

Catheterization laboratory activity before  
and during COVID-19 spread:  
a comparative analysis in Piedmont, Italy

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The logo for sihta 2020, featuring a series of green dots of varying sizes forming a curved path above the text 'sihta 2020'.

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**XIII Congresso Nazionale** **26/30**  
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## Position paper ANMCO: Gestione delle consulenze e attività ambulatoriali cardiologiche in corso di pandemia COVID-19



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WILEY

### CORE CURRICULUM

**Italian Society of Interventional Cardiology (GISE) position paper for Cath lab-specific preparedness recommendations for healthcare providers in case of suspected, probable or confirmed cases of COVID-19**

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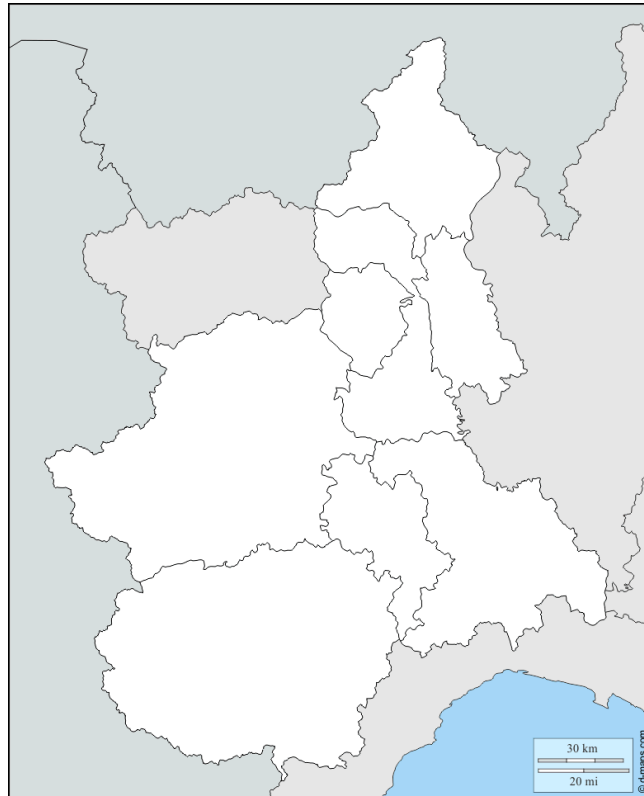


**AIM** To report the impact of COVID-19 on interventional coronary and structural procedures in Piedmont, the seventh most populated region in Italy (4,450,000 inhabitants), but the second most hit region in the Country.

18 Hospitals with Cath-lab

**No-COVID TIME**  
**March 1<sup>st</sup> April 20<sup>th</sup> 2019**

**COVID TIME**  
**March 1<sup>st</sup> April 20<sup>th</sup> 2020**



Coronary angiography (CAG)

Percutaneous coronary intervention (PCI)

Transcatheter aortic valve replacement (TAVR)

Mitraclip

Primary Percutaneous coronary intervention (pPCI)



Hospital/procedures	NoCoV-time	CoV-time
	CAG	CAG
Alba	98	55
Alessandria <sup>d</sup>	279	130
Asti	110	58
Biella	111	65
Ciriè/Ivrea	245	158
Cuneo <sup>d</sup>	241	90
Domodossola	130	47
Giovanni Bosco TRN	188	95
Maria Pia Hospital TRN <sup>b,d</sup>	231	75
Maria Vittoria TRN	226	99
Mauriziano TRN <sup>d</sup>	170	171
Molinette TRN <sup>d</sup>	308	114
Moncalieri	123	78
Novara <sup>d</sup>	295	160
Orbassano <sup>a,c</sup>	150	23
Rivoli <sup>c</sup>	257	219
Savigliano	121	76
Vercelli	177	69
TOTAL	3460	1782
Mean	192.2	99.0
SD	69.4	50.7
P-Value	0.004	

**CORONARY ANGIOGRAPHY**

**- 48.5%**



Hospital/procedures	NoCoV-time	CoV-time
	PCI	PCI
Alba	55	32
Alessandria <sup>d</sup>	171	97
Asti	92	30
Biella	67	39
Ciriè/Ivrea	137	71
Cuneo <sup>d</sup>	112	55
Domodossola	73	40
Giovanni Bosco TRN	138	77
Maria Pia Hospital TRN <sup>b,d</sup>	84	34
Maria Vittoria TRN	149	71
Mauriziano TRN <sup>d</sup>	105	73
Molinette TRN <sup>d</sup>	155	71
Moncalieri	89	61
Novara <sup>d</sup>	161	77
Orbassano <sup>a,c</sup>	82	9
Rivoli <sup>c</sup>	143	162
Savigliano	101	58
Vercelli	124	49
TOTAL	2038	1106
Mean	113.2	61.4
SD	35.1	33.2
P-Value	0.002	

PCI
   
 - 45.7%

Hospital/procedures	NoCoV-time	CoV-time	NoCoV-time	CoV-time
	TAVR	TAVR	MTR	MTR
Alba	0	0	0	0
Alessandria <sup>d</sup>	4	0	0	0
Asti	0	0	0	0
Biella	0	0	0	0
Ciriè/Ivrea	0	0	0	0
Cuneo <sup>d</sup>	10	0	2	0
Domodossola	0	0	0	0
Giovanni Bosco TRN	0	0	0	0
Maria Pia Hospital TRN <sup>b,d</sup>	19	6	4	5
Maria Vittoria TRN	0	0	0	0
Mauriziano TRN <sup>d</sup>	14	2	2	0
Molinette TRN <sup>d</sup>	15	3	4	1
Moncalieri	0	0	0	0
Novara <sup>d</sup>	10	0	0	0
Orbassano <sup>a,c</sup>	0	0	0	0
Rivoli <sup>c</sup>	0	0	0	0
Savigliano	0	0	0	0
Vercelli	0	0	0	0
<b>TOTAL</b>	<b>72</b>	<b>11</b>	<b>11</b>	<b>6</b>
Mean	4.0	0.6	0.7	0.3
SD	1.6	1.4	1.4	1.2
<b>P-Value</b>	<b>&lt;0.001</b>		<b>0.001</b>	

**TAVR** and **Mitraclip**
  
**-84.7%**      **-50.0%**

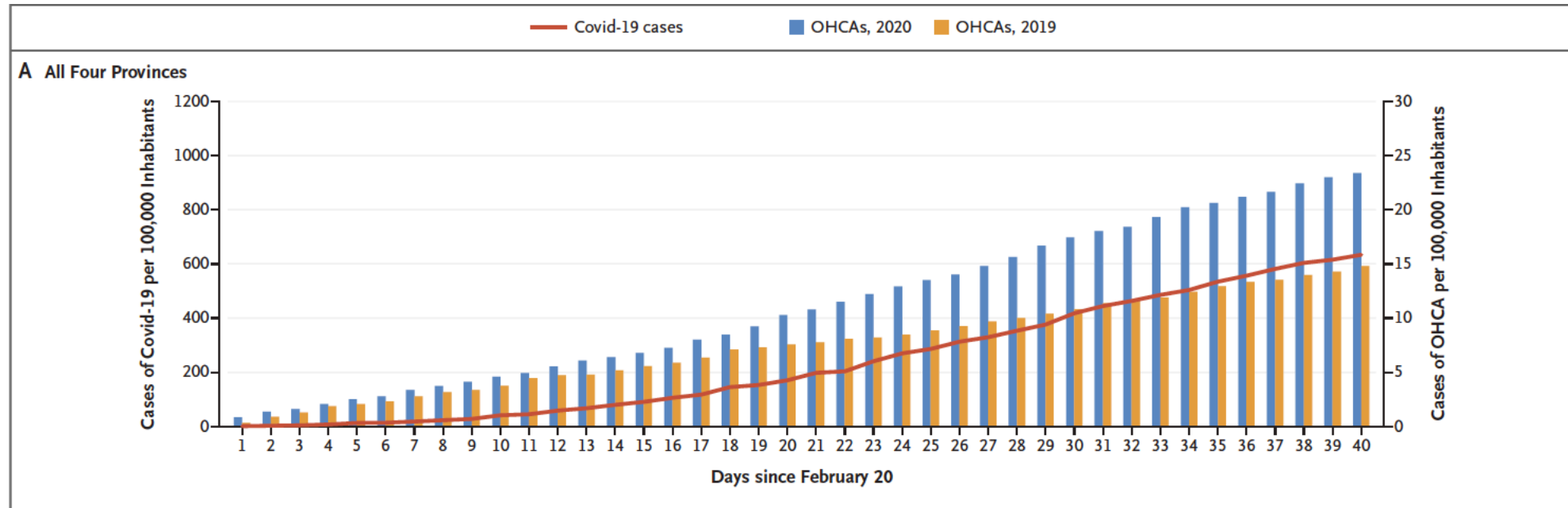
Hospital/procedures	NoCoV-time	CoV-time
	pPCI	pPCI
Alba	6	5
Alessandria <sup>d</sup>	45	17
Asti	21	14
Biella	16	10
Ciriè/Ivrea	46	19
Cuneo <sup>d</sup>	24	25
Domodossola	4	7
Giovanni Bosco TRN	27	19
Maria Pia Hospital TRN <sup>b,d</sup>	0	0
Maria Vittoria TRN	28	11
Mauriziano TRN <sup>d</sup>	24	18
Molinette TRN <sup>d</sup>	34	18
Moncalieri	23	18
Novara <sup>d</sup>	31	30
Orbassano <sup>a,c</sup>	10	0
Rivoli <sup>c</sup>	22	38
Savigliano	20	12
Vercelli	35	15
TOTAL	416	276
Mean	23.1	15.3
SD	12.8	9.6
P-Value	0.015	

**Primary PCI  
 (emergency procedures performed during myocardial infarction)**

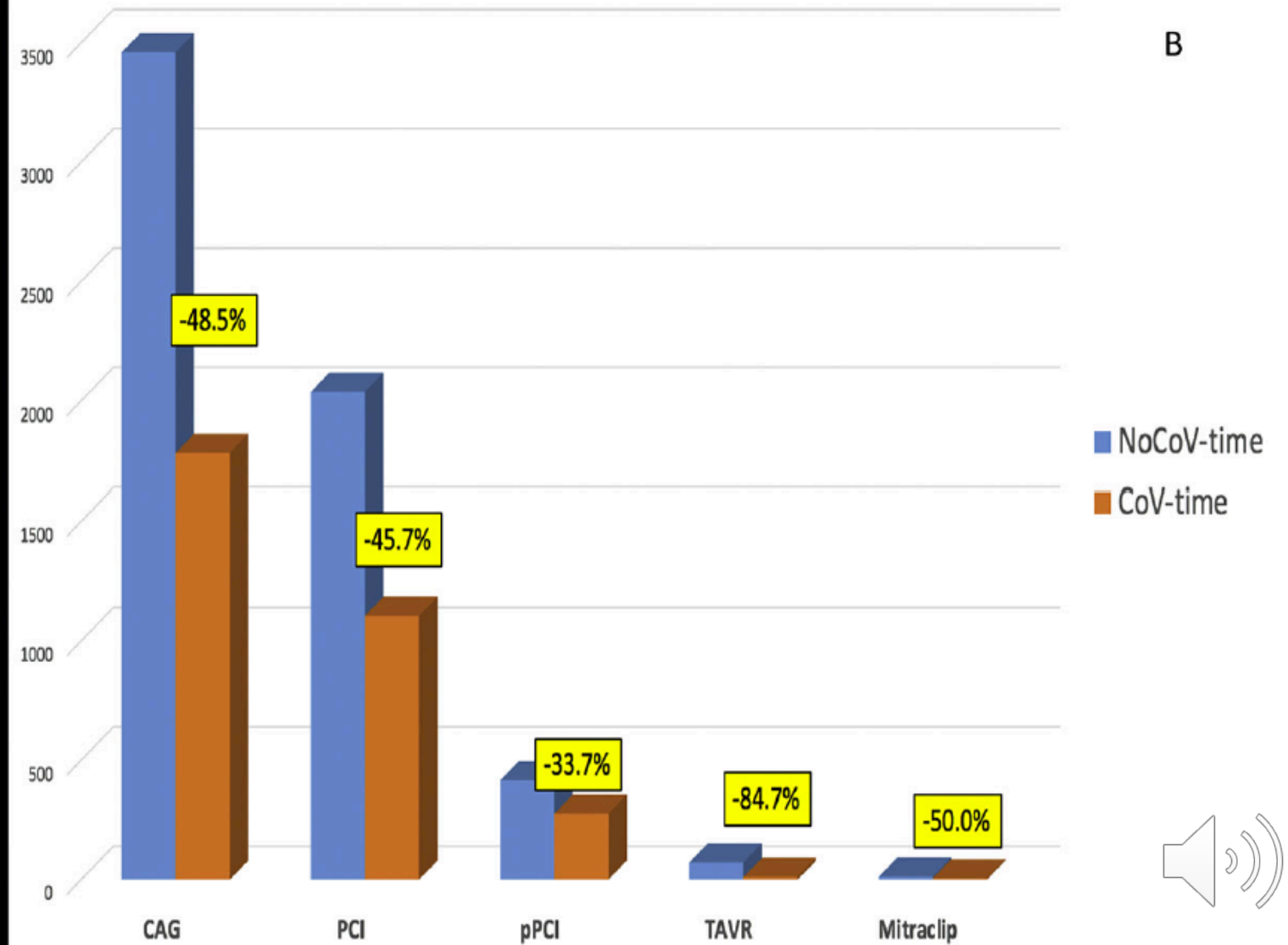
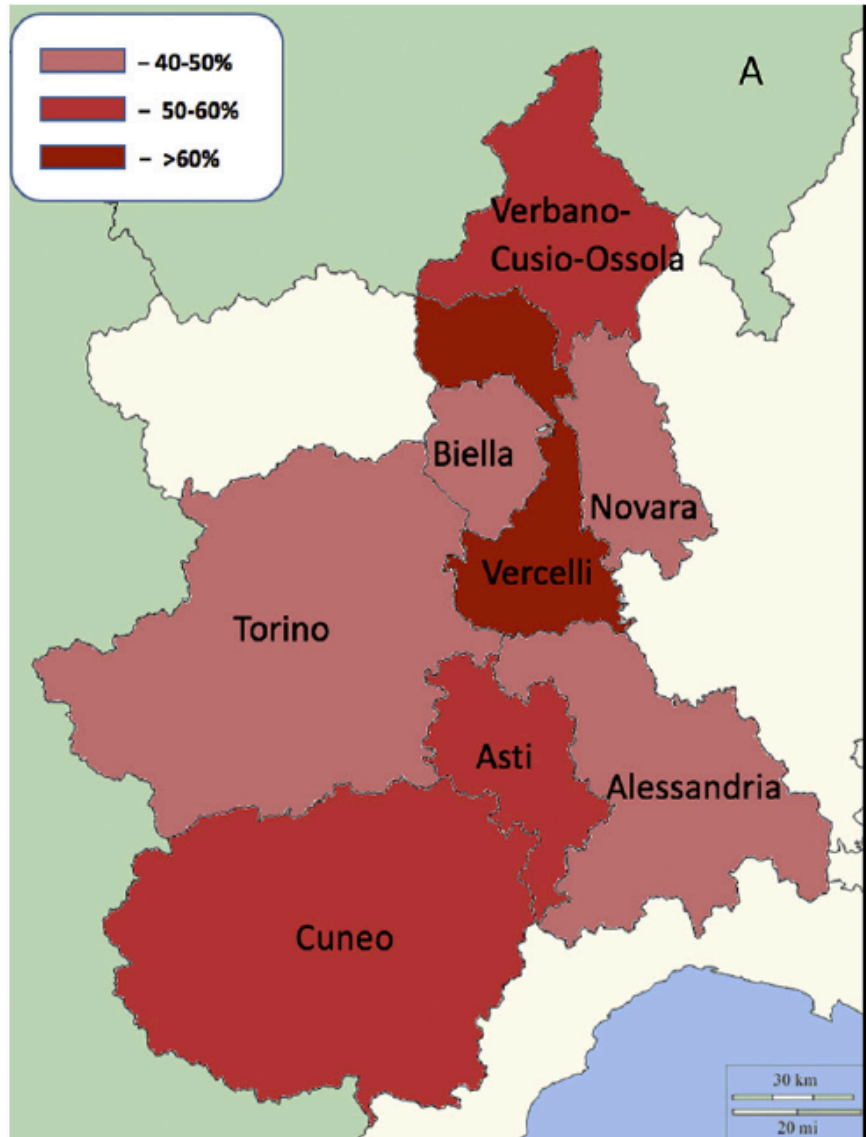
**-84.7%**



### Out-of-Hospital Cardiac Arrest during the Covid-19 Outbreak in Italy







# CONCLUSION

- Compared to the same time-period in 2019, both coronary and structural interventional procedures during COVID-19 epidemic suffered a dramatic decrease in Piedmont, Italy, likely reflecting medical decision and patients' fear of infection
- Organizational change and structured clinical pathways should be created, together with awareness campaigns.

