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GIHSN ANNUAL ACHIEVEMENTS & RESULTS 2024-2025

ON-LINE MEETING, 27 NOVEMBER 2025



**Foundation for
Influenza
Epidemiology**

Sous l'égide de

**Fondation
de
France**

WELCOME!



AGENDA

Time CET	Topics	
12:30	Quick introduction and objective of the meeting	C Mahe
12:35	GIHSN main achievements 2024-25 & Sites 2025-26	L Torcel-Pagnon
12:50	GIHSN data report 2024-25	C Commaille
13:10	Focus #1: Screening strategy <i>Presentation & discussion</i>	S Chaves & All
13:25	Focus #2: WGS scale-up <i>Presentation & discussion</i>	L Torcel-Pagnon & All
13:40	Focus #3: Weekly dashboard -Timeliness of data sharing <i>Presentation & discussion</i>	C Commaille & All
13:55	Conclusion	C Mahe
14:00	End of meeting	



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QUICK INTRODUCTION & OBJECTIVE OF THE MEETING

Cedric MAHE, President, Foundation for Influenza Epidemiology



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MAIN ACHIEVEMENTS 2024-25 & SITE SELECTION 2025-26

Laurence TORCEL-PAGNON, Executive officer, Foundation for Influenza Epidemiology



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GIHSN LATEST PROGRESSES

FIE 2024-25 goals & achievements:

- ✓ **Expand the GIHSN surveillance (sites, viruses)**
8 new participating sites (South America, AsiaPac & Africa)
All sites doing Flu, SARS-COV2 & RSV
- ✓ **Foster timely data sharing**
Progress in monthly updates and good pilot of weekly report
- ✓ **Scale up WGS capacities**
+2 sites doing WGS locally (Brazil & Peru), more WGS results
- ✓ **Increase GIHSN data visibility**
Dashboard, LinkedIn post

FIE goals for 2025-26 season:

- **Strengthen the GIHSN network**
- **Launch weekly reporting on GIHSN website**
- **Increase WGS volume for sites in capacities**
- **Seek for joint project/funds**
- **Increase collaboration on strain selection process**



SITES FOR 2025-26 SEASON: ON GOING PROCESS



- Selected sites
- Under discussion
- x Number of hospitals per site
- ★ National Influenza Center (NIC)
- ★ Close collaboration with NIC
- Hospital location



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DATA REPORT 2024-2025

Catherine COMMAILLE-CHAPUS, Coordination & Data Management

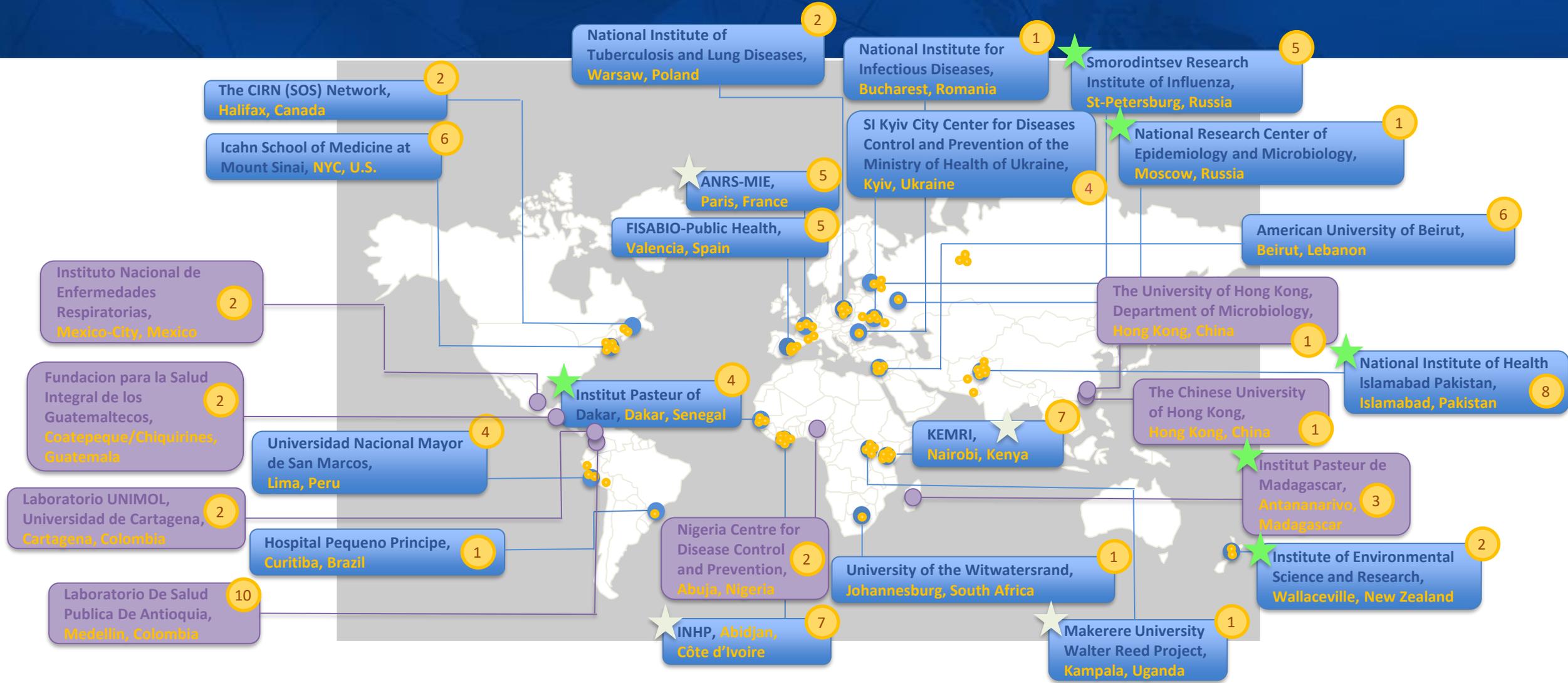


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27 SITES IN 24 COUNTRIES PARTICIPATED IN THE GIHSN IN 2024-2025



- Sites already in GIHSN 2023-24
- New sites (2024-25)
- Number of hospitals per site
- ★ National Influenza Center (NIC)
- ★ Close collaboration with NIC
- Hospital location

SCOPE OF VIRUSES TESTED BY SITE 2024-25 (1/2)

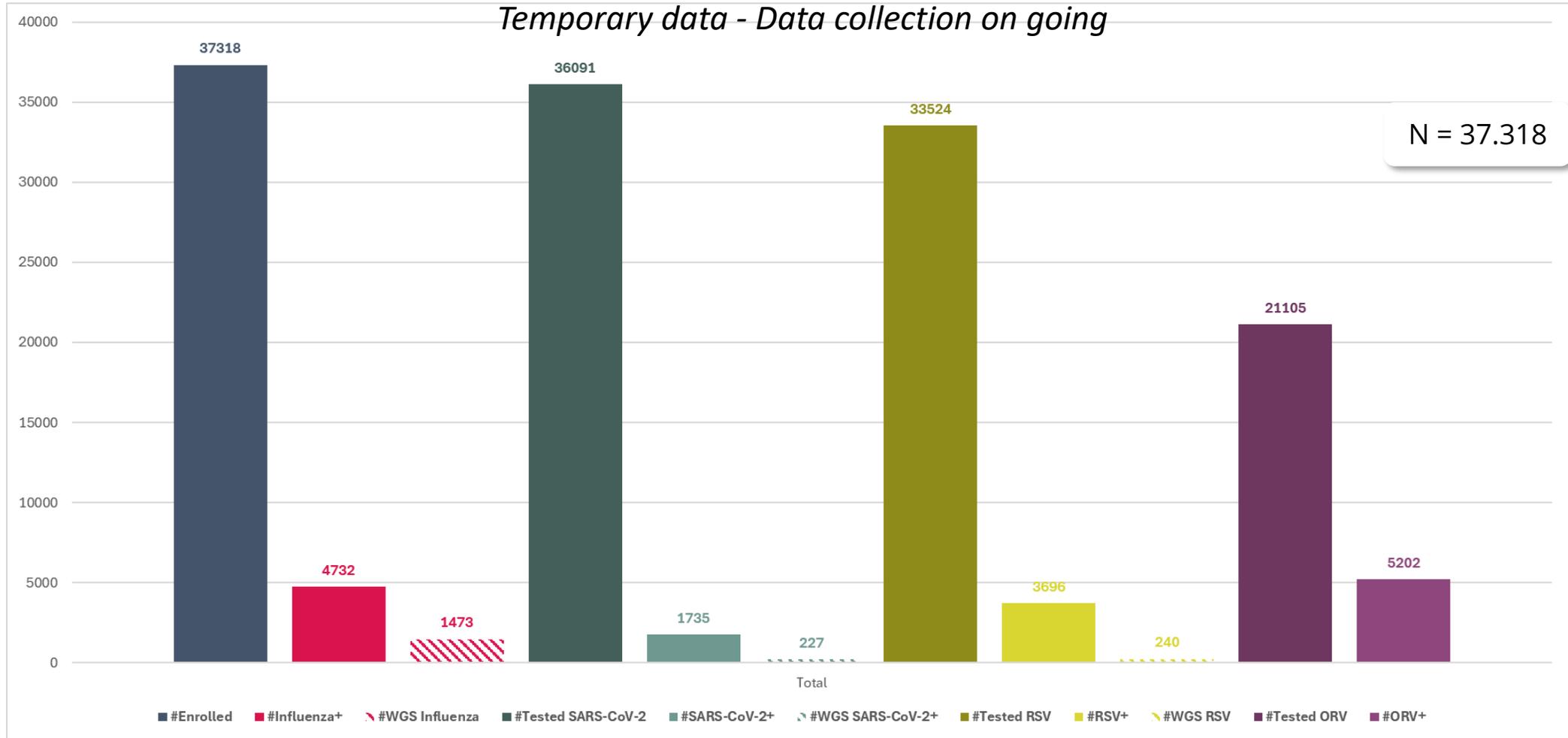
Country	Site/Institution	Influenza	SARS-CoV-2	RSV	AdV	HBoV	HCoV	EV	EV-D68	RhV	EV/RhV	MERS-CoV	HMPV	HPIV	PV	SARS-CoV	ORV
Africa																	
Côte d'Ivoire	Institut National d'Hygiène Publique (INHP), Abidjan	█	█	█	█								█			█	
Kenya	Kenya Medical Research Institute (KEMRI), Nairobi	█	█	█													
Madagascar !New!	Institut Pasteur de Madagascar, Antananarivo	█	█	█						█			█				
Senegal	Institut Pasteur of Dakar (IPD), Dakar	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
South Africa	University of the Witwatersrand, Johannesburg	█	█	█	█			█		█	█		█	█			
Uganda	University of the Witwatersrand, Johannesburg	█	█	█	█	█	█	█		█		█	█	█			
Asia/Pacific																	
China !New!	The University of Hong Kong, Department of Microbiology, Hong Kong	█	█	█	█		█	█		█	█	█	█	█			
China !New!	The Chinese University of Hong Kong	█	█	█	█						█		█	█			
New Zealand	Institute of Environmental Science and Research, Wallaceville	█	█	█	█			█		█			█	█			
Pakistan	National institute of health Islamabad Pakistan	█	█	█	█	█	█	█		█		█	█	█	█	█	█
Middle East																	
Lebanon	American University of Beirut, Beirut	█	█	█	█		█	█		█	█	█	█	█			



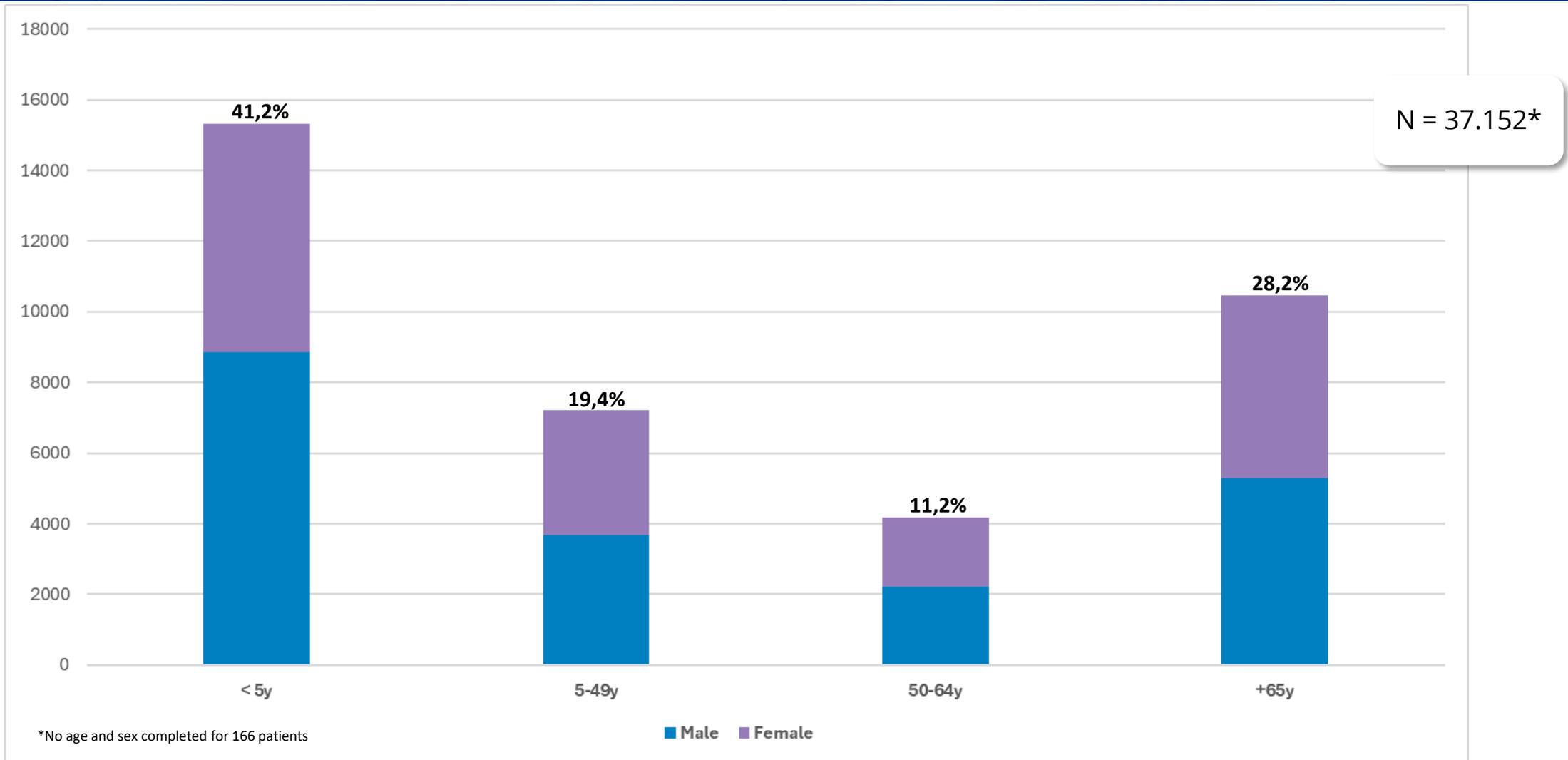
SCOPE OF VIRUSES TESTED BY SITE 2024-25 (2/2)

Country	Site/Institution	Influenza	SARS-CoV-2	RSV	AdV	HBoV	HCoV	EV	EV-D68	RhV	EV/RhV	MERS-CoV	HMPV	HPV	PV	SARS-CoV	ORV	
Eurasia																		
France	ANRS-MIE, Paris	█	█	█	█	█	█	█		█		█	█	█	█			█
Poland	The National Institute of Tuberculosis and Lung Diseases, Warsaw	█	█	█		█												
Romania	National Institute for Infectious Diseases "Prof. Dr. Matei Bals", Bucharest	█	█	█	█	█	█	█		█	█	█	█	█	█	█		█
Russia - Moscow	FSBI "N.F. Gamaleya NRCEM" Ministry of Health, Moscow	█	█	█	█	█	█			█			█	█				█
Spain	FISABIO, Valencia	█	█	█	█	█	█				█		█	█				
Ukraine	SI Kyiv City Center for Diseases Control and Prevention of the Ministry of Health of Ukraine, Kyiv	█	█	█	█					█			█	█				
North America																		
Canada	The CIRN Serious Outcomes Surveillance (SOS) Network, Halifax	█	█	█														
USA	Icahn School of Medicine at Mount Sinai, NYC	█	█	█	█		█	█			█		█	█				█
South America																		
Brazil	Hospital Pequeno Principe, Curitiba	█	█	█	█	█	█	█	█	█		█	█	█		█		
Colombia !New!	Laboratorio de Salud Publica de Antioquia, Medellin	█	█	█	█	█	█	█		█	█		█	█	█	█		
Colombia !New!	Laboratorio UNIMOL, Universidad de Cartagena, Cartagena de Indias	█	█	█									█					
Guatemala !New!	Fundacion para la Salud Integral de los Guatemaltecos, Coatepeque/Chiquirines	█	█	█	█		█	█			█		█	█				█
Mexico !New!	Instituto Nacional de Enfermedades Respiratorias, Mexico City	█	█	█	█	█	█	█		█	█		█	█				
Peru	Instituto de Medicina Tropical, Lima	█	█	█	█								█					█

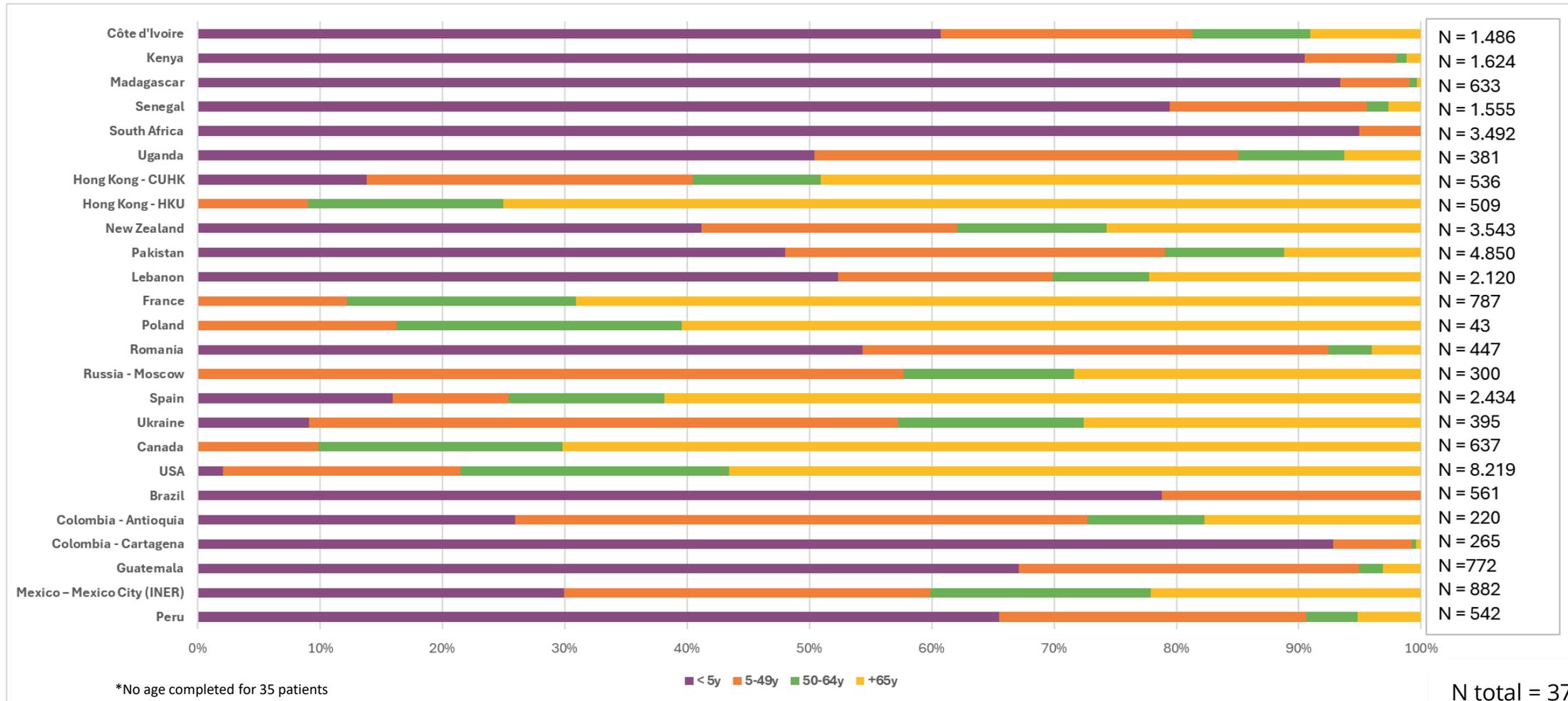
OVERALL NB OF PATIENTS ENROLLED AND POSITIVE CASES OF INFLUENZA, SARS-COV2, RSV AND ORV (2024-25) (#) (AS OF NOVEMBER 25TH, 2025)



DISTRIBUTION OF PATIENTS ENROLLED BY AGE GROUP AND SEX – ALL SITES (2024-25) (AS OF NOVEMBER 25TH, 2025)

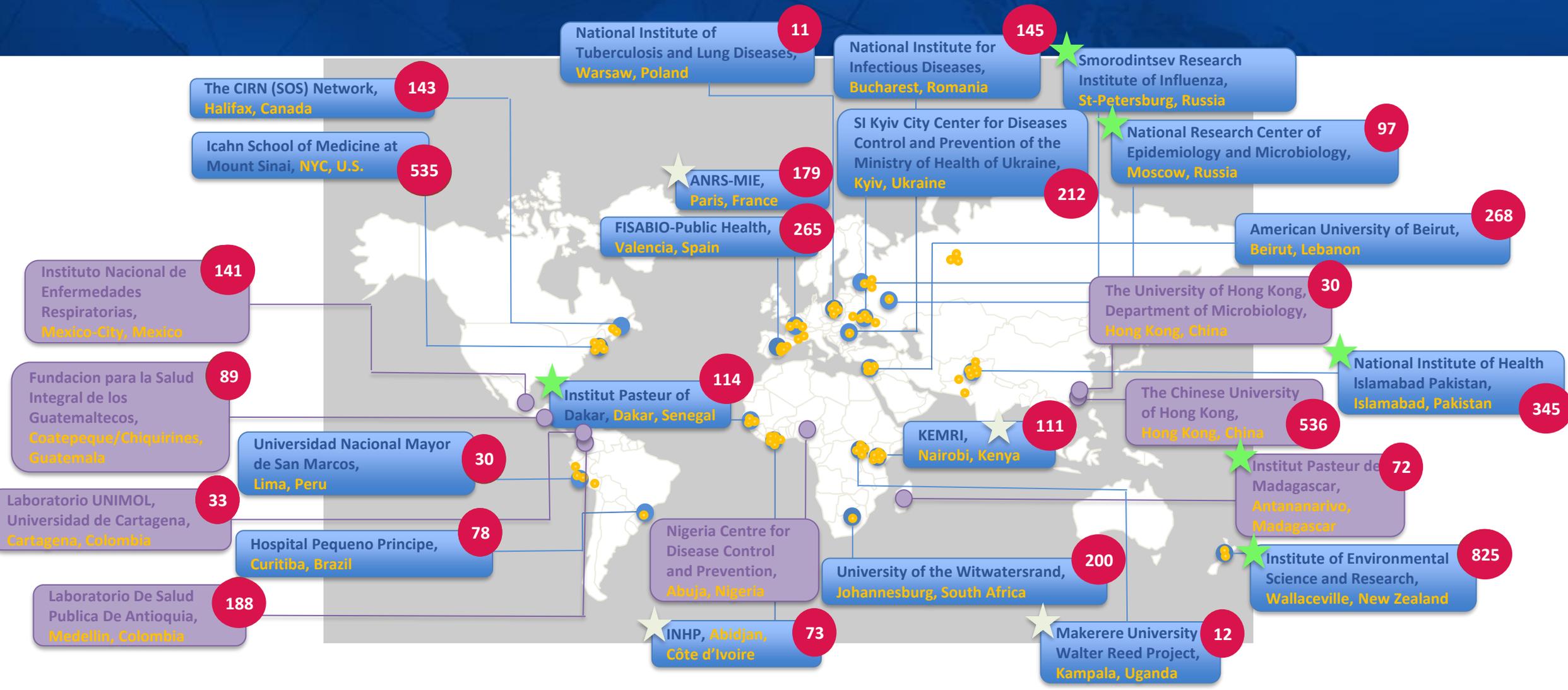


DISTRIBUTION OF PATIENTS ENROLLED BY AGE GROUP – BY SITE (2024-25) (AS OF NOVEMBER 25TH, 2025)



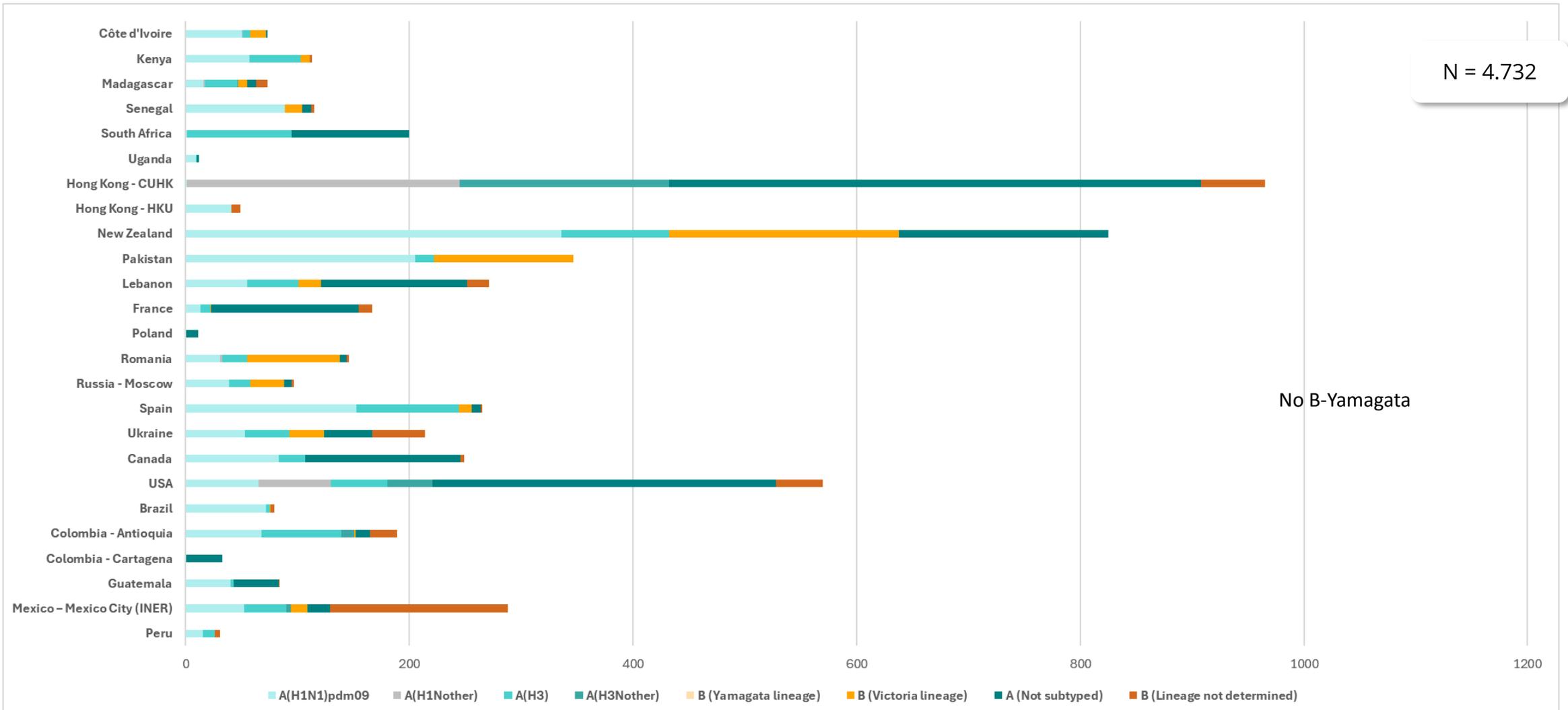
N total = 37.283*

4.732 FLU POSITIVE CASES COLLECTED IN 2024-2025 (TO DATE)

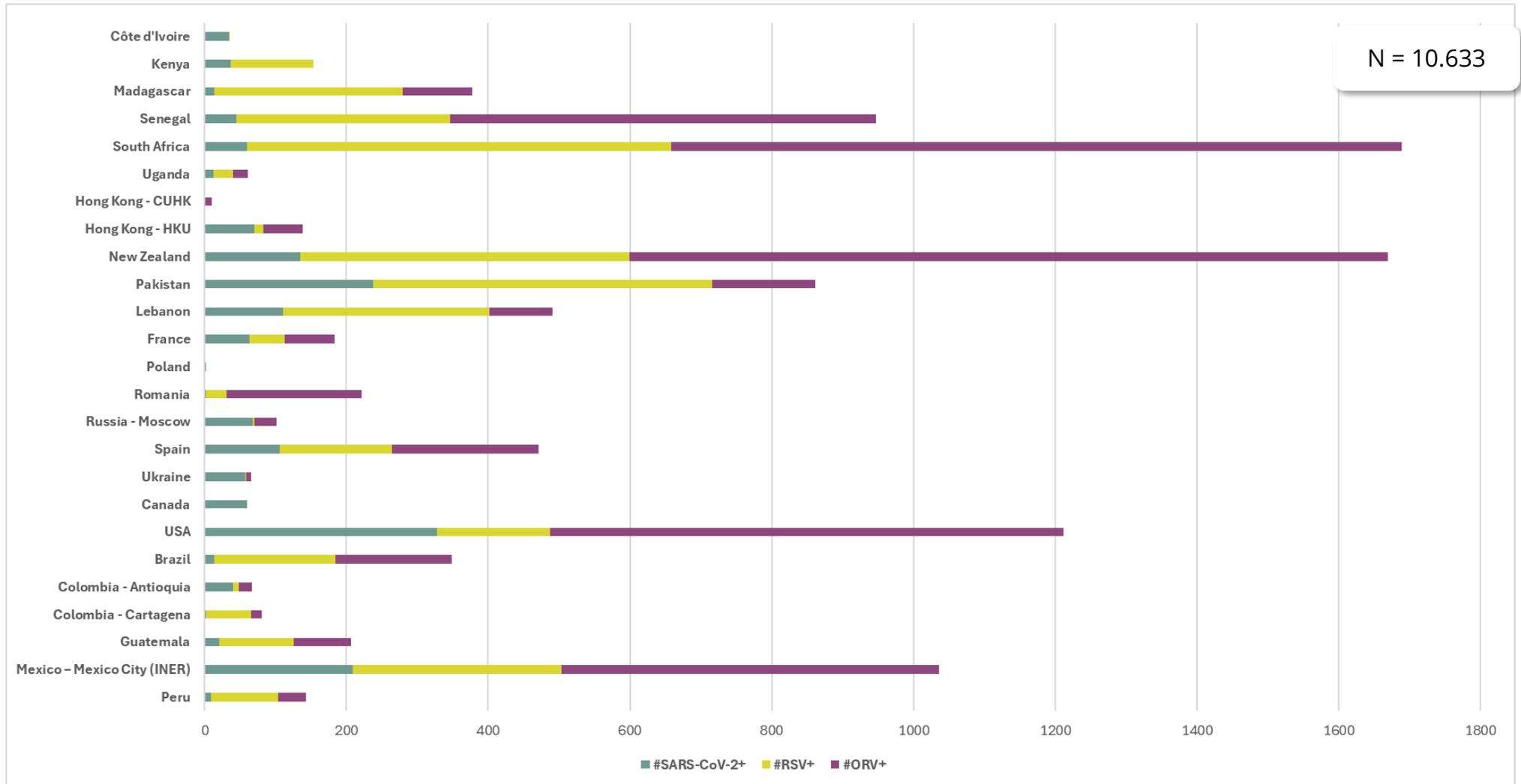


- Sites already in GIHSN 2023-24
- New sites (2024-25)
- Number of Flu+ per site
- ★ National Influenza Center (NIC)
- ★ Close collaboration with NIC
- Hospital location

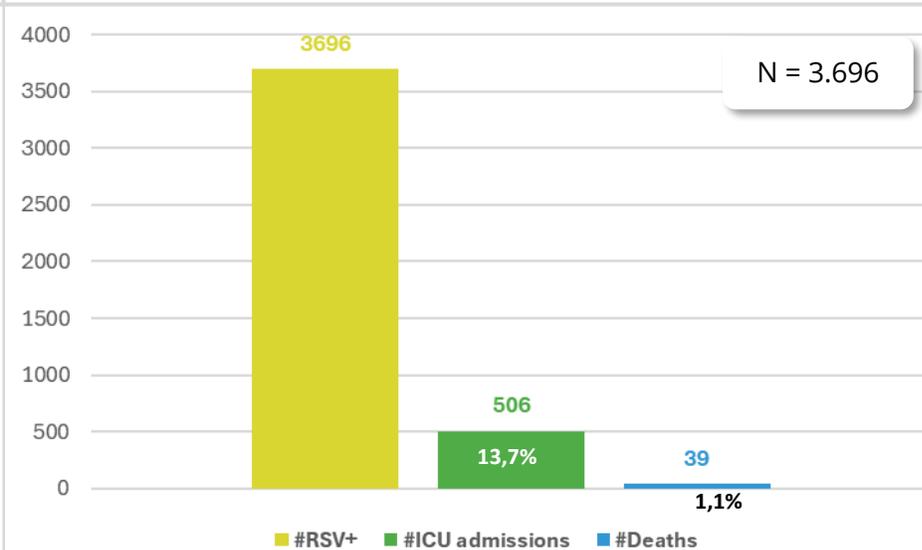
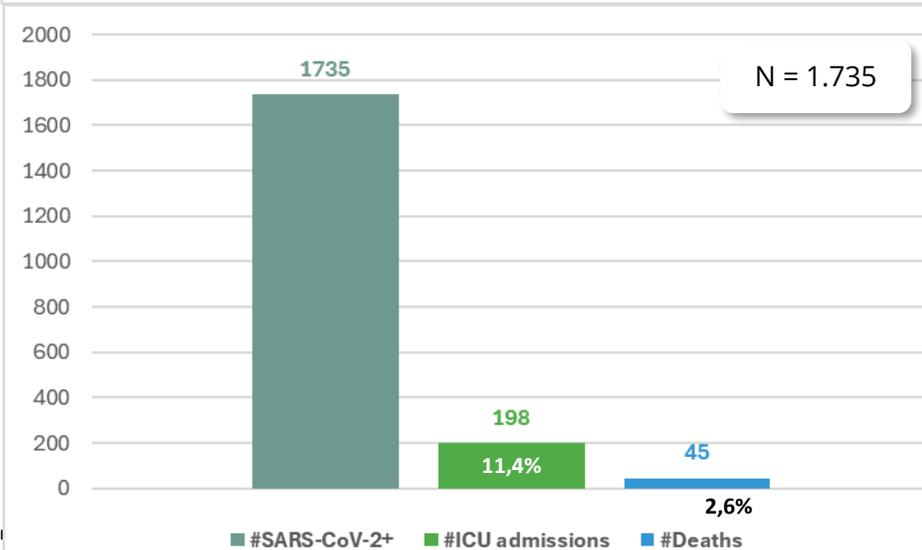
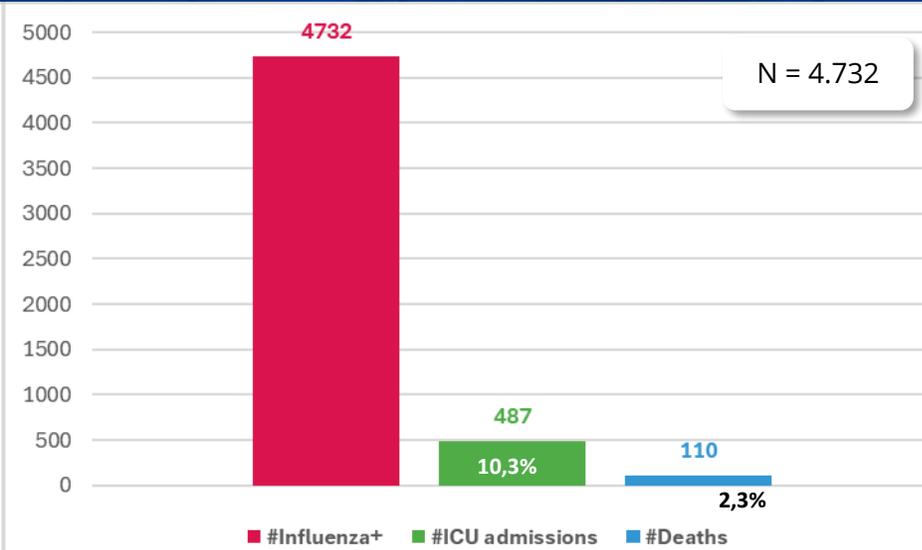
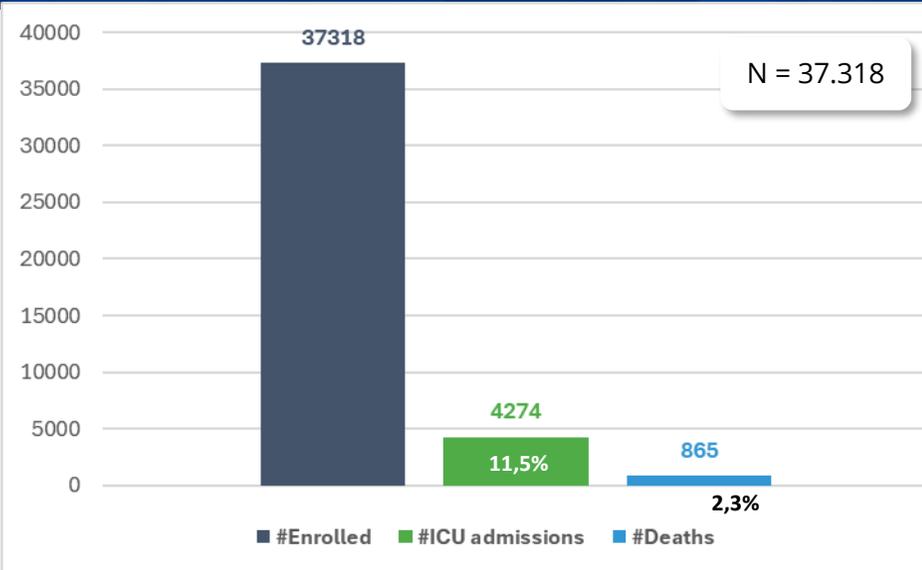
DISTRIBUTION OF LAB CONFIRMED INFLUENZA CASES BY VIRUS SUBTYPE AND LINEAGE (2024-25) (AS OF NOVEMBER 25TH, 2025)



DISTRIBUTION OF OTHER RESPIRATORY VIRUSES (2024-25) (AS OF NOVEMBER 25TH, 2025)

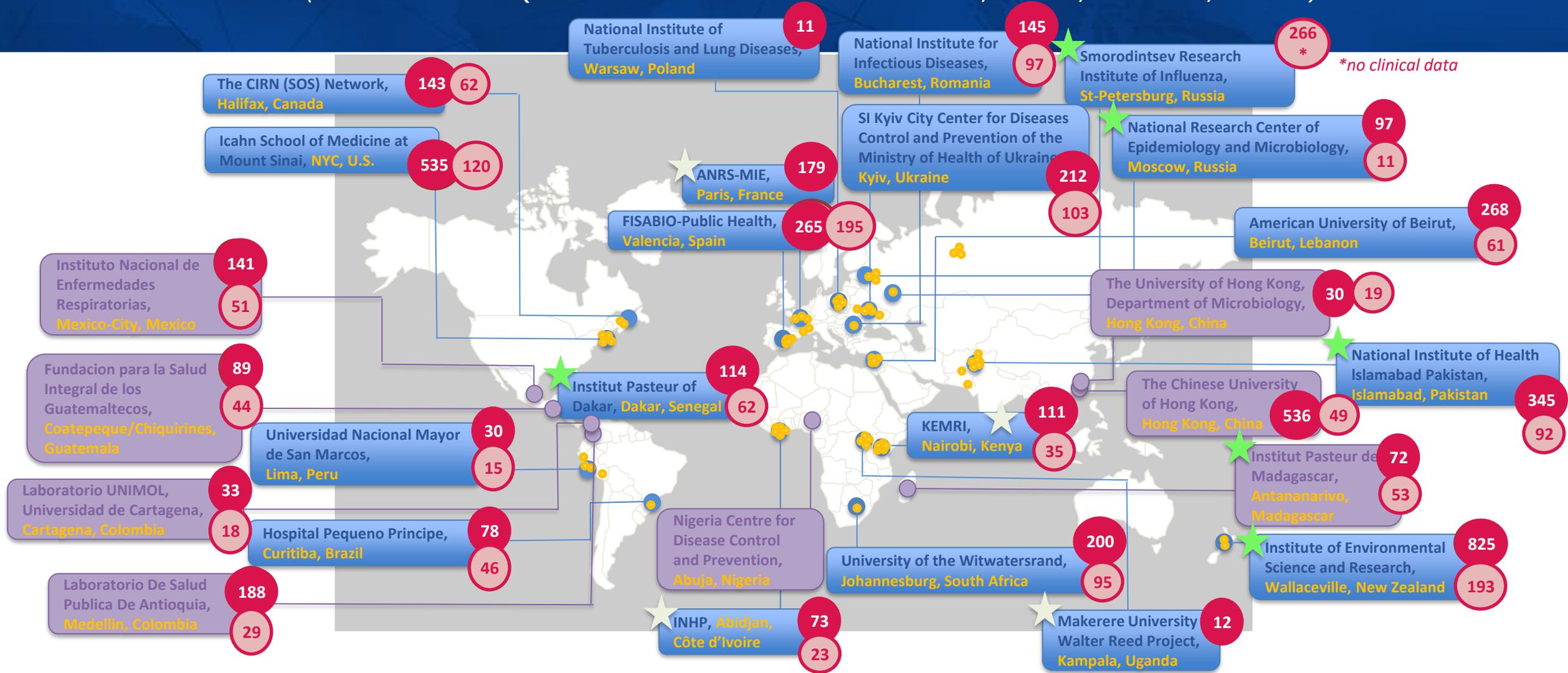


SEVERITY (2024-25)



WGS SCALE-UP: 1739 WGS INFLUENZA REPORTED TO DATE

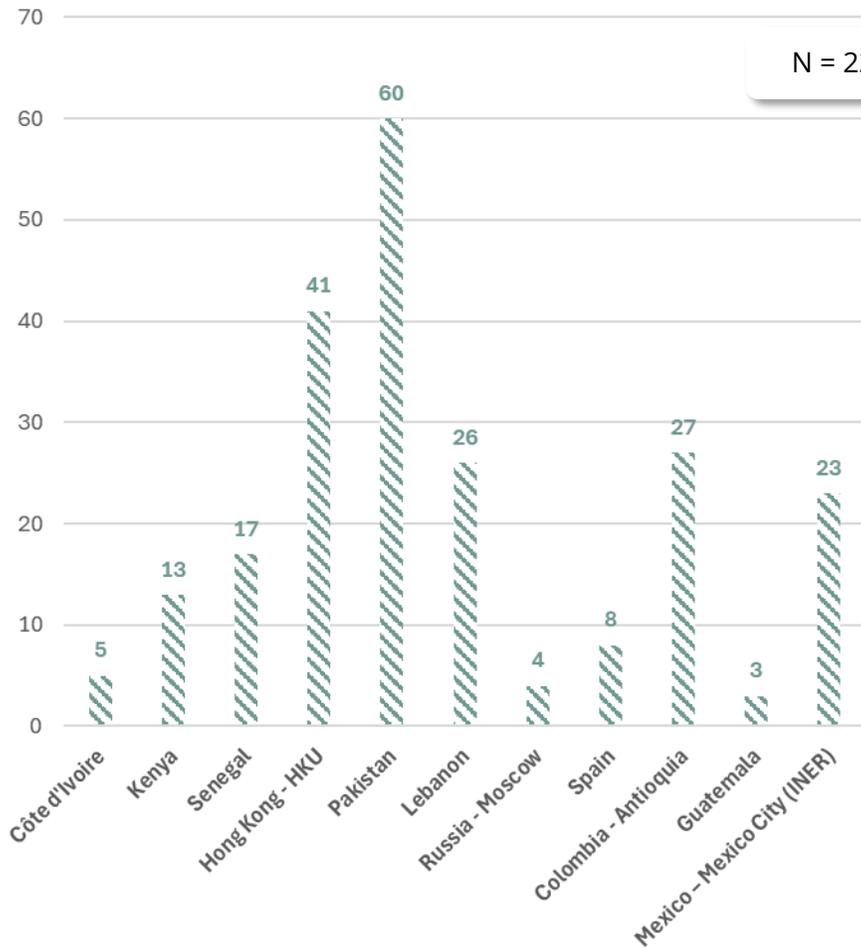
(ADDITIONAL SEQUENCES EXPECTED –COTE D'IVOIRE, KENYA, UGANDA, HKU ...)



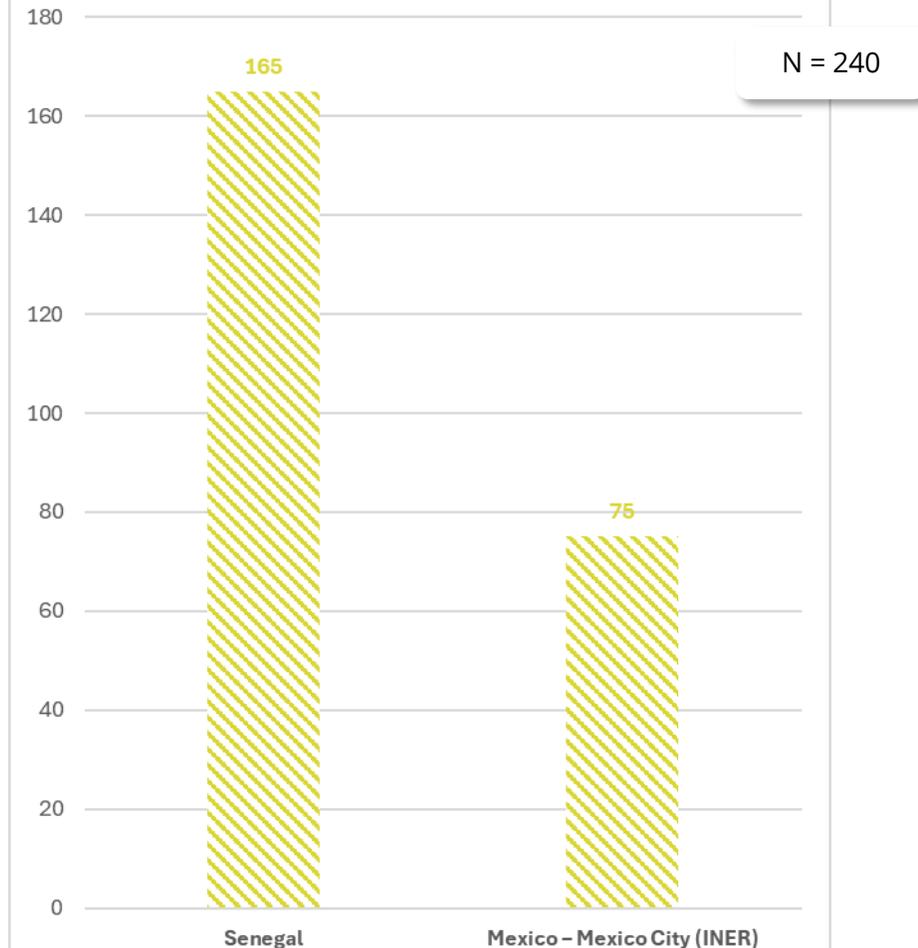
- Sites already in GIHSN 2023-24
- New sites (2024-25)
- Number of WGS Flu per site
- ★ National Influenza Center (NIC)
- ★ Close collaboration with NIC
- Hospital location

WHOLE GENOME SEQUENCING BY SITE 2024-25 (2/2)

Whole Genome Sequencing: SARS-CoV-2



Whole Genome Sequencing: RSV



FINALIZATION OF DATA COLLECTION 2024-2025 (PATIENTS ADMITTED UNTIL OCTOBER 31ST, 2025)

- **Cut-off date 2024-2025: 31st December 2025**
 - All data should be completed by this date
 - Data provided after this date won't be reported in the GIHSN Annual Report 2024-2025

Thank you for your cooperation





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FOCUS #1: PATIENTS SCREENING STRATEGY

Sandra CHAVES, Scientific Officer, Foundation for Influenza Epidemiology

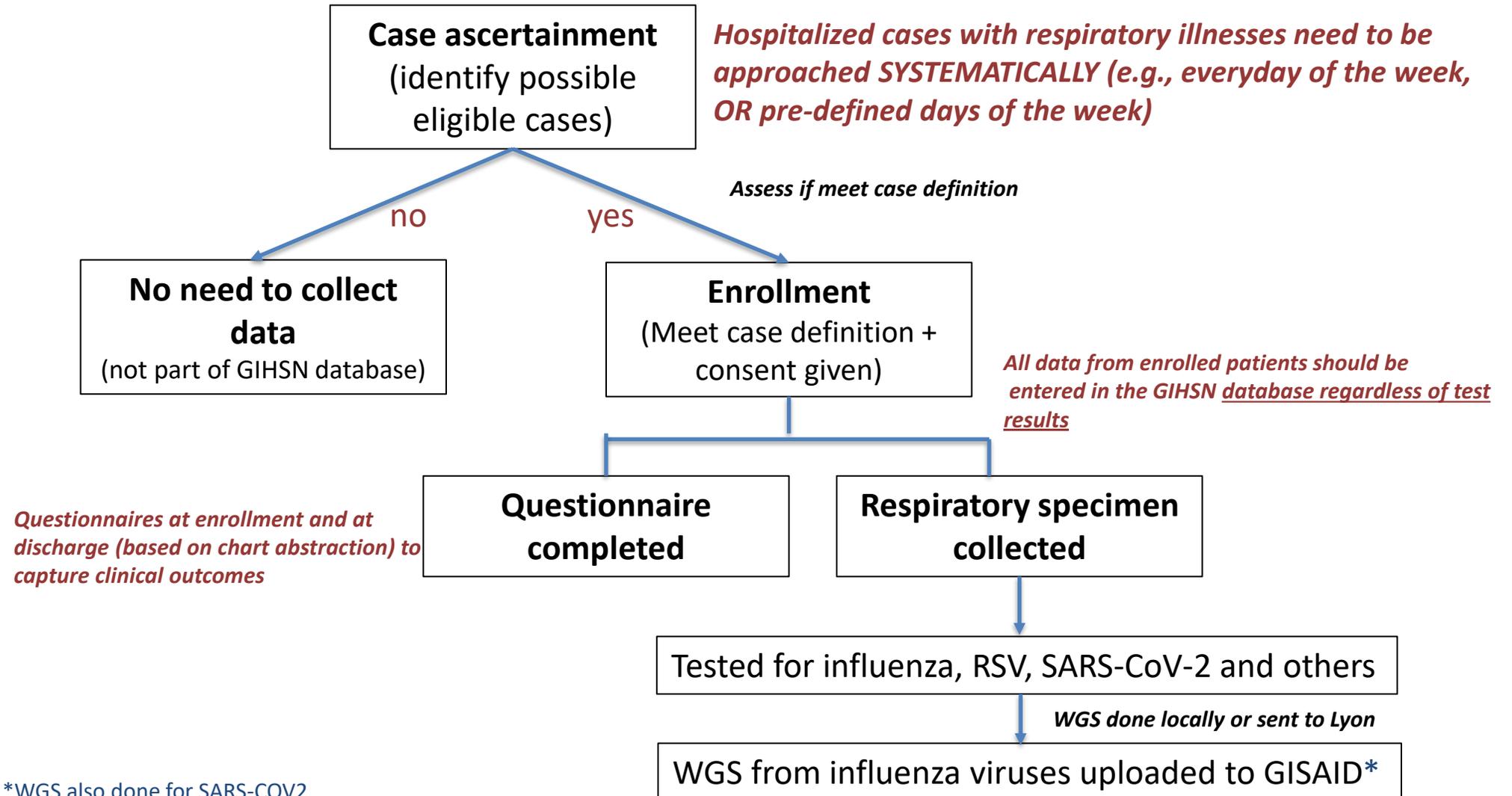


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PROCESS FOR IDENTIFICATION OF CASES AND DATA COLLECTION - GIHSN



*WGS also done for SARS-COV2

Surveillance overview

- Screening and inclusion of hospitalized patients with respiratory illness meeting protocol case definition year-round (**November through October the following year**)
- Collection of epidemiologic and clinical data with a **standardized questionnaire administered at enrolment** and a **chart abstraction** at patient **discharge/death**
- Enrolled patients would have respiratory **specimen collected shortly after hospital admission** (**within first 72 hours**) and sent for testing at the local and/or reference laboratory or National Influenza Centre
- Specimens: A number of respiratory specimen types may be used, including swabs, brush, aspirate, and wash, and specimens may be collected from numerous sites, including the anterior and posterior nasopharynx, oropharynx, and nares
 - **Ideally, combined nasal swab + throat swab have shown to perform similarly to nasopharyngeal(NP) aspirate or NP swabs, and can improve yield for other respiratory viruses**

SCREENING - SITE SPECIFIC

Refer to the questionnaire - First page



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Core questionnaire: Patients of all ages

Version 12 December 2024

QUESTIONNAIRE TO BE FINALIZED FOR ALL ENROLLED PATIENTS

*for all eligible patients hospitalized in the previous 72 hours and overnight hospitalization, who are able to communicate (alt. through a proxy), who have given consent to participate in the study **and** who are experiencing symptoms in the last 10 days prior to admission*

In the following questions, "do not know" answers apply for unknown information or not collected variables

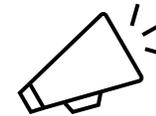
Screening

1) How was patient identified as a potential surveillance case?

1.a. Case finding based on pre-defined admission diagnosis *(Refer to Annex1)* Yes No

1.b. Case finding based on hospital admission logs for acute respiratory illness Yes No

1.c. Case finding based on testing for influenza Yes No



Consistency by site! Not varying by patient



CASE DEFINITION - SITE SPECIFIC

Refer to the questionnaire – Page 2; question #8

8) Case definition used: (Refer to Annex 2) – One answer only

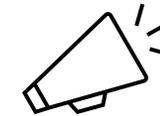
- | | | |
|--|---------------------------|--------------------------|
| 8.1. SARI case definition | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.2. Extended SARI case definition | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.3. ECDC modified case definition – in last 7 days | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.4. ECDC modified case definition – in last 14 days | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.5. Acute respiratory illness case definition | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.6. Cases tested for Influenza | <input type="radio"/> Yes | <input type="radio"/> No |
| 8.7. Other (please detail:) | <input type="radio"/> Yes | <input type="radio"/> No |

1. Severe acute respiratory infection (SARI) case definition

(<https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/case-definitions-for-ili-and-sari>)

An acute respiratory infection with:

- history of fever or measured fever of $\geq 38\text{C}^{\circ}$
- and cough;
- with onset within the last 10 days.
- and requires hospitalization



Consistency by site! Not varying by patient

2. Extended SARI case definition

An acute respiratory infection with cough and onset within 10 days that requires hospitalization (no fever required)

3. ECDC modified case definition for influenza like-illness (ILI) in last 7 days

Combination of:

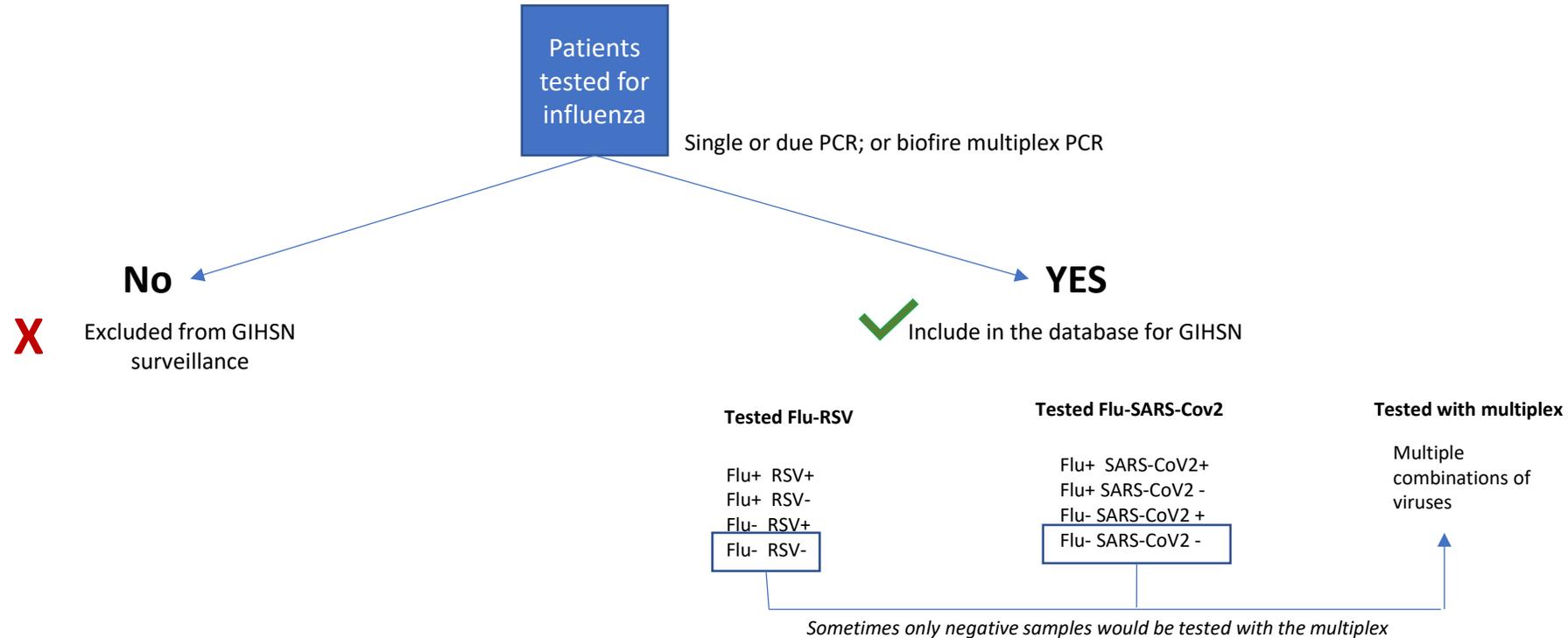
- at least one of the following four systemic symptoms: fever or feverishness, headache, myalgia, or malaise;
- at least one of the following three respiratory symptoms: cough, sore throat or shortness of breath

4. Acute respiratory illness case definition: Acute onset of at least one of the following four respiratory symptoms: cough or sore throat or shortness of breath or coryza and a clinician's judgment that illness is due to infection

5. Cases Tested for influenza – a hospitalized person who has been tested for influenza within 72 hours of hospital admission

Example of case finding when using EMR – based on influenza testing

- Identify patients that were hospitalized for respiratory illness based on list of ICD codes or key terms (available in the protocol)
- This would be done, e.g., Mondays and Wednesdays and Fridays (set of days)



- Sometimes multiplex is only used for those who were negative for both viruses tested with the duo PCR
- Other scenario would be if patients were tested for RSV by duo PCR and by multiplex. If we want to look at co-detections we would need to only consider those systematically tested with the same assay. That means that we cannot group RSV+ from duo PCR with RSV positive from multiplex when looking at co-infections



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FOCUS #2: WGS SCALE-UP

Laurence TORCEL-PAGNON, Executive Officer, Foundation for Influenza Epidemiology



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WGS STATUS

As of today

- ❑ 1433 WGS INFLUENZA shared in 2024-25 compared to 952 for same time period last year
- ❑ 2 new sites doing WGS locally (Brazil Peru)
- ❑ 2 sites sending samples to NIC Lyon (Ukraine, Uganda)

Key guiding principles for 2025-26

- Prioritize Flu to try to reach 100 Flu WGS per site pending Flu+ rate
- Sequence per batch for efficiency
- Be on time for WHO reports (VCM in Feb & Sep)

Some sites are in capacity to expand WGS (Spain, NYC US, Pakistan & NZ)

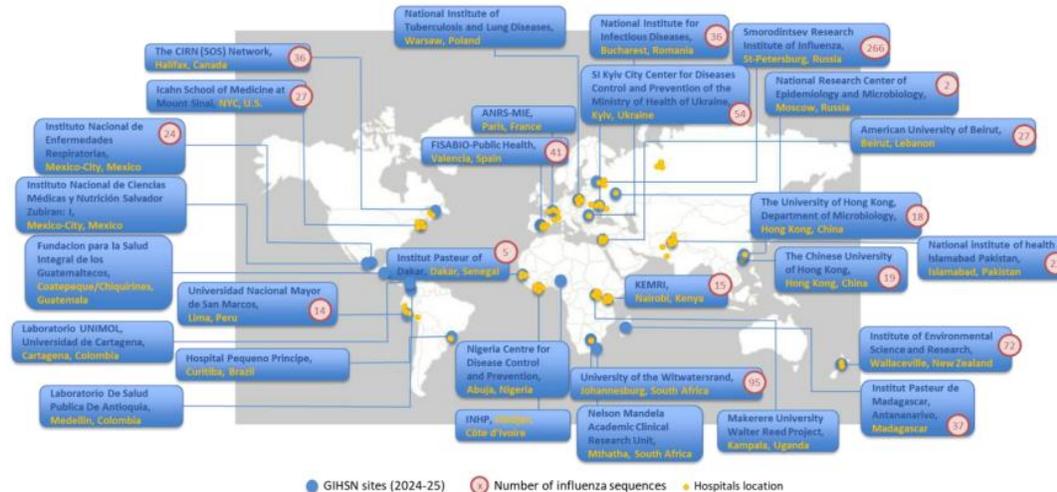


LAST KEY CONTRIBUTION

GIHSN report of activity prior to the WHO Consultation on the Composition of Influenza Virus Vaccines for use in the 2026 Southern Hemisphere Influenza Season.

Report prepared the 8th of September 2025

This report collates the sequencing data of hospitalized patients from 18 sites in 16 countries reporting 810 sequences available in the GISAID database on 2025/09/08: *Canada (36), Hong Kong (37), Kenya (15), Lebanon (27), Madagascar (37), Mexico (24), New Zealand (72), Pakistan (22), Peru (14), Romania (36), Russian Federation (268), Senegal (5), South Africa (95), Spain (41), Ukraine (54), United States (27)*. Samples were collected between 2025-02-19 and 2025-08-10. Additional sequences from Brazil are under analysis but could not be integrated in the report as deposited in the GISAID database after 2025/09/08.



Preliminary analyses from the last GIHSN activity report (sept 2025) suggest that infections with influenza A subclades D.3.1 (H1N1) and J.2.2 (H3N2) may be associated with a higher risk of requiring respiratory support compared to contemporaneous lineages

Fig. 1 Map showing the repartition of the participating countries, between February 2025 and August 2025, with the number of influenza sequences shared by sites.

WHAT'S NEXT

11 of December:

- Lab webinar organized by NIC Lyon

On going research led by NIC-Lyon

- ➔ Access to GIHSN clinical data to enable robust multivariable and phylogenetic-trait analyses to clarify whether emerging subclades observed in Sep report are linked to greater severity

Under discussion with WHO:

- Severity scale & WGS – how the GIHSN can further support VCM
- QC for new site doing WGS
- Workshop to investigate the added value of AI for strains selection





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FOCUS #3: WEEKLY DASHBOARD



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WEEKLY REPORTING – PILOT LAUNCHED MARCH 2025 V1 TO GO LIVE BY END OF 2025

- ❖ **Objectives:** Collect from sites weekly counts on pathogens circulation and provide real-time insights/snapshots on influenza, SARS-CoV2 and RSV circulation
 - ❖ Inform public health
 - ❖ Demonstrate agility and reactivity of the GIHSN
- ❖ **Process implemented:**
 - ❖ All GIHSN sites 2024-25 are invited to provide weekly counts on number of cases tested and number of positives by virus (Influenza, SARS-CoV2, RSV) via an Excel template
 - ❖ Data collected is displayed in an interactive graph and can also be used in specific reports.
- ❖ **Pilot feedback is excellent:**
 - ❖ Excellent contribution of sites
 - ❖ Very interesting tool, some results to be discussed with sites
 - ❖ Recommendation to confirm the pilot and go live in 2025-26

DEMO



[GIHSN](#)





REMINDER: TIMELINESS OF DATA SHARING OVER THE SEASON

- ❖ **Weekly counts**: to be reported **each week** (Excel file)
- ❖ **Clinical data**: to be reported as soon as available and **at least once a month** (last Wednesday of each month)
 - ❖ If dataset for the month is not complete (missing variables), it can be completed/amended the following month
- ❖ **WGS data**: to be reported as soon as available and **at least twice a year ahead of the report to WHO** prior to the consultation on Vaccine Composition (Feb & Sep):
 - ❖ As a general rule: All GISAID accession number should be reported in the clinical questionnaires end of January and end of August at the latest, to be included in the activity report
 - ❖ As a general rule: For sites sending their samples to Lyon lab for WGS, all samples should be received mid-January and mid-August at the latest
 - ❖ **Reminders are systematically sent well in advance to all sites so that the timeline is well known by**

all



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CONCLUSION

Cedric MAHE, President, Foundation for Influenza Epidemiology



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THANK YOU!

contact@gihsn.org

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