Leveraging a Multi-Country Real-World Data Observatory to Monitor Respiratory Tract Infections and Evaluate Public Health Interventions in Europe

#RWD116

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Introduction & Knowledge gap

Respiratory Tract Infections (RTIs) remain a major public health concern, shaped by seasonal trends, emerging pathogens, and shifting vaccination strategies. Clinical trials offer insights but fall short of reflecting real-world infection patterns, vaccine uptake, treatment use, and healthcare resource utilization (HCRU). To address this gap, the **LOGEX RTI Observatory** is a **pan-European** initiative that combines **real-world clinical data** with microbiology laboratory data to support evidence-based decision-making in the management RTIs, including **RSV, influenza virus, SARS-CoV-2, hMPV, and PIV**.

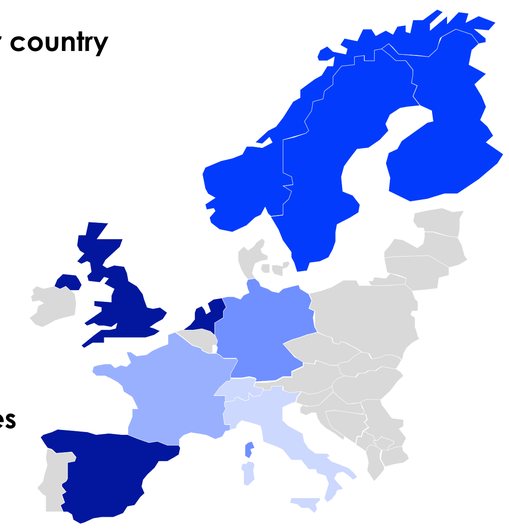
Conclusions

The **LOGEX RTI-Observatory** highlights the potential of **integrated, multi-country** real-world data to effectively monitor infectious disease trends and assess public health interventions. Its scalable **infrastructure** and timely data accessibility establish it as a valuable resource for a broad range of stakeholders involved **in healthcare decision-making and policy development**.

Methods

Partner hospitals: European coverage

5-10 hospitals per country



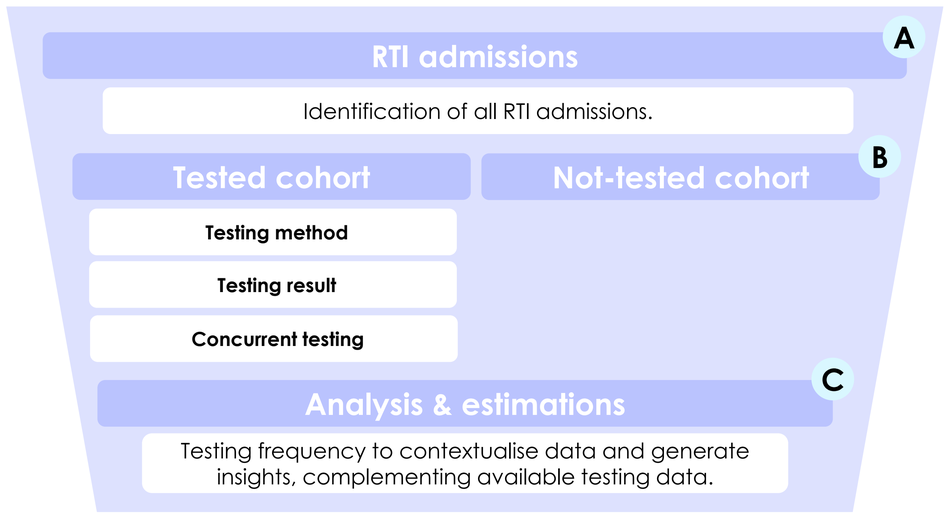
Shades of blue show country's coverage and speed of action, with darker shades indicating higher levels of both.

ICD-10 coding and microbiology data

A. **RTI admissions.** ICD-10 medical coding data is used to identify patient admissions due to RTIs.

B. **Testing.** RTI patients are segmented into tested and untested cohorts, with microbiology data identifying specific pathogens

C. **Estimations.** Additional data sources are incorporated to support the analysis, enable estimations, and enhance the generation of actionable insights.



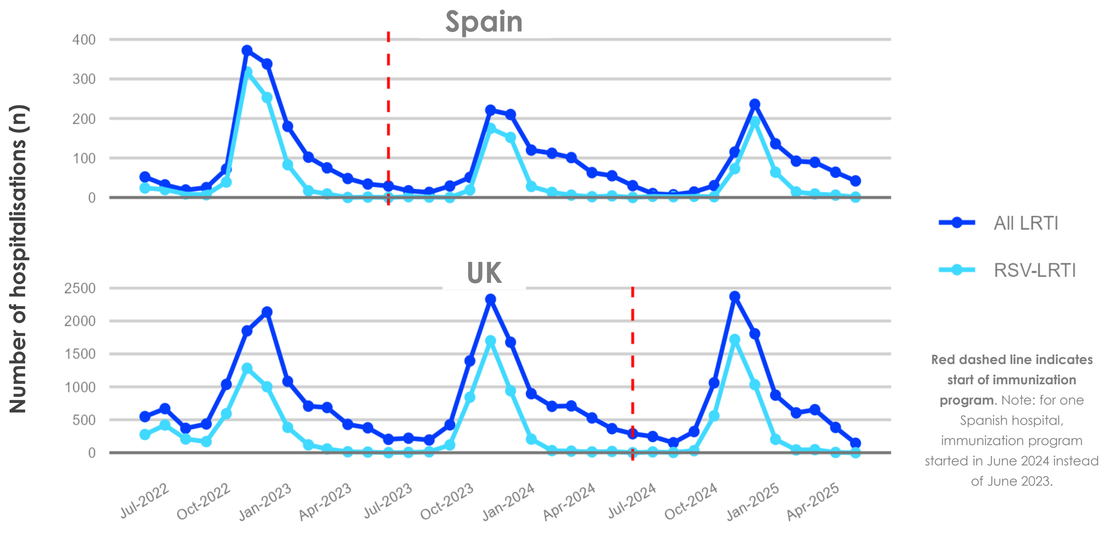
Data capabilities

- Started in 2021, updated monthly
- Retrospective hospital data, no extra burden

- Respiratory Syncytial Virus (RSV)
- Influenza virus
- Human Metapneumovirus (hMPV)
- Parainfluenza Virus (PIV)
- *Streptococcus pneumoniae*
- SARS-CoV-2
- Adenovirus
- Rhinovirus

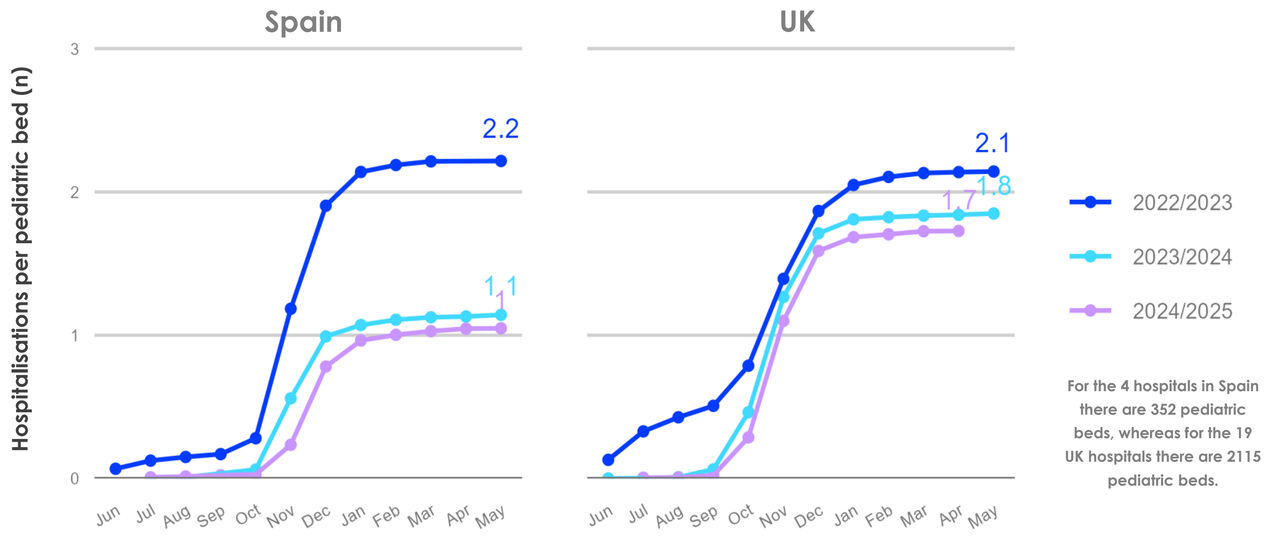
Real-World insights into clinical impact of RTI

A) Total number of RSV hospitalisations per country (paediatric)



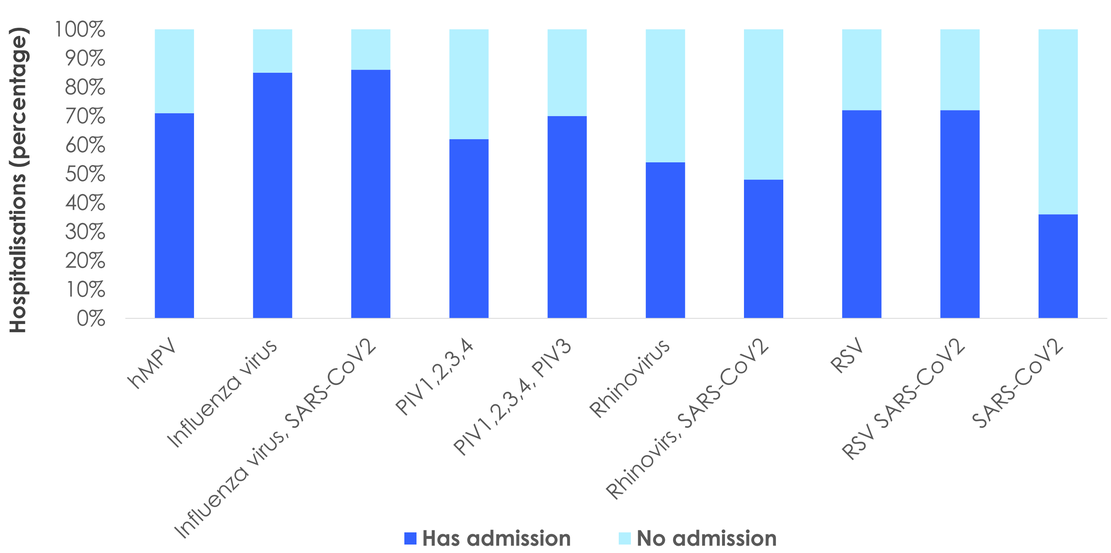
Red dashed line indicates start of immunization program. Note: for one Spanish hospital, immunization program started in June 2024 instead of June 2023.

B) Cumulative number hospital bed occupation (paediatric)

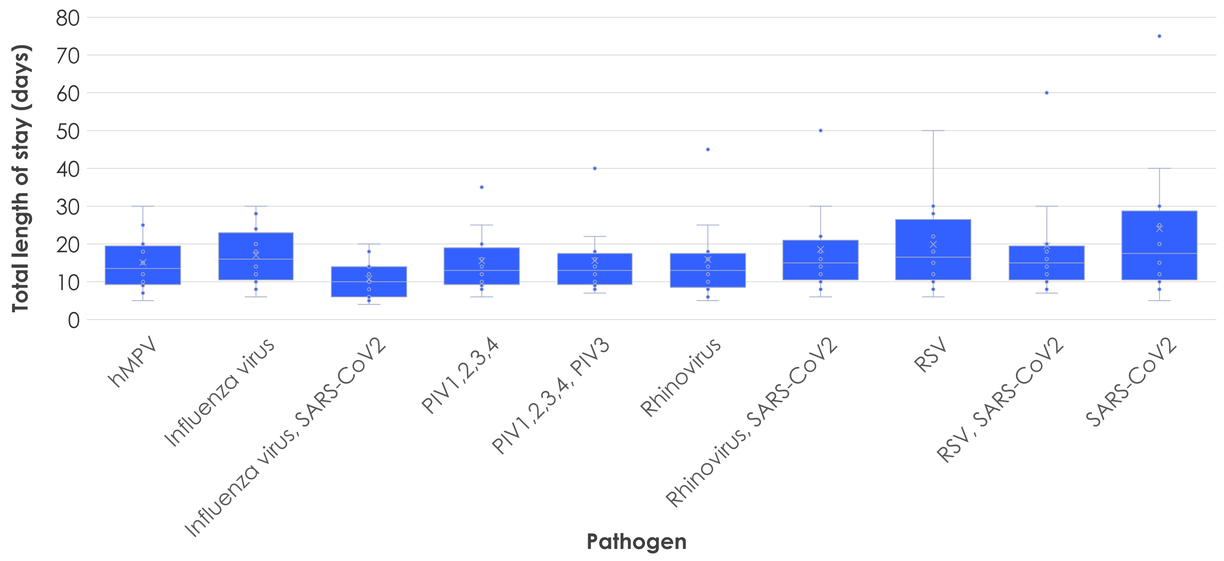


For the 4 hospitals in Spain there are 352 pediatric beds, whereas for the 19 UK hospitals there are 2115 pediatric beds.

C) Hospitalisations for different pathogens (all ages)



D) Hospitalisation length of stay per pathogen (all ages)



Figures show example insights from the real-world data in the RTI Observatory. **A)** Line chart representing LRTI and RSV related hospitalisations in children up to 24 months per country from June 2022 till May 2025. **B)** Line chart presents RSV-associated bed occupancy per country for three seasons. *Figure A-B were presented at ESPID 2025 (OP060/#2393)*. **C)** Stacked bar chart describing percentage of hospitalisations per pathogen for patient groups of all ages. **D)** Box and whisker chart shows hospital length of stay. *C-D are "data on file"*.

LOGEX

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