

Intensive care admissions of children with paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS) in the UK

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Figure 1

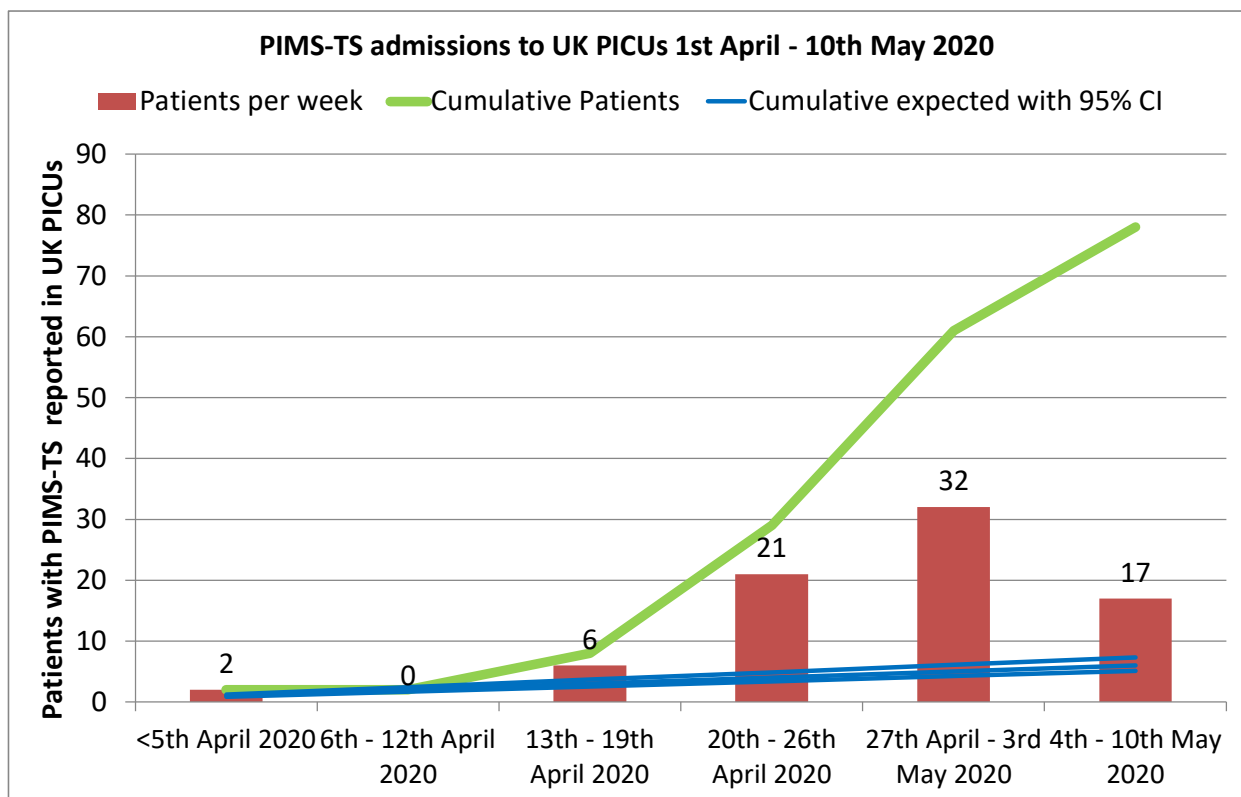


Figure 2

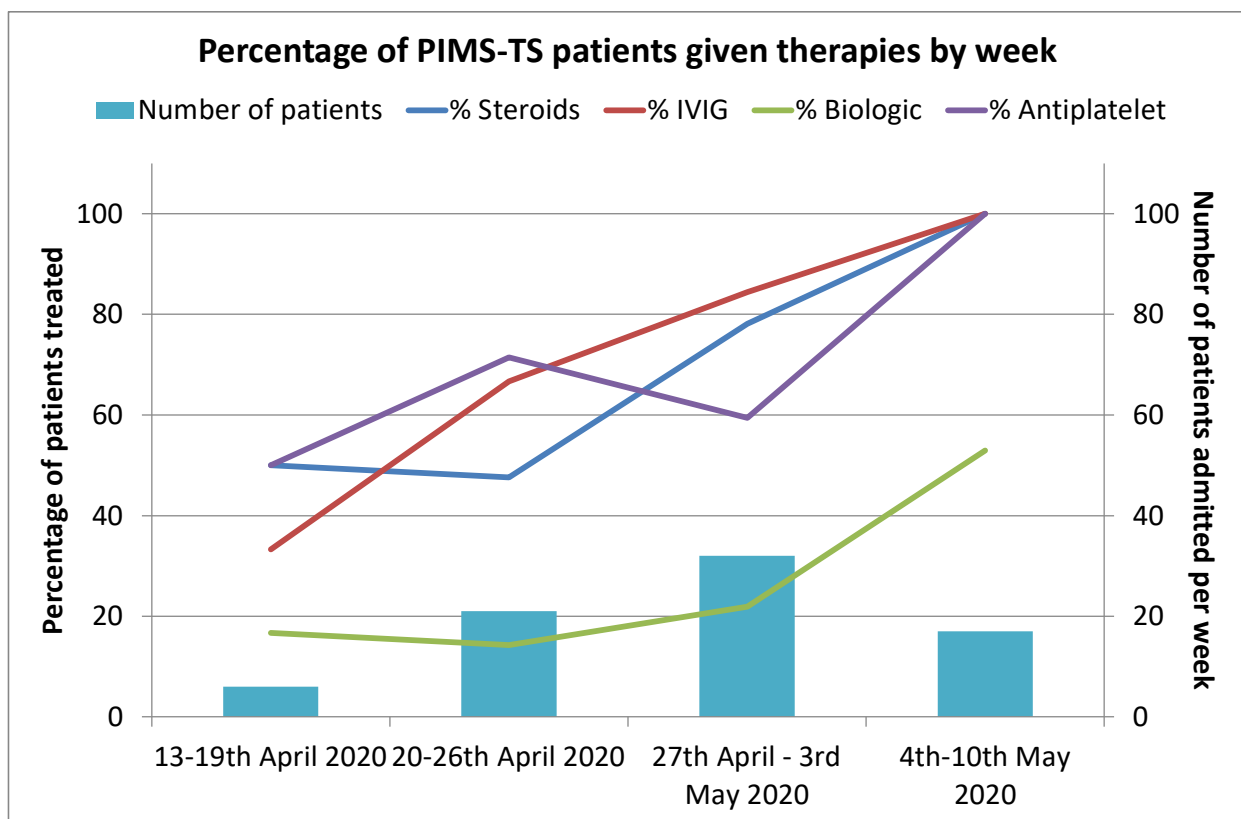


Table 1: Demographics and clinical features of PICU admission for 78 PIMS-TS patients presenting to UK Paediatric Intensive Care Units.

Demographic features		
Male sex		52 (67%)
Age groups:	<1 year	2 (2.6%)
	1-4 years	5 (6.4%)
	5-10 years	29 (37%)
	11-15 years	38 (49%)
	16-17 years	4 (5.1%)
	Median in years (IQR)	11 (8-14)
Median observed/Expected weight ratio ([QR])		1.22 [1.06-1.41]
Known contact with COVID-19 case		8 (10%)
Co-Morbidities		
	None	61 (78%)
	Usually expected to require primary care	15 (19%)
	Usually expected to require hospital care	2 (2.6%)
Ethnicity: Afro-Caribbean [95% CI]		37 (47%) [37%-58%]
	Asian [95% CI]	22 (28%) [19%-39%]
	Caucasian [95% CI]	17 (22%) [14%-32%]
	Other [95% CI]	2 (2.6%) [0%-9%]
SARS CoV2 antigen PCR +		17 (22%)
SARS CoV2 antigen PCR -		61 (78%)
SARS-CoV2 IgG serology in PCR + ve patients		
	Positive	9/10 (90%)
	Negative	1/10 (10%)
	Not tested	7/17 (41%)
SARS-CoV2 IgG serology in PCR -ve patients		
	Positive	24/25 (96%)
	Negative	1/25 (4.0%)
	Not tested	36/61 (59%)
PCR-ve, serology -ve, without known COVID-19 contact (met PIMS-TS criteria, did not meet MIS-C criteria)		1/78 (1.3%)
PCR-ve, serology unknown, without known COVID-19 contact (met PIMS-TS criteria, unknown whether would meet MIS-C criteria)		32/78 (41%)
Infections with non SARS-CoV-2 pathogens		
	None	75 (96%)
	Bacterial	2 (2.6%)
	Viral	1 (1.3%)
Outcome: Discharged from critical care		75 (96%)
	Still on critical care	1 (1.3%)
	Died	2 (2.6%)
Thrombus		3 (3.8%)
Median length of stay (n=71) [IQR]		5 days [3-6.5]
Clinical presenting features		
Fever		78 (100%)
Shock		68 (87%)
	Vasodilated	55 (71%)
	Vasoconstricted	13 (17%)
Abdominal pain		48 (62%)
Diarrhoea		50 (64%)
Vomiting		49 (63%)
Any abdominal symptom (pain, diarrhoea, vomiting)		70 (90%)
Rash		35 (45%)
Conjunctivitis		23 (29%)

Table 2: Laboratory results for the first 4 days of PICU admission: median [interquartile range]

Laboratory results for the first 4 days of PICU admission: median [interquartile range]				
	Day of Admission	Day 2	Day 3	Day 4
	N=78	N=44	N=43	N=36
Neutrophil count (x10 ⁹ /L)	12.3 [10.7-22.9]	13.2 [9.2-17.6]	13.0 [8.9-19.4]	11.9 [7.2-20.0]
Lymphocyte count (x10 ⁹ /L)	0.70 [0.42-1.1]	0.9 [0.7-1.6]	1.2 [0.9-1.7]	1.8 [1.0-2.3]
Platelet count (x10 ⁹ /L)	125 [75-178]	179 [115-272]	187 [109-293]	201 [100-358]
C-Reactive Protein (mg/L)	264 [192-316]	233 [143-308]	191 [77-283]	96 [39-197]
D-Dimer (µg/L)	4030 [2349-7422]	2293 [1319-4638]	3503 [1902-5291]	1659 [646-3792]
Ferritin (mcg/L)	1042 [538-1746]	1152 [473-1529]	842 [495-1422]	757 [484-1198]
Troponin (ng/L)	157 [43-810]	232 [70-829]	355 [66-2252]	358 [30-3015]
Creatinine (micromol/L)	75 [46-103]	54 [41-77]	48 [34-67]	49 [32-64]
ALT (iU/L)	50 [30-93]	51 [27-77]	43 [30-68]	51 [35-71]

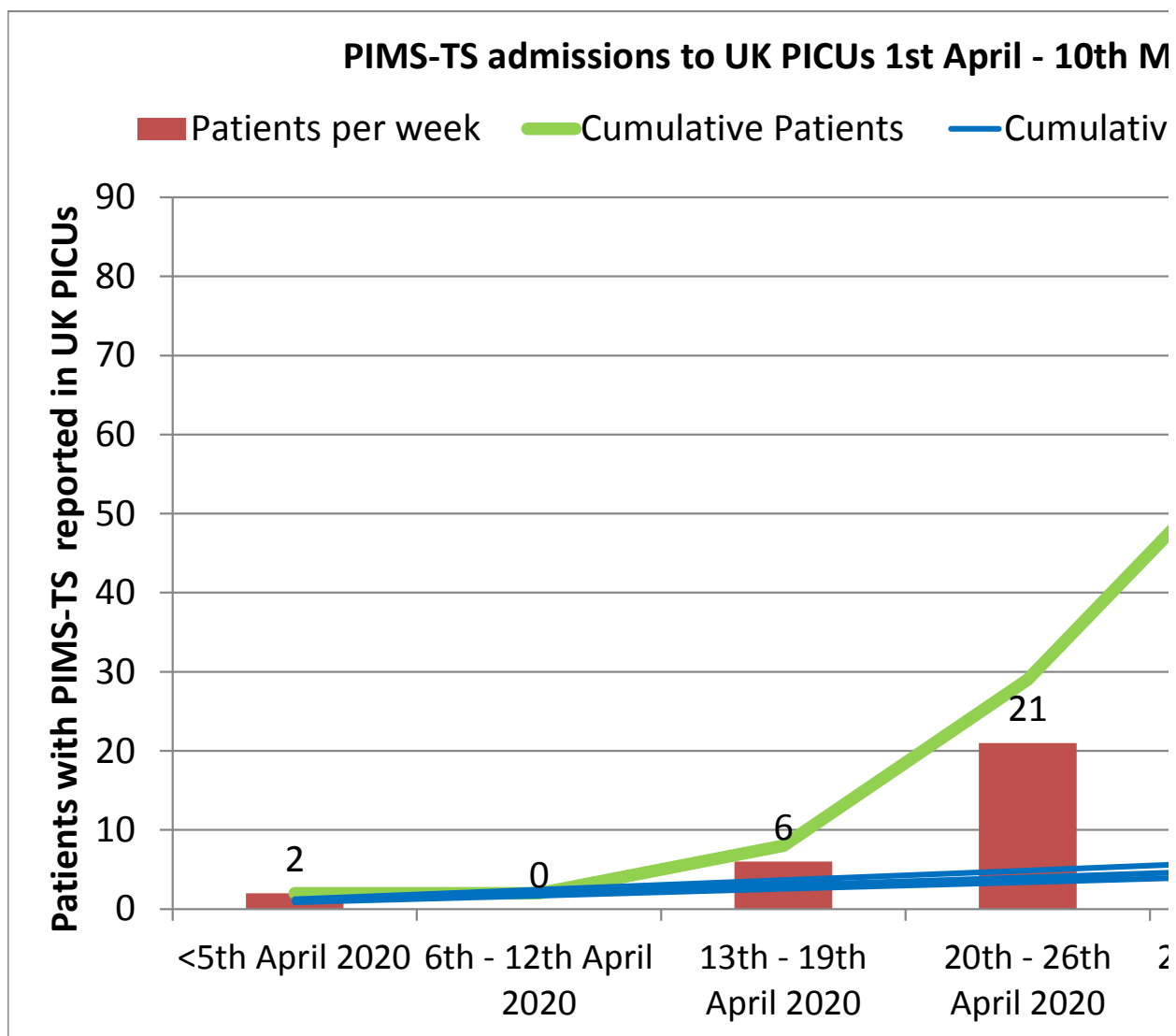
Table 3: Interventions on PIMS-TS patients on the intensive care unit

Interventions	Total
Highest Level of Respiratory support	
No respiratory support	12 (15%)
Oxygen only	12 (15%)
High Flow Nasal Cannula therapy (HFNC)	13 (17%)
Non Invasive Ventilation (NIV)	5 (6.4%)
Invasive Mechanical Ventilation (IMV)	36 (46%)
Extracorporeal Membrane Oxygenation	3 (3.8%)
Cardiovascular support	
Fluid bolus	72 (92%)
Inotropic/vasoactive infusion	65 (83%)
Renal Replacement Therapy	1 (1.3%)
Drug therapies	
Antibiotics	78 (100%)
Steroids	57 (73%)
Intravenous Immunoglobulin	59 (76%)
Immunomodulation with biologic agents	17 (22%)
Anakinra	8 (10%)
Infliximab	7 (9.0%)
Tocilizumab	3 (3.8%)
Rituximab	1 (1.3%)
Aspirin/other antiplatelet therapy	45 (58%)
Anticoagulation	
Prophylactic	32 (41%)
Therapeutic	7 (9.0%)
Antiviral therapy (Remdesivir)	1 (1.3%)

Table 4: Comparison between the demographics, highest or lowest laboratory tests over the first four days of admission, presenting features, and therapies of those patients with any coronary artery abnormalities (aneurysms or echogenicity) and those with normal coronary arteries, and between those not invasively ventilated and those invasively ventilated.

	Any coronary artery abnormality n=28 (36%)	No coronary artery abnormality N=50 (64%)	Invasively Ventilated N=36 (46%)	Not invasively ventilated n=42 (54%)
Age (median)	11	11	9.5	11
Male Sex M:F	16/28 (57%)	34/50 (68%)	23/36 (64%)	29/42 (69%)
Non-Caucasian	23/28 (82%)	38/50 (76%)	29/36 (81%)	32/42 (76%)
Highest CRP (mg/L, IQR)	227 [166-292]	283 [206-328]	294 (225-355)	227 ((179-298)
Lowest Platelet count (x10 ⁹ /L)	143 (95-164)	150 (83-197)	125 (81-168)	151 (96-185)
Lowest Lymphocyte count (x10 ⁹ /L)	0.70 [0.4-1.2]	0.72 [0.5-1.0]	0.74 (0.5-51.0)	0.70 (0.4-1.1)
Highest Ferritin (µg/L, IQR)	1205 (536-2468)	1156 (563-1803)	1205 (653-2124)	858 (449-1506)
Highest Troponin (ng/L, IQR)	187 (49-574)	120 (21-818)	253 (68-892)	147 (45-809)
Highest D Dimers (ng/L, IQR)	4990 (2425-7691)	4080 (2538-7537)	4897 (3350-9420)	3660 (2021-6409)
Rash	11/28 (39%)	22/50 (44%)	15/36 (42%)	20/42 (48%)
Conjunctivitis	9/28 (32%)	13/50 (26%)	8/36 (22%)	15/42 36%
Shock	26/28 (93%)	42/50 (84%)	30/36 (83%)	38/42 (90%)
Invasively ventilated	10/28 (36%)	26/50 (52%)	N/A	N/A
Inotropic infusion	24/28 (86%)	41/50 (82%)	32/36 (89%)	33/42 (79%)
Given IVIG	26/28 (93%)	33/50 (66%)	26/36 (72%)	33/42 (79%)
Given steroids	25/28 (89%)	32/50 (64%)	26/36 (72%)	31/42 (74%)

Figure 1



May 2020

are expected with 95% CI

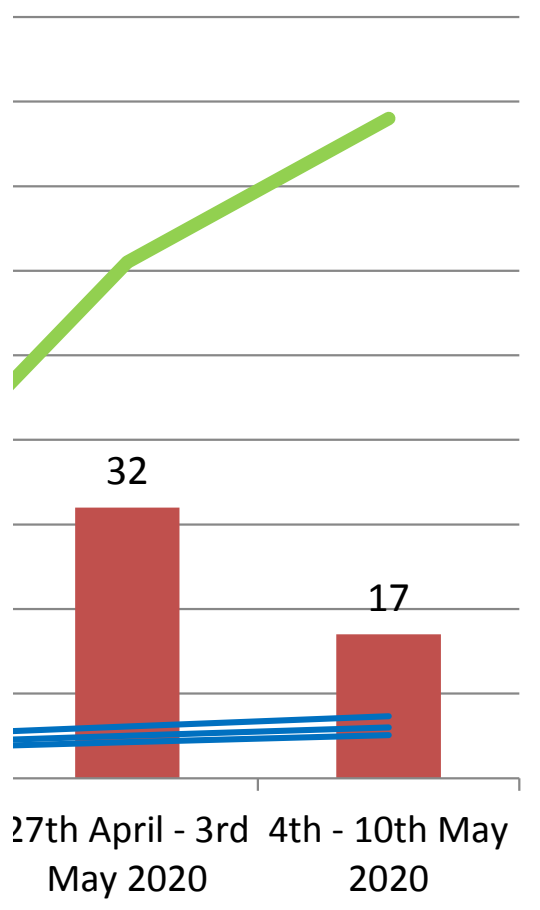
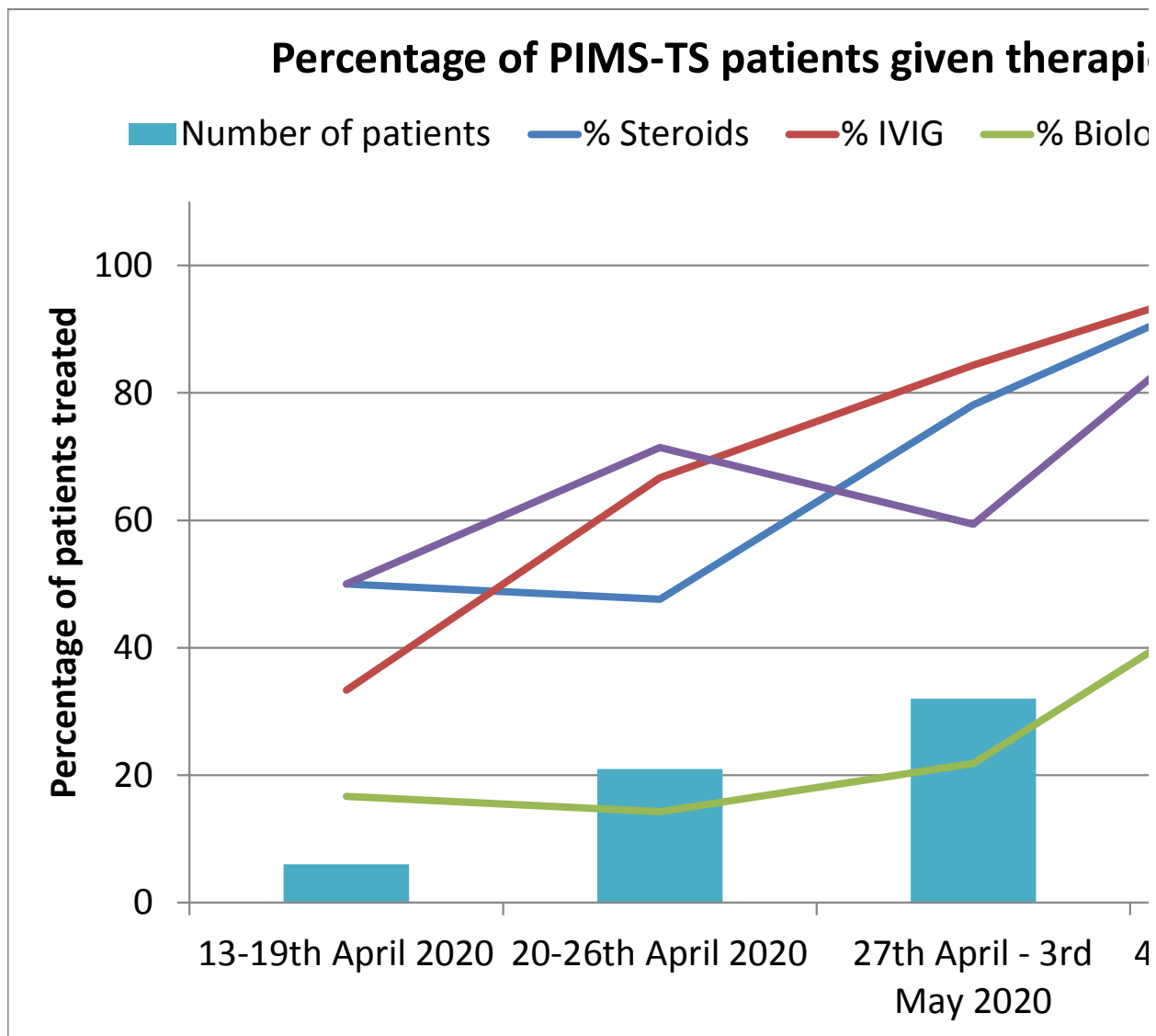
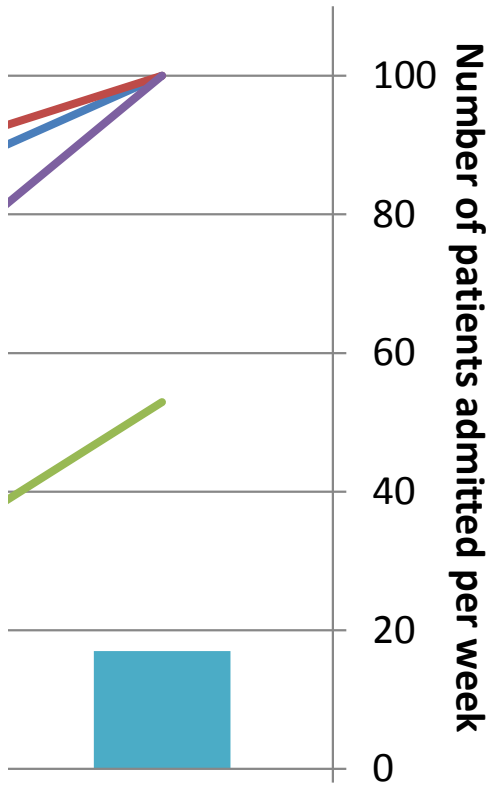


Figure 2



es by week

ogic — % Antiplatelet



4th-10th May 2020



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Necessary Additional Data
Supplementary material.pdf

