Supplementary Appendix

Ongoing disruption of RSV epidemiology in children in Switzerland

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Supplementary table 1

Hospital	Hospital type	Testing strategy	Age group tested	Test modality	Sentinella region
Geneva University Hospital	Tertiary care hospital	Inpatient only (targeted)	0-16 years	PCR, Antigen	1
Lausanne University Hospital	Tertiary care hospital	Inpatient only (targeted)	0-18 years	PCR	1
Reseau hospitalier neuchatelois	Regional hospital	Inpatient only (targeted)	0-16 years	PCR	1
Hopital du Valais and Hopital Riviera-Chablais	Regional hospital and local hospital	In- and outpatient (targeted)	0-16 years	PCR	1
University Hospital Bern	Tertiary care hospital	Inpatient only (untargeted)	0-16 years	PCR, Antigen	2
Kinderklinik Wildermeth am Spitalzentrum Biel	Regional hospital	Inpatient only (untargeted)	0-16 years	PCR	2
Fribourg Hospital HFR	Regional hospital	Inpatient only (targeted)	0-16 years	PCR	2
Cantonal Hospital Aarau	Regional hospital	April–September: in- and outpatient (targeted). October–March: inpatient only (untargeted)	0-18 years	PCR, Antigen	3
Cantonal Hospital of Baden	Regional hospital	In- and outpatient (targeted)	0-16 years	PCR, Antigen	3
University Children's Hospital Basel	Tertiary care hospital	In- and outpatient (untargeted)	0-16 years	PCR	3
Children's Hospital of Central Switzerland, Lucerne	Tertiary care hospital	Inpatient only (targeted and untargeted)	0-16 years	PCR, Antigen	4
Cantonal Hospital Muensterlingen	Regional hospital	Inpatient only (untargeted)	0-16 years	PCR	5
Children's Hospital of Eastern Switzerland	Tertiary care hospital	Inpatient only (targeted)	0-16 years	PCR	5
Cantonal hospital of Winterthur	Regional hospital	In- and outpatient (targeted)	0-16 years	PCR	5
University Children's Hospital Zurich	Tertiary care hospital	Inpatient only (untargeted)	0-16 years	PCR	5
Triemli Hospital Zurich	Regional hospital	In- and outpatient (targeted)	0-16 years	PCR	5
Cantonal Hospital of Graubuenden	Regional hospital	Inpatient only (untargeted)	0-16 years	PCR	6
Istituto Pediatrico della Svizzera Italiana (Locarno, Bellinzona, Lugano, Mendrisio), Ente Ospedaliero Cantonale	Regional hospitals	Inpatient only, occasionally outpatient (targeted)	0-16 years	PCR, Antigen	6

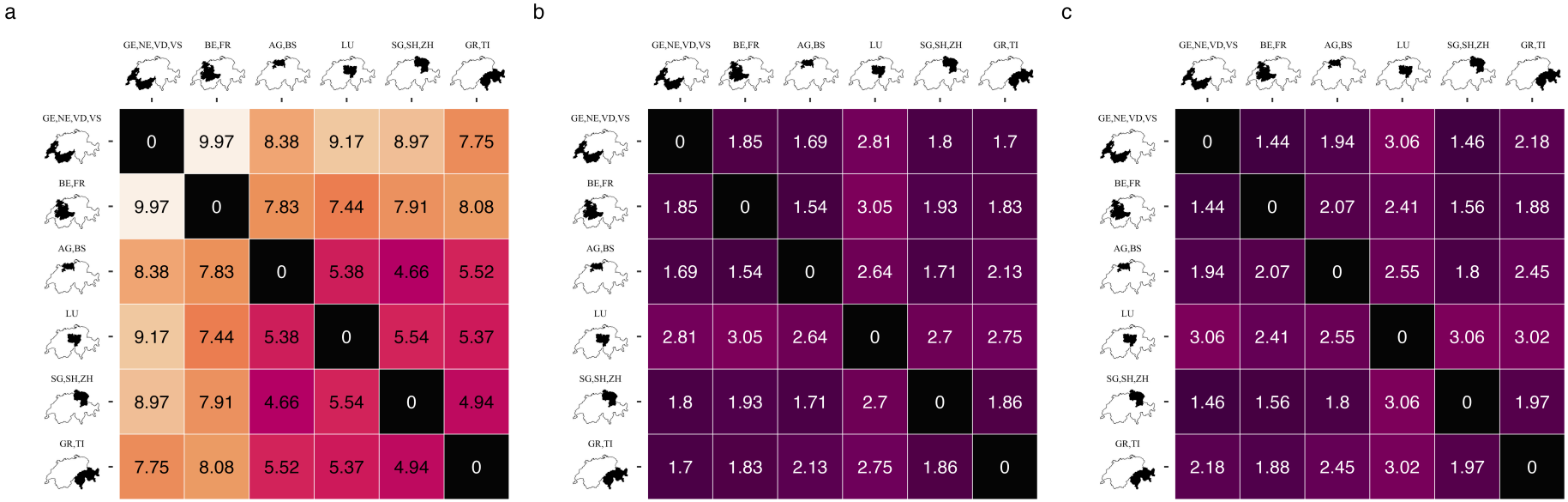
Characteristics of hospitals participating in RSVEpiCH and their strategy for RSV testing. PCR=polymerase chain reaction; Antigen=RSV rapid antigen test or direct immunofluorescence.

Supplementary table 2

Period	0-11 months	12-23 months	2-18 years
2021/2022 pandemic period	3019 (58.5%)	1085 (21%)	1056 (20.5%)
2022/2023 winter season	3223 (61.5%)	913 (17.4%)	1106 (21.1%)
2023/2024 winter season	2667 (57.1%)	868 (18.6%)	1136 (24.3%)

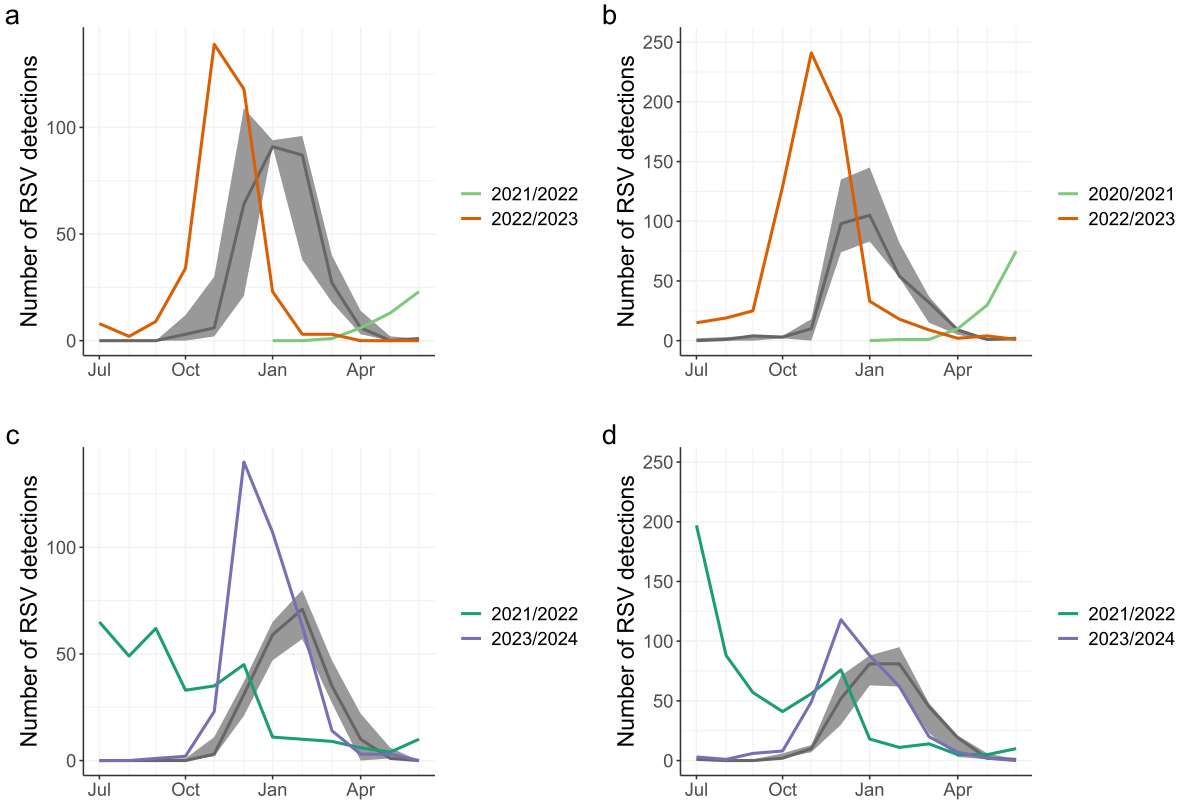
Age distribution of children with RSV in Switzerland, stratified by season. Age distribution varied significantly between the three time periods ($p < 0.001$ from Pearson χ^2-test for all three time periods combined, $p < 0.001$ for the comparison 2021/2022 pandemic period vs. 2022/2023 winter season, $p < 0.001$ for the comparison 2021/2022 pandemic period vs 2023/2024 winter season, and $p < 0.001$ for the comparsion 2022/2023 winter season vs 2023/2024 winter season).

Supplementary figure 1



Heatmap of the pairwise similarity of the scaled time series of RSV detection in the 6 respiratory virus reporting regions in Switzerland for (a) the 2021/2022 pandemic period, (b) the 2022/2023 winter season, and (c) the 2023/2024 winter season. Similarity was measured by calculating the "distance" between time series using Dynamic Time Warping algorithm. Distance scores for the comparison of two time series are shown in the respective cell. Higher distance scores (light colours) indicate time series are more dissimilar while lower distance scores (dark colours) indicate time series are more similar. Panel (a) demonstrates that during the 2021/2022 pandemic period scaled time series of RSV detection in the northern, eastern and south-eastern regions of Switzerland clustered closer together compared to the western parts of Switzerland. Panels (b) and (c), in contrast, show RSV detection time series of all 6 regions of Switzerland were more similar during the 2022/2023 and 2023/2024 winter seasons compared to the 2021/2022 pandemic period.

Supplementary figure 2



Monthly number of RSV detections in children in the University Hospitals Bern and Zurich by season strength, July 2014 - June 2024.
Data are shown for winter seasons starting in even-numbered years (strong seasons) for Bern (a) and Zurich (b) and winter seasons starting in odd-numbered years (weak seasons) for Bern (c) and Zurich (d) respectively. The light green line denotes the number of RSV detections from 4th January 2021 until 4th July 2021 (2021/2022 pandemic period), the dark green line from 5th July 2021 until 3rd July 2022 (2021/2022 pandemic period), the orange line the 2022/2023 winter season, and the violet line the 2023/2024 winter season. Historical data are shown in grey. The dark grey line indicates the median number, the light grey ribbon the minimum and maximum number of RSV detections by month for 2014/2015, 2016/2017, and 2018/2019 (strong seasons) and 2015/2016, 2017/2018, and 2019/2020 (weak seasons).

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