

ONLINE APPENDIX

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Section 1: Data characteristics

Table S1: Data characteristics for years 2019, 2020, 2021 and 2022 according to the manual of the InEK data browser (version 28.03.2023)¹

Data for 2019 from “Data delivery DRG 2019 grouped by 2020 guidelines”	Data for 2020 from “Data delivery DRG 2020 grouped by 2021 guidelines”	Data for 2021 from “Data delivery DRG 2021 grouped by 2022 guidelines”	Data for 2022 from “Intra-year data delivery DRG January to December 2021”
<ul style="list-style-type: none"> • Data for the billing area "DRG" from the data delivery according to § 21 KHEntgG as of 31.03.2020 for the data year 2019 • Data grouped according to aG-DRG version 2019_2020. The grouping according to aG-DRG version 2019_2020 uses the same DRGs as interim data deliveries during the year in accordance with § 24 Para. 2 KHG for 2020 and thus enables a direct comparison. • Principal and secondary diagnoses according to ICD-10-GM Version 2019, procedures according to OPS Version 2019. • All data deliveries of hospitals with at least one treatment case in the billing area "DRG" submitted to the data centre by 31.05.2020 are included in the database. • Data supplied by hospitals; contain service data on all full and partial inpatient treatment cases discharged in the calendar year 2019 with care in main or inpatient departments. • Data has successfully passed the quality check (“error procedure”). 	<ul style="list-style-type: none"> • Data for the billing area "DRG" from the data delivery according to § 21 KHEntgG as of 31.03.2021 for the data year 2020 • Data grouped according to aG-DRG version 2020_2021. The grouping according to aG-DRG Version 2020_2021 uses the same DRGs as interim data deliveries during the year in accordance with Section 24 (2) KHG for 2021 and thus enables a direct comparison. • Principal and secondary diagnoses according to ICD-10-GM Version 2020, procedures according to OPS Version 2020. • All data deliveries of hospitals with at least one treatment case in the billing area "DRG" submitted to the data centre by 31.05.2021 are included in the database. • Data supplied by the hospitals; contain service data on all full and partial inpatient treatment cases discharged in the calendar year 2020 with care in main or inpatient departments. • Data has successfully passed the quality check (“error procedure”). 	<ul style="list-style-type: none"> • Data for the billing area "DRG" from the data delivery according to § 21 Para. 3b KHEntgG as of 31.03.2022 for the data year 2021. • Data grouped according to aG-DRG Version 2021_2022 • Principal and secondary diagnoses according to ICD-10-GM version 2021, procedures according to OPS version 2021. • All data deliveries of hospitals with at least one treatment case in the "DRG" billing area submitted to the data centre by 31 May 2022. • Data supplied by hospitals; contain service data on all services provided in the calendar year 2021 for full and partial inpatient treatment cases with care in main or inpatient departments. • Data has successfully passed the quality check (“error procedure”). 	<ul style="list-style-type: none"> • Data for the billing area "DRG" from the data delivery according to § 21 Para. 3b KHEntgG as of 16.01.2023 for the data year 2021. • Data grouped according to aG-DRG Version 2022 • Principal and secondary diagnoses according to ICD-10-GM version 2022, procedures according to OPS version 2022. • All data deliveries of hospitals with at least one treatment case in the "DRG" billing area submitted to the data centre by 16 January 2023. • Data supplied by hospitals; contain service data on all services provided between 01.01.2022-31.12.2022 for full and partial inpatient treatment cases with care in main or inpatient departments. • Data has successfully passed the quality check (“error procedure”).

Notes: DRG Diagnosis Related Groups; KHEntgG Krankenhausentgeltgesetz (Hospital Remuneration Act); KHG: Krankenhausfinanzierungsgesetz (Hospital Funding Act)

¹ <https://datenbrowser.inek.org/>

Section 2: Characteristics of total annual admissions

Table S2: Characteristics of total annual admissions in German hospitals (children until the age of 18, newborns excluded)

2019							
Cases		Length of Stay		PCCL		Age group	
Nr. Of cases	1,278,814	Short stays	29.37%	0	83.85%		
		Normal stays	68.51%	1	7.18%	28 days - 1 year	13.94%
		Long stays	2.12%	2	4.19%	1-2 years	16.90%
Sex							
males	53.29%			3	3.47%	3-5 years	15.61%
females	46.71%	ALOS	3.2	4	1.09%	6-9 years	14.27%
other	0.00%	Standard deviation ALOS	5.6	5	0.20%	10-15 years	26.41%
unknown	0.00%			6	0.03%	16-17 years	12.86%
2020							
Cases		Length of Stay		PCCL		Age group	
Nr. Of cases	1,003,312	Short stays	29.32%	0	84.38%		
		Normal stays	68.38%	1	6.42%	28 days - 1 year	14.29%
		Long stays	2.29%	2	4.45%	1-2 years	15.85%
Sex							
males	53.38%			3	3.43%	3-5 years	15.35%
females	46.62%	ALOS	3.3	4	1.07%	6-9 years	14.59%
other	0.00%	Standard deviation ALOS	5.9	5	0.21%	10-15 years	26.85%
unknown	0.00%			6	0.03%	16-17 years	13.08%
2021							
Cases		Length of Stay		PCCL		Age group	
Nr. Of cases	1,026,341	Short stays	30.00%	0	83.93%		
		Normal stays	67.81%	1	6.75%	28 days - 1 year	15.08%
		Long stays	2.19%	2	4.43%	4.52%	17.13%
Sex							
males	53.43%			3	3.45%	3-5 years	15.53%
females	46.56%	ALOS	3.3	4	1.11%	6-9 years	13.65%
other	0.00%	Standard deviation ALOS	6.0	5	0.20%	10-15 years	25.79%
unknown	0.01%			6	0.03%	16-17 years	12.82%
2022							
Cases		Length of Stay		PCCL		Age group	
Nr. Of cases	1,116,826	Short stays	30.61%	0	81.42%		
		Normal stays	67.34%	1	9.01%	28 days - 1 year	14.52%
		Long stays	2.05%	2	5.00%	1-2 years	16.97%
Sex							
males	54.13%			3	3.36%	3-5 years	17.29%
females	45.86%	ALOS	3.2	4	1.01%	6-9 years	14.68%
other	0.00%	Standard deviation ALOS	5.7	5	0.18%	10-15 years	24.77%
unknown	0.01%			6	0.02%	16-17 years	11.76%

Patient Clinical Complexity Level (PCCL) – A quantitative measure of the cumulative effects of patient complications/comorbidities per clinical episode

0 – No complication or comorbidity (CC) effect; 1 – Minor CC effect; 2 – Moderate CC effect; 3 – Severe CC effect; 4 – Extremely severe CC effect; 5/6 – Catastrophic CC effect

Section 3: Acute lymphoblastic leukaemia

Figure S1: % change in monthly hospital admissions and ALOS for ALL in 2020, 2021 and 2022 compared to baseline year 2019

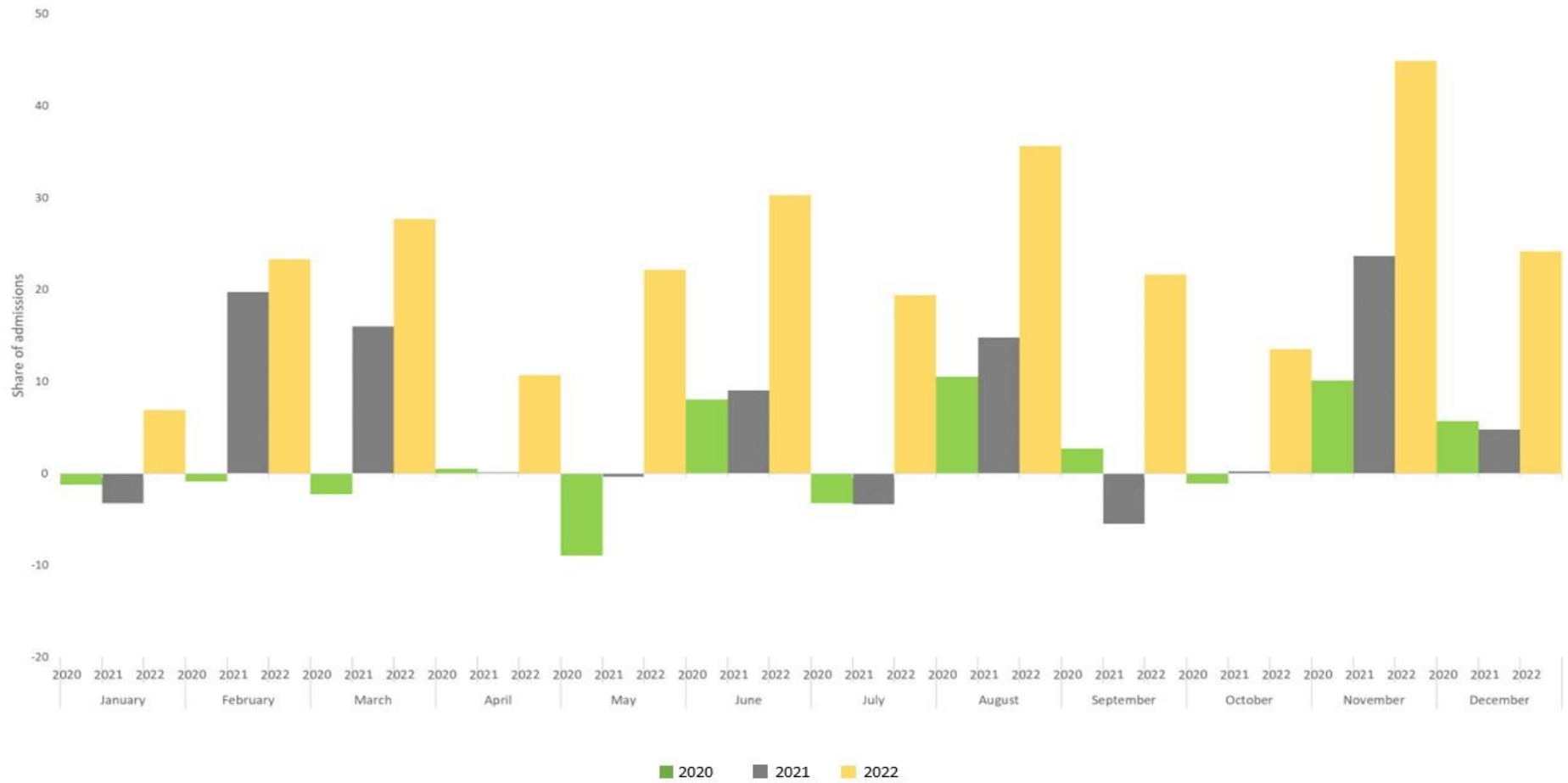


Table S3: Sex and age distribution of admitted ALL patients

		Gender		Age group					
		male	female	28 d - 1 y	1-2 y	3-5 y	6-9 y	10-15 y	16-17 y
2019									
Total	10,119	56.61%	43.39%	1.62%	14.58%	33.14%	20.87%	24.88%	4.91%
January	1,059	54.20%	45.80%	1.42%	13.69%	31.82%	20.11%	27.20%	5.76%
February	703	54.91%	45.09%	0.85%	14.94%	34.85%	20.63%	22.90%	5.83%
March	794	54.03%	45.97%	1.26%	15.24%	33.38%	19.40%	25.69%	5.04%
April	971	53.66%	46.34%	1.34%	14.32%	29.87%	22.86%	27.29%	4.33%
May	840	51.67%	48.33%	2.14%	15.36%	35.36%	19.17%	24.05%	3.93%
June	743	56.93%	43.07%	2.02%	15.88%	30.69%	21.94%	24.50%	4.98%
July	1,015	57.44%	42.56%	1.58%	15.96%	29.16%	20.99%	27.49%	4.83%
August	797	60.10%	39.90%	1.00%	15.68%	31.24%	20.95%	26.73%	4.39%
September	808	58.04%	41.96%	2.10%	14.48%	35.77%	20.67%	23.64%	3.34%
October	983	60.83%	39.17%	2.03%	15.06%	34.28%	20.96%	23.09%	4.58%
November	719	57.86%	42.14%	1.81%	12.93%	36.72%	22.11%	19.33%	7.09%
December	687	60.55%	39.45%	1.89%	10.63%	37.26%	20.67%	24.31%	5.24%
2020									
Total	10,246	58.65%	41.35%	0.61%	16.28%	35.83%	20.05%	21.16%	6.07%
January	1,046	59.18%	40.82%	0.67%	13.48%	35.18%	21.89%	23.14%	5.64%
February	697	57.53%	42.47%	1.15%	14.63%	34.43%	21.23%	22.38%	6.17%
March	776	56.44%	43.56%	0.39%	17.01%	37.63%	19.85%	18.04%	7.09%
April	976	57.79%	42.21%	1.02%	16.29%	34.53%	20.80%	21.52%	5.84%
May	765	58.56%	41.44%	1.05%	17.12%	36.73%	18.56%	21.18%	5.36%
June	803	55.92%	44.08%	0.37%	18.56%	35.12%	20.17%	20.30%	5.48%
July	982	57.33%	42.67%	0.51%	17.11%	35.95%	17.62%	21.69%	7.13%
August	881	61.98%	38.02%	0.23%	18.73%	35.75%	19.52%	20.09%	5.68%
September	830	61.69%	38.31%	0.36%	16.27%	36.14%	19.28%	20.12%	7.83%
October	972	57.20%	42.80%	0.51%	13.89%	35.39%	22.02%	22.94%	5.25%
November	792	58.84%	41.16%	0.51%	16.67%	34.72%	20.83%	21.72%	5.56%
December	726	61.57%	38.43%	0.69%	16.39%	39.12%	18.18%	19.70%	5.92%
2021									
Total	10,661	57.59%	42.41%	1.81%	17.91%	32.49%	20.34%	21.53%	5.93%
January	1,025	60.20%	39.80%	1.27%	14.34%	34.24%	21.66%	22.54%	5.95%
February	842	59.38%	40.62%	2.38%	13.42%	33.97%	21.26%	22.45%	6.53%
March	921	57.55%	42.45%	1.52%	15.96%	34.64%	21.06%	22.48%	4.34%
April	972	55.14%	44.86%	1.13%	14.71%	33.74%	19.44%	24.07%	6.89%
May	837	56.75%	43.25%	1.55%	15.89%	32.86%	21.15%	22.94%	5.62%
June	810	60.12%	39.88%	2.22%	19.51%	32.35%	20.12%	19.88%	5.93%

		Gender		Age group					
		male	female	28 d - 1 y	1-2 y	3-5 y	6-9 y	10-15 y	16-17 y
July	981	59.02%	40.98%	1.94%	19.78%	31.60%	21.00%	21.00%	4.69%
August	915	58.25%	41.75%	1.20%	18.14%	34.54%	20.33%	21.09%	4.70%
September	764	57.72%	42.28%	1.96%	21.73%	30.37%	19.50%	21.86%	4.58%
October	985	57.06%	42.94%	2.34%	21.12%	29.54%	19.90%	19.29%	7.82%
November	889	55.34%	44.66%	2.59%	20.25%	31.38%	18.34%	20.02%	7.42%
December	720	53.89%	46.11%	1.81%	21.39%	29.86%	20.00%	20.42%	6.53%
2022									
Total	12,369	57.26%	42.74%	0.70%	19.44%	32.25%	20.62%	21.76%	5.24%
January	1,132	57.24%	42.76%	1.50%	26.50%	26.86%	21.02%	18.46%	5.65%
February	867	52.71%	47.29%	1.27%	27.34%	25.49%	23.99%	17.88%	4.04%
March	1,014	53.55%	46.45%	0.89%	23.57%	29.29%	24.56%	16.77%	4.93%
April	1,075	57.86%	42.14%	0.65%	20.93%	31.26%	22.60%	19.35%	5.21%
May	1,026	54.78%	45.22%	0.97%	21.83%	30.41%	19.79%	23.10%	3.90%
June	968	58.47%	41.53%	0.21%	18.80%	34.50%	18.18%	22.62%	5.68%
July	1,212	59.49%	40.51%	0.17%	16.25%	35.15%	19.39%	23.18%	5.86%
August	1,081	60.41%	39.59%	0.37%	16.56%	34.41%	20.26%	22.48%	5.92%
September	983	59.00%	41.00%	0.61%	14.95%	35.91%	19.53%	23.19%	5.80%
October	1,116	57.97%	42.03%	0.45%	16.04%	34.50%	17.83%	25.90%	5.29%
November	1,042	58.35%	41.65%	0.67%	14.68%	34.36%	20.35%	24.57%	5.37%
December	853	55.80%	44.20%	0.82%	16.65%	34.11%	20.63%	22.98%	4.81%

Figure S2: ALL Patient Clinical Complexity Level (PCCL) from January 2019 to December 2022

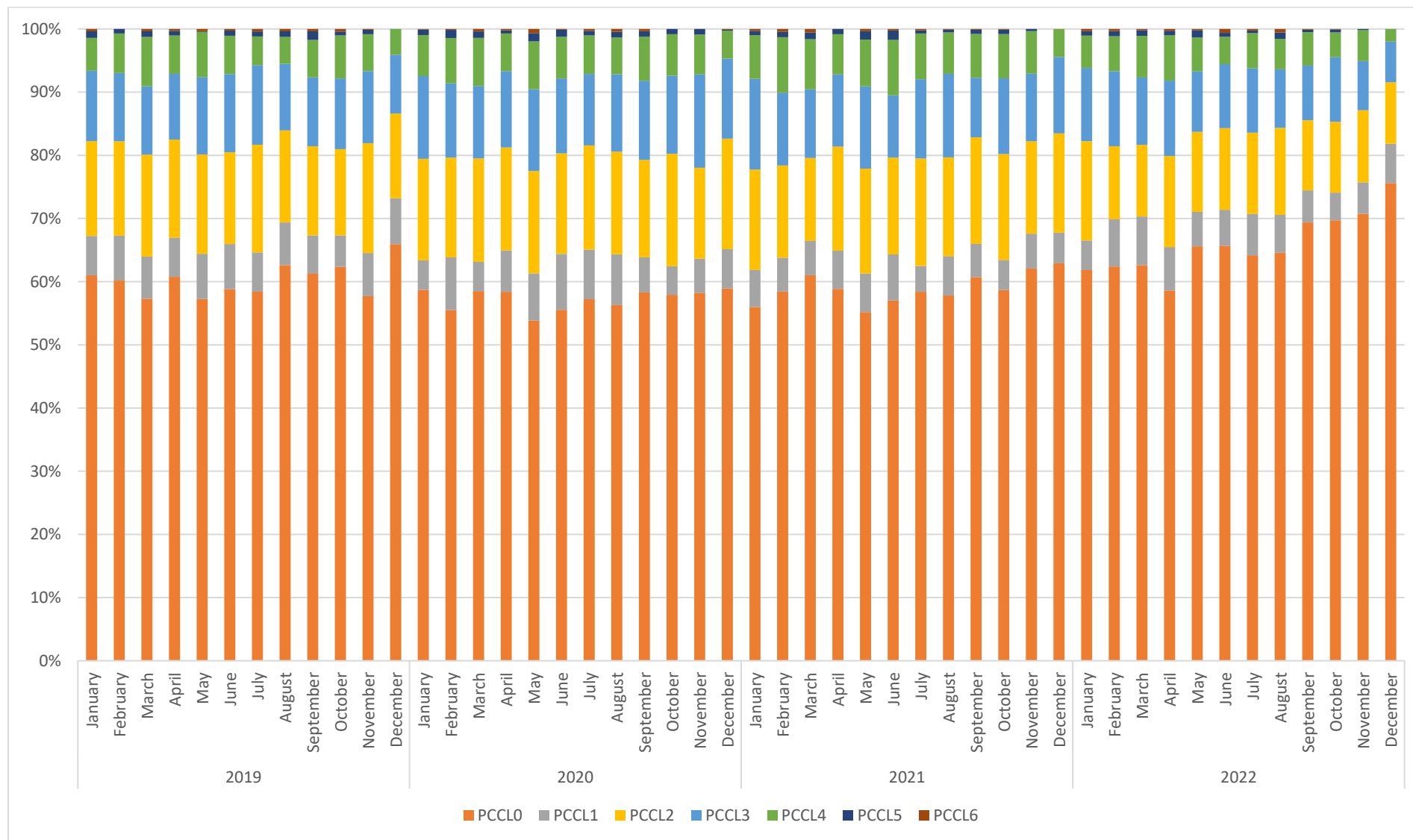


Figure S3: Number of ALL (C91.00) admissions by hospital size

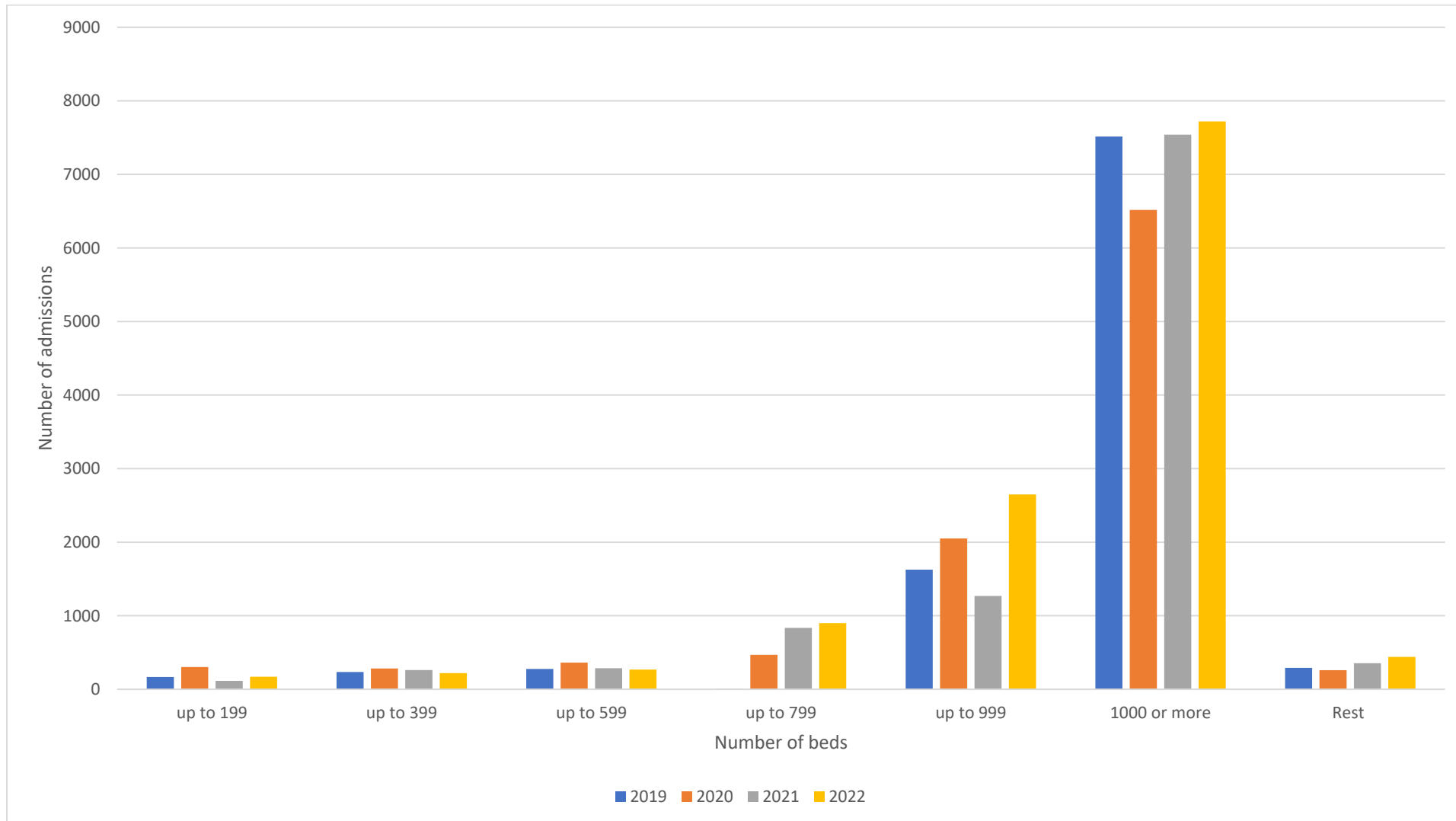
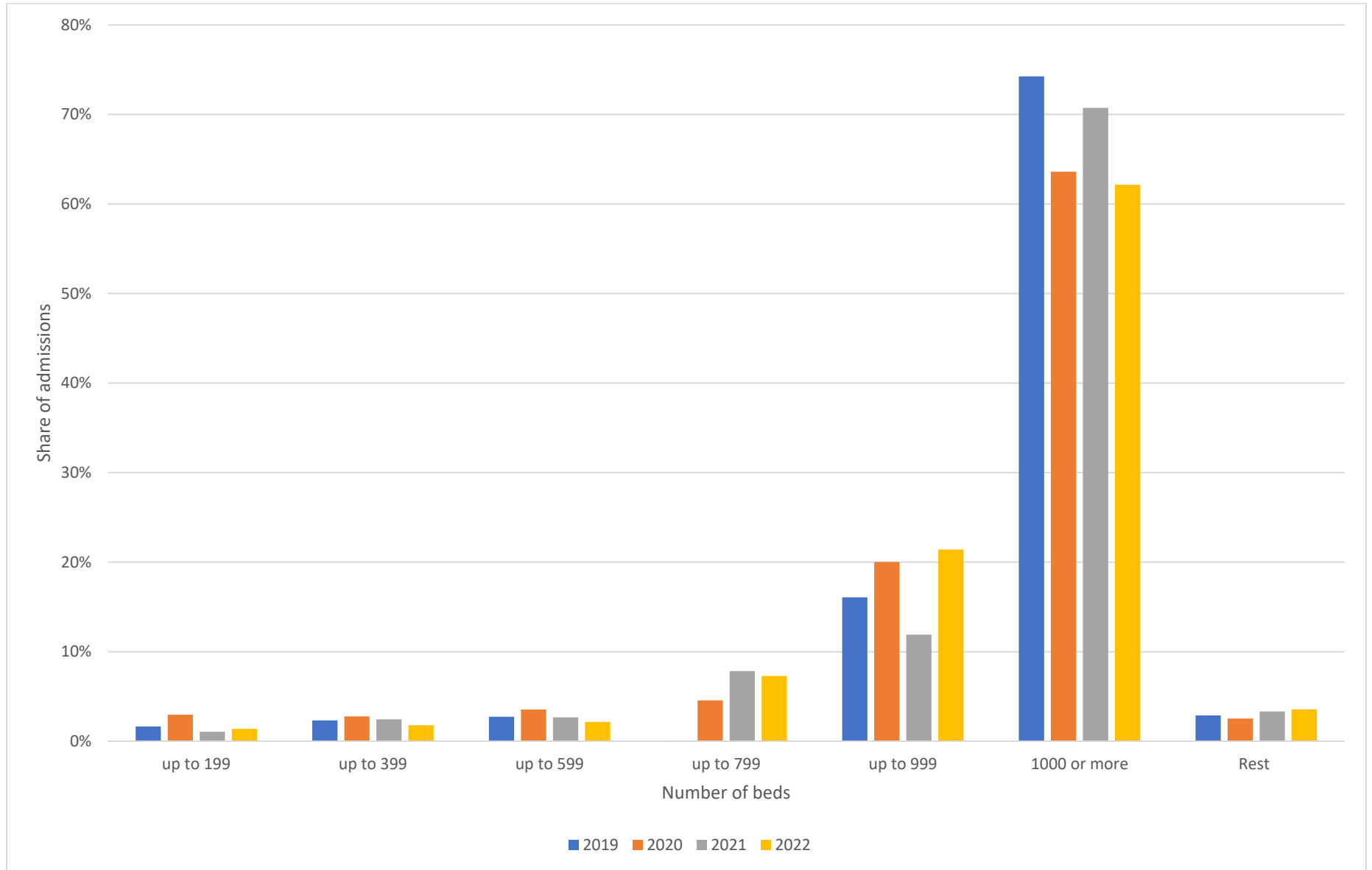


Figure S4: Share of ALL (C91.00) admissions by hospital size



Section 4: Appendicitis/Appendectomy

Figure S5: Relative (%) change in monthly admissions compared to 2019 by level of complication, 2020-2022

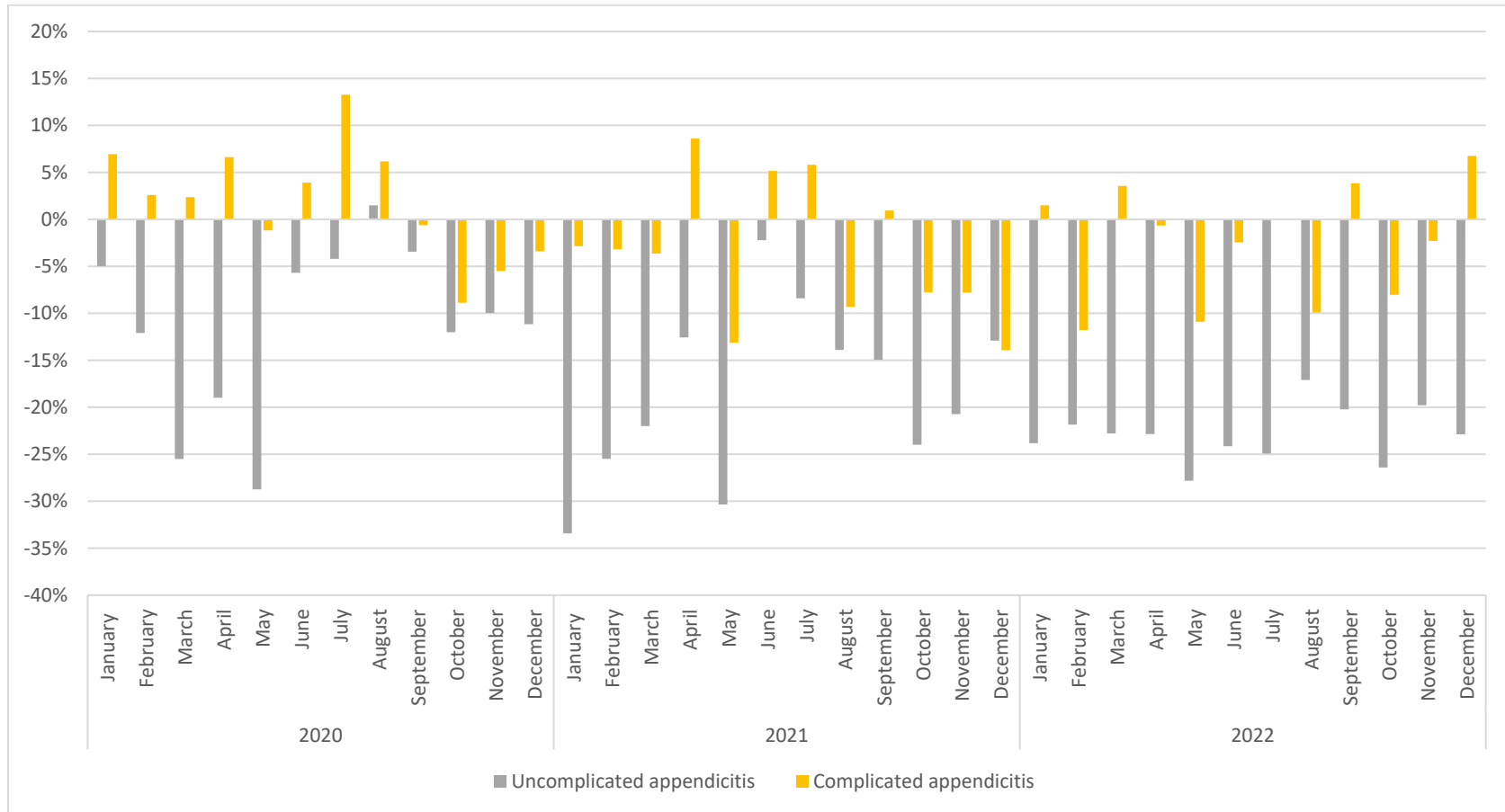


Figure S6: Number of Appendicitis admissions by hospital size

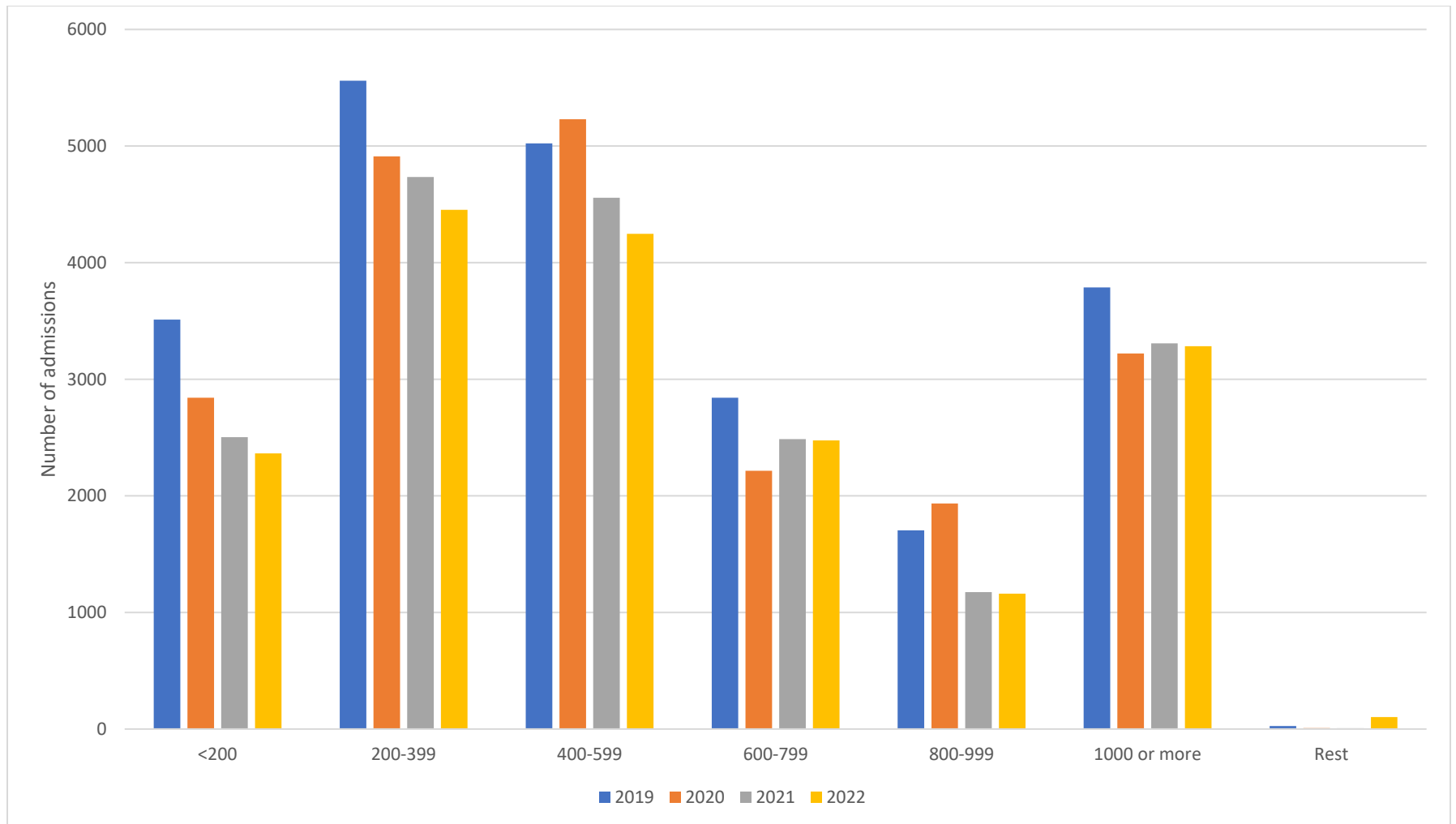
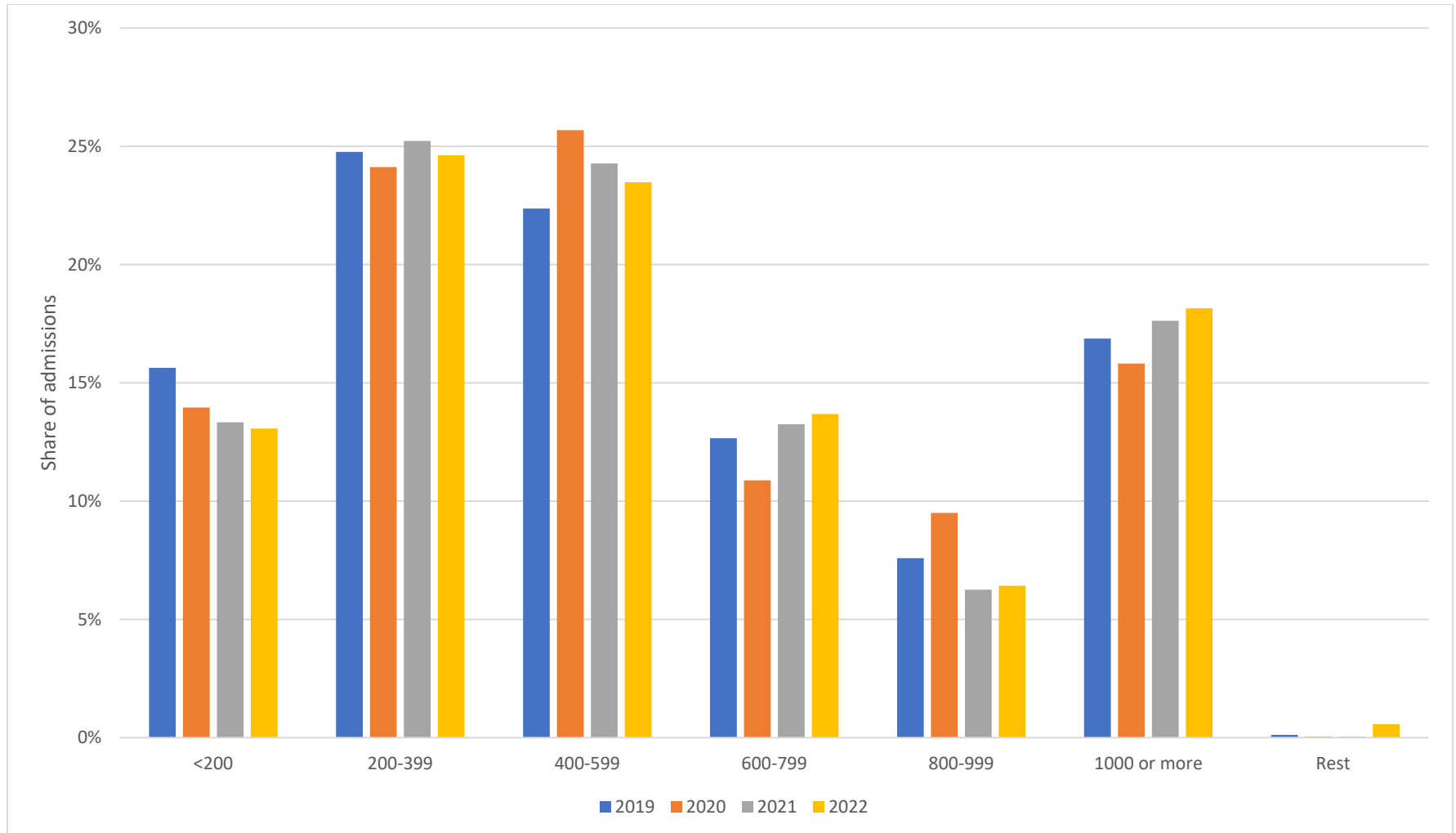


Figure S7: Share of appendicitis admissions by hospital size



Section 5: Tonsillectomy/Adenoidectomy

Figure S8: Monthly relative (%) change in admissions who underwent tonsillectomy/adenoidectomy compared to 2019, 2020-2022

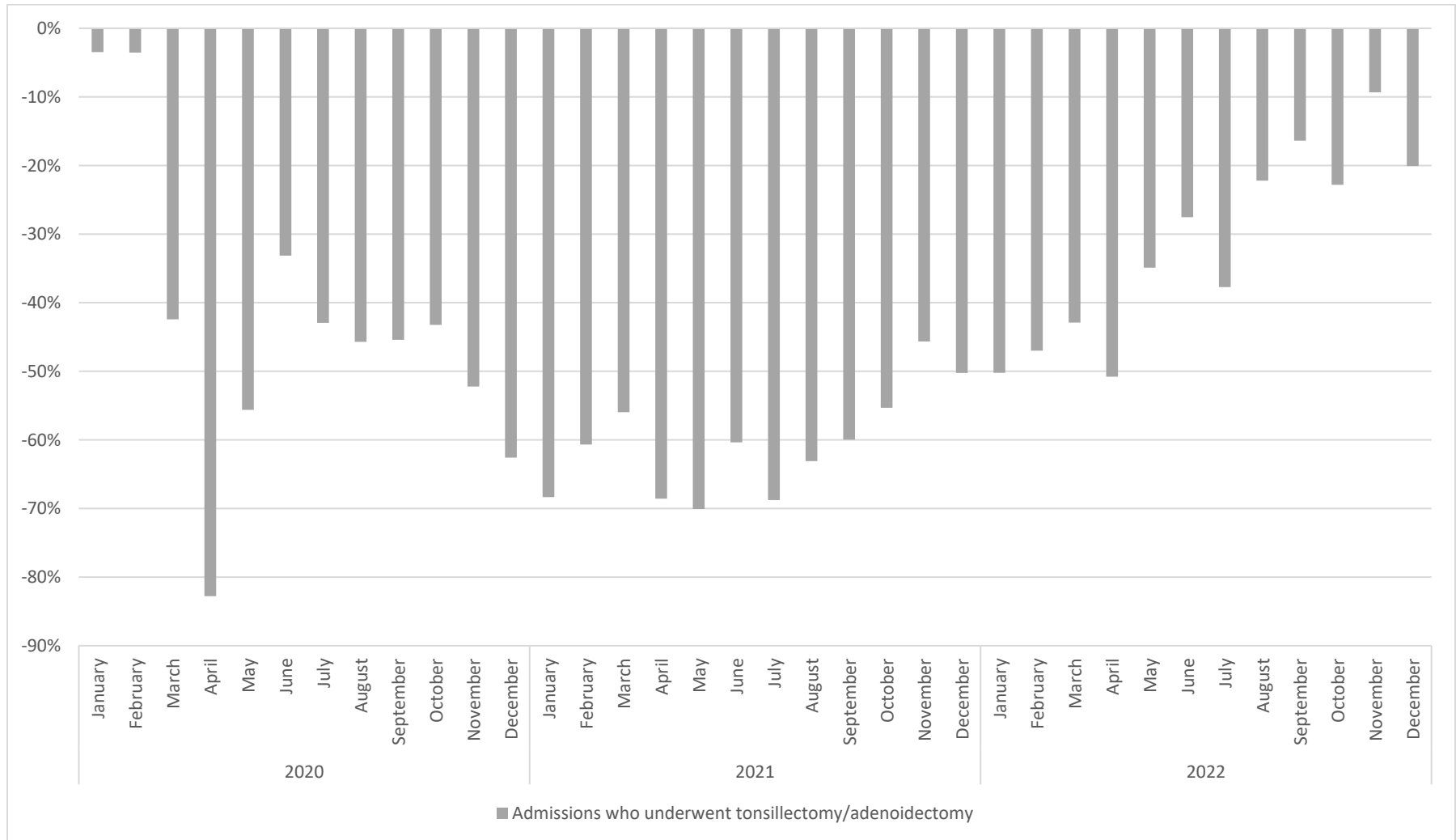


Figure S9: Number of tonsillectomy/adenoidectomy procedures by hospital size

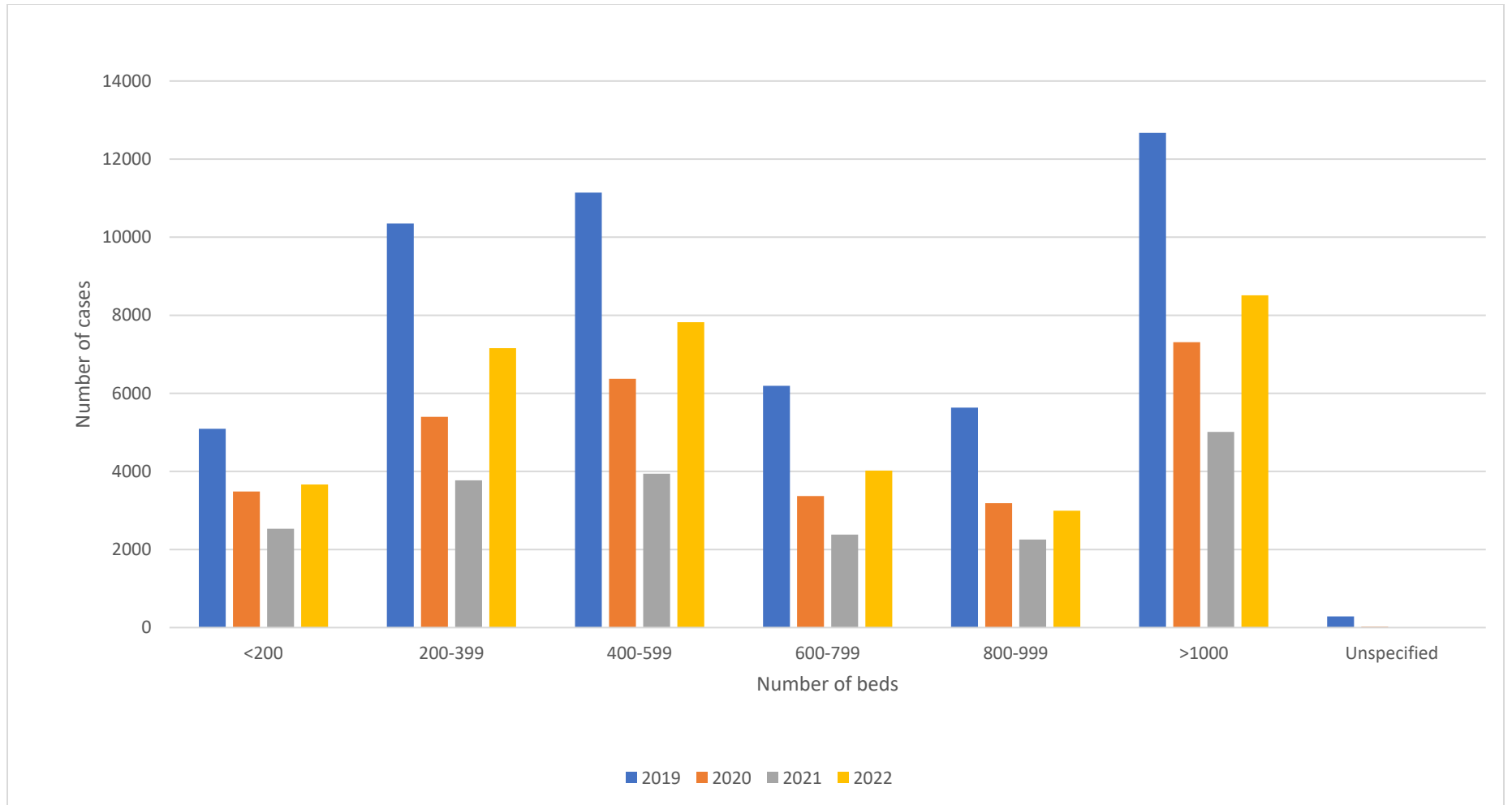


Figure S10: Share of tonsillectomy/adenoidectomy procedures by hospital size

