	0,93	1,52
	>=52	1,76	0,000	1,37	2,26	1,63	0,000	1,28	2,08
Natinality	Other vs Italian	1,19	0,116	0,96	1,48	1,13	0,280	0,91	1,40
HIV risk factor	Heterosexual (ref.)								
	IDU	1,99	0,000	1,46	2,71	1,56	0,010	1,11	2,19
	MSM	0,74	0,003	0,61	0,9	1,15	0,235	0,91	1,46
	Other/Unknown	1,01	0,973	0,72	1,41	0,99	0,954	0,71	1,38
Cardiovascular familiarity	no (ref.)								
	yes	1,33	0,005	1,09	1,63	1,30	0,010	1,07	1,60
	Unknown	0,82	0,110	0,64	1,05	0,84	0,168	0,66	1,08
CD4 (cells/mm ³)	<=200 (ref.)								
	201-350	0,4	0,000	0,32	0,5	0,45	0,000	0,35	0,57
	351-500	0,23	0,000	0,18	0,28	0,29	0,000	0,23	0,37
	>500	0,16	0,000	0,13	0,19	0,24	0,000	0,19	0,30
	Missing	0,47	0,023	0,24	0,9	0,48	0,313	0,12	2,00
HIV viral load (copies/ml)	<=50 (ref.)								
	51-10000	2,39	0,000	1,99	2,88	1,62	0,000	1,32	1,97
	>10000	3,43	0,000	2,77	4,27	1,72	0,000	1,35	2,20
	Missing	2,45	0,003	1,36	4,42	1,59	0,490	0,43	5,93
Hepatitis C coinfection	Negative (ref.)								
	Positive	1,55	0,037	1,03	2,33	1,03	0,900	0,66	1,59
	Unknown	0,7	0,022	0,51	0,95	0,73	0,036	0,55	0,98
Time from HIV diagnosis to first ART (months)	0-2 (ref.)								
	2-20	0,52	0,000	0,42	0,65	0,76	0,019	0,60	0,96
	>20	0,92	0,436	0,74	1,14	1,15	0,219	0,92	1,44



Univariate and Multivariable analysis of factors associated with hospitalization - Poisson regression model

Conclusions

- Chronic degenerative diseases are the main cause of morbidity leading to hospitalization, in PLWHIV after cART start in recent calendar years.
- Pneumonia and sexual transmitted diseases are principal cause of hospitalization due to infections non AIDS defining.
- Older age, being IDU, cardiovascular familiarity and detectable HIV-RNA were associated with higher risk of hospitalization.

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