Supplemental Data for the Letter to Editor Out-of-hospital cardiac arrest during the COVID-19 era in Bologna: system response to preserve performances by Federico Semeraro et al.

Figure 1: Total numbers and positive cases SARS-COV-2 swabs performed (1st March to 12nd July 2020)

Available data published 13th July 2020 at https://www.ausl.bologna.it/per-i-cittadini/coronavirus/rcps
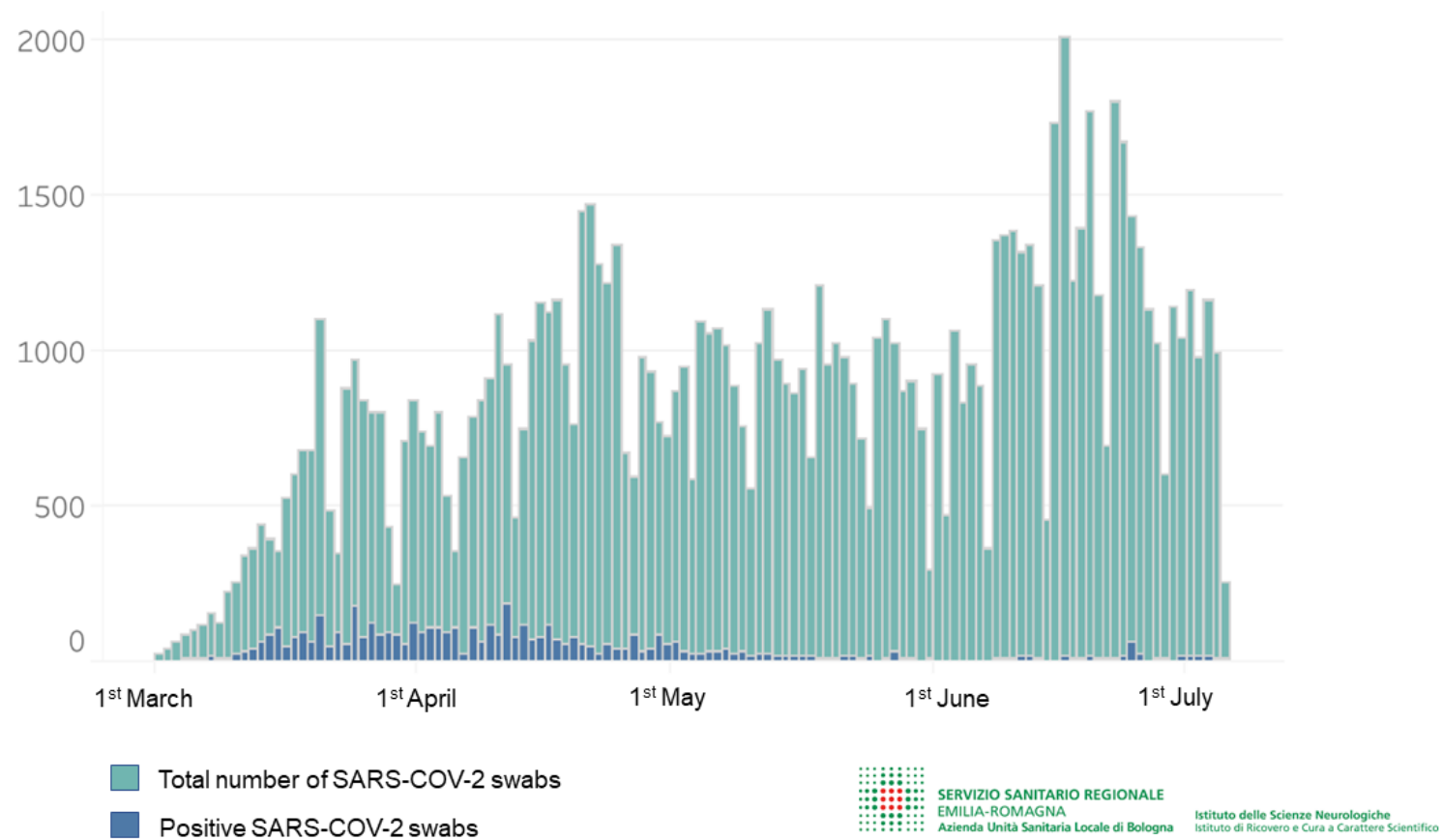
Table 1: Bologna Area (Bologna, Casalecchio di Reno, San Lazzaro) ISTAT Mortality Data 2020 vs 2015-2019

Available data published 9th July 2020 at https://www.istat.it/it/archivio/240401

Municipality	Mortality Increase (%)				
	1st-31st Jan 2020	1st-29st Feb 2020	1st-31st Mar 2020	1st-30th Apr 2020	1st-31th May 2020
Bologna	- 19.7 %	+ 1.1 %	+ 26.2 %	+ 68.3 %	+ 0.9 %
Casalecchio di Reno	- 13.0 %	-9.3 %	+ 11.4 %	+ 41.0 %	+ 16.1 %
San Lazzaro di Savena	- 26.1 %	+ 14.8 %	-3.7 %	+ 91.7 %	- 5.7 %
Avg value	- 19.6 %	+ 2.2 %	+ 11.3 %	**+ 67.0 %**	+ 3.8 %

Table 2: Etiology and location of cardiac arrest

	N (%) 2019 (n = 110)	N (%) 2020 (n = 95)	
Etiology			p = 0.680
Medical	99 (90%)	89 (94%)	
Traumatic	6 (5%)	4 (4%)	
Drug overdose	4 (4%)	2 (2%)	
Drowning	1 (1%)	0	
Electrocution	0	0	
Asphyxia	0	0	
Location			p = 0.476
Home	82 (75%)	65 (68%)	
Street	18 (16%)	13 (14%)	
Public building	2 (2%)	2 (2%)	
Work/office	1 (1%)	1 (1%)	
Sport facility	0	0	
School	1 (1%)	1 (1%)	
Other	6 (5%)	13 (14%)	

Table 3: Presenting rhythm and survival

	January - June 2019 (n = 110)	January - June 2020 (n = 95)	
Presenting rhythm	**N (%)**	**N (%)**	**p = 0.285**
Ventricular fibrillation (VF)	34 (31%)	30 (32%)	
Venticular tachycardia (VT)	0	3 (3%)	
Pulseless electrical activity (PEA)	47 (43%)	36 (38%)	
Asystole	29 (26%)	26 (27%)	
ROSC	**N (%)[*]**	**N (%)[*]**	**p = 0.635**
Ventricular fibrillation (VF)	19 (56%)	17 (57%)	
Venticular tachycardia (VT)	0	1 (33%)	
Pulseless electrical activity (PEA)	27 (57%)	16 (44%)	
Asystole	8 (28%)	4 (15%)	
Total	54 (49%)	38 (40%)	
Hospital Admission	**N (%)[+]**	**N (%)[+]**	**p = 0.773**
Ventricular fibrillation (VF)	17 (50%)	14 (47%)	
Venticular tachycardia (VT)	0	1 (33%)	
Pulseless electrical activity (PEA)	19 (40%)	13 (36%)	
Asystole	6 (21%)	3 (12%)	
Total	42 (38%)	31 (33%)	
Hospital Discharge	**N (%)[§]**	**N (%)[§]**	**p = 0.490**
Ventricular fibrillation (VF)	13 (38%)	10 (33%)	
Venticular tachycardia (VT)	0	1 (33%)	
Pulseless electrical activity (PEA)	9 (19%)	10 (28%)	
Asystole	0	2 (8%)	
Total	22 (20%)	23 (24%)	

Notes – Chi square test was used to compare groups

[*] % Number of ROSC patients over total number of patients per years (110 patients 2019 and 95 patients 2020) with resuscitation attempted

[+] % Hospital admission patients over total number of patients per years (110 patients 2019 and 95 patients 2020) with resuscitation attempted

[§] % Hospital discharge patients over total number of patients per years (110 patients 2019 and 95 patients 2020) with resuscitation attempted

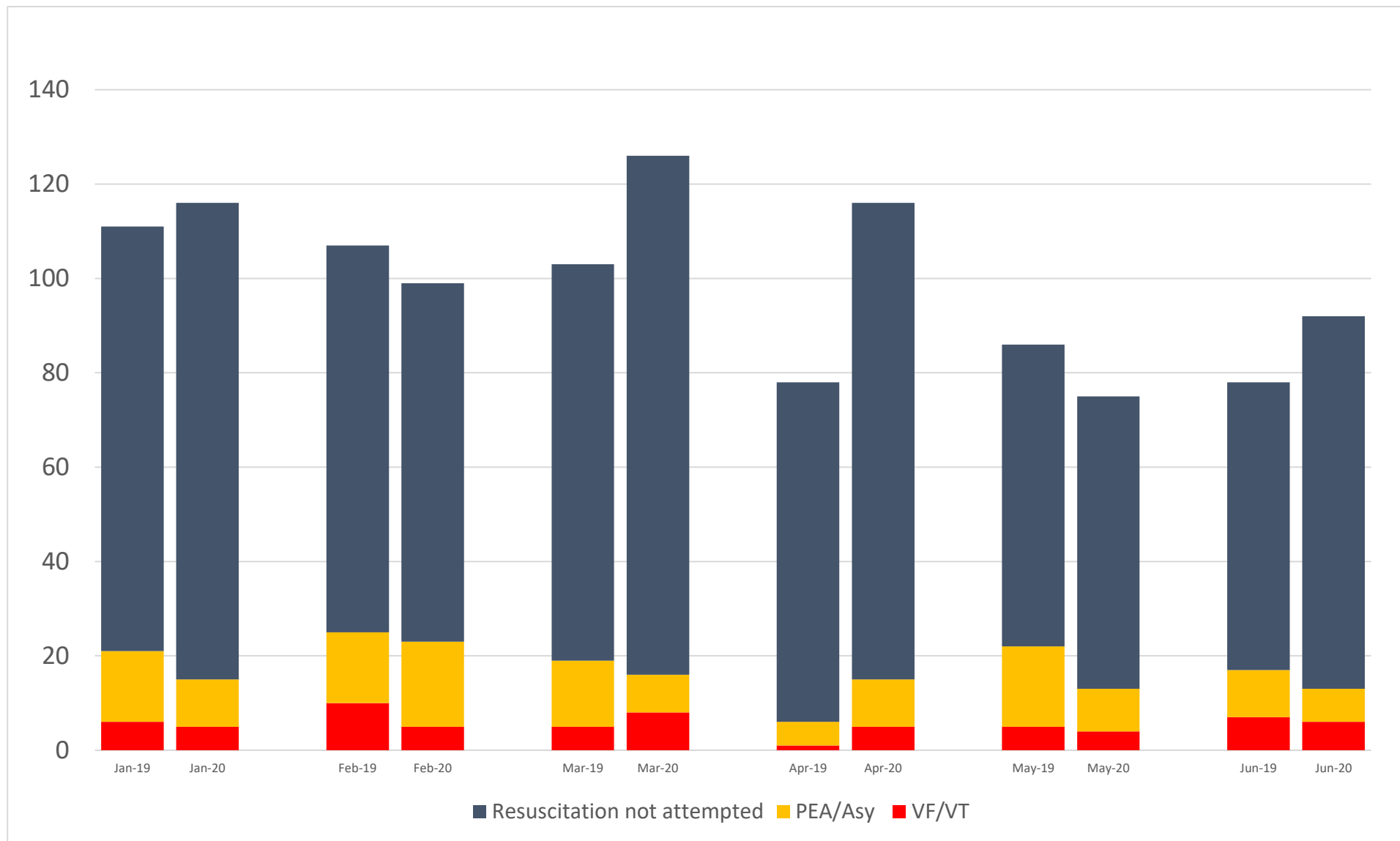**Figure 2 Resuscitation not attempted and presenting rhythm**

Table 4: Utstein comparator group (cardiac arrest witnessed bystander with shockable rhythm)

	January - June 2019 Shockable (n = 34)	January - June 2020 Shockable (n = 33)	
Events	N* (%)	N (%)+	p = 0.798
Bystander shockable	27 (84%)	26 (87%)	
Unwitnessed shockable	5 (16%)	4 (13%)	
ROSC	N (%)	N (%)	p = 0.894
Bystander shockable	17 (94%)	14 (93%)	
Unwitnessed shockable	1 (6%)	1 (7%)	
Hospital Admission	N (%)	N (%)	p = 0.962
Bystander shockable	15 (94%)	14 (93%)	
Unwitnessed shockable	1 (6%)	1 (7%)	
Hospital Discharge	N (%)	N (%)	p = 0.362
Bystander shockable	12 (100%)	8 (100%)	
Unwitnessed shockable	0	0	

Notes – Chi square test was used to compare groups

* Two patients excluded from total shockable patients (EMS witnessed)

+ Three patients exluded from total shockable patients (EMS witnessed)

Table 5: DAE RespondER (First responder App for Bologna, Casalecchio di Reno, San Lazzaro)

	Notification (n)		Accepted Notification (n)		Arrived on the patient (n)	
	2019	2020	2019	2020	2019	2020
Bologna						
January	4274	5444	6	5	2	1
February	5635	8808	11	11	3	1
March	5110	6300	11	4	1	1
April	4300	4879	4	3	3	1
May	3000	4734	13	3	0	0
June	3635	6050	6	4	1	1
Total	**25954**	**36215**	**51**	**30**	10	5
Casalecchio di Reno						
January	104	4	0	0	0	0
February	121	168	0	1	0	1
March	3	21	0	0	0	0
April	4	36	0	0	0	0
May	137	15	0	0	0	0
June	6	212	0	0	0	0
Total	**375**	**456**	**0**	**1**	0	1
San Lazzaro di Savena						
January	4	116	0	0	0	0
February	87	6	1	0	1	0
March	0	17	0	0	0	0
April	4	17	0	0	0	0
May	4	21	0	0	0	0
June	119	15	0	0	0	0
Total	**218**	**192**	**1**	**0**	1	0
Overall data	**26547**	**36863**	**52**	**31**	11	6

Acknowledgements

We want to thank all the members of our "System" that worked hard in the last six months and have continued to save lives from the field to the intensive care without fear. Over 300 members of our "system" worked with passion and heart.