

1 **Supplementary Appendix**

2 **Title:** Cohort profile: Community Burden of Acute Respiratory Infections in
3 Shanghai, a longitudinal cohort study in respiratory pathogens, China, 2024-2027

4 **Running head:** Community burden of ARIs

5 **Tables & Forms**

- 6 ▪ Supplementary Table 1. Baseline Characteristics at Enrollment Survey (CRF01)
- 7 ▪ Supplementary Table 2. Symptoms of ARIs Monitoring Form (CRF02)
- 8 ▪ Supplementary Table 3. Weekly Illness Updates and Clinical Recovery
9 Follow-up (D07/D14/D21/D28) Data Form (CRF03)
- 10 ▪ Supplementary Table 4. Hospital Discharge Data Collection Form (CRF04)
- 11 ▪ Supplementary Table 5. Semi-annual Survey Data Form (CRF05)
- 12 ▪ Supplementary Table 6. Lists of respiratory pathogens tested for in the study

13

14

Supplementary Table 1. Baseline Characteristics at Enrollment

15

Survey (CRF01)

Date of signing informed consent: □□□□/□□/□□(YYYY/mm/dd)	
Participant ID: □□□□□□	Family ID: □□□□□□
1. Basic Characteristics	
1.1 Name of participants:_____	
1.2 Sex: 1=male; 2=female	
1.3 Your identification number: □□□□□□□□□□□□	
1.4 Your date of birth: □□□□/□□/□□(YYYY/mm/dd)	
1.5 Your home address (to street) :_____	
1.6 Place where your residence is registered? 1=Shanghai; 2=Other provinces	
1.7 Your occupation: 1=school student; 2=housewife and unemployment; 3=retired; 4= service workers/food delivery; 5=security guards; 6=house keeping; 7=medical staff; 8=office clerk; 9=others_____	
1.8 Your education attainment: 1=primary school level and under; 2=Junior high school; 3= high school/technical secondary school; 4= university/college level or above	
1.9 Are you covered by the following insurance (multiple choice allowed)? 1= basic medical insurance for urban workers; 2=basic medical insurance for urban residents; 3= new rural cooperative medical care; 4= commercial medical insurance; 5= uninsured; 6= others_____	
2. Overall health status	
2.1 Your height:_____ cm	
2.2 Your weight:_____ kg	
2.3 Are you pregnant? 1=Yes; 0=No; 9=Unknown If yes, your gestational age is_____weeks.	
2.4 Are your children a premature baby (for children 6 years and under)? 1=Yes; 0=No; 9=Unknown (A premature baby is defined as a child born at less than 37 weeks of gestational age.)	
2.5 Are your children born a low-birth-weight baby (for children 6 years and under) ? 1=Yes; 0=No; 9=Unknown (A low-birth-weight baby is defined as a baby weighing less than 2500 grams within 1 hour of birth.)	
2.6 Do you have or have had any of the following underlying conditions (multiple choice allowed): 1= diabetes mellitus; 2= hypertension; 3= heart disease; 4=asthma; 5= chronic bronchitis/bronchitis; 6=COPD; 7= chronic kidney disease; 8= myocardial infarction; 9= cerebral stroke; 10=cancer; 11=immunocompromised (defined as having received a solid organ or hematopoietic stem cell transplant, undergoing cancer chemotherapy, having a history of HIV or AIDS, or using steroids for >30 days); 12=others_____; 13=no medical underlying conditions	
2.7 Do you smoke? 1=current smoking; 2= used to smoke, but not smoke now; 3=never smoke; 4= exposure to second-hand smoke	
2.8 Do you drink alcohol? 1=never; 2=occasionally; 3=drink often (once per week); 4=drink everyday	
2.9 During the past three months, have you experienced a common cold or any of the following symptoms, e.g., fever, cough, runny nose, sore throat, stuffy nose, and body aches? 1=Yes; 0=No If yes, the nearest date of symptom onset: □□□□/□□/□□ (YYYY/mm/dd); If yes, how many episodes have you experienced?_____ times.	

2.10 During the past one year, have you ever visited a doctor? 1=Yes; 0=No If yes, how many visits?_____ visits.
2.11 During the past one year, have you ever been hospitalized? 1=Yes; 0=No If yes, how many days have you been hospitalized?_____ days.
3. Household information
3.1 Total number of members living in your family:_____(persons)
3.2 The number of children aged <5 years in your family:_____(persons)
3.3 The number of people aged≥65 years in your family:_____(persons)
3.4 Total living area of your family:_____m ²
3.5 Per capita living area of your family:_____m ²
3.6 What is the average monthly income of your family? 1=less than 5000 Chinese yuan; 2=5000-9999 Chinese yuan; 3=10000-19999 Chinese yuan; 4=≥20000 Chinese yuan; 9= Unknown
3.1 Total number of members living in your family:_____(persons)
3.2 The number of children aged <5 years in your family:_____(persons)
3.3 The number of people aged≥65 years in your family:_____(persons)
4. Vaccination history (self-reported)
4.1 Have you ever received the flu vaccine since October 2023? 1=Yes; 0=No; 9=Unknown
4.2 Have you ever received a Covid-19 vaccine? 1=Yes; 0=No; 9=Unknown If yes, how many doses have been administered cumulatively? 1=1 dose; 2=2 doses; 3=3 doses; 4=4 doses and more
4.3 Have you received the 23 valent pneumococcal polysaccharide vaccine? 1=Yes; 0=No; 9=Unknown
4.4 Have you received the 13 valent pneumococcal conjugate vaccine? 1=Yes; 0=No; 9=Unknown
4.5 Have you received the <i>Haemophilus influenzae type b</i> (Hib) conjugate vaccine? 1=Yes; 0=No; 9=Unknown
Time of survey completion: □□□□/□□/□□:□□/□□ (YYYY/mm/dd:HH/MM)
Name of investigator:_____

17 Supplementary Table 2. Symptoms of ARIs Monitoring Form

18 (CRF02)

Participant ID: Family ID:		
1. Occurrence of ARIs		
1.1 Since our last contact, have you experienced any cold symptoms (such as fever, cough, nasal congestion or discharge, sore throat, body or muscle aches and pain, etc.)? 1=Yes; 0=No If “no”, survey ends. If “yes”, please fill in the following information.		
2. ARI Symptoms/Signs (multiple choices allowed)		
Symptoms/Signs	Symptoms/Signs	If “yes”, onset time (days ago)
Fever	1=Yes 0=No	_____ days ago
Chills	1=Yes 0=No	_____ days ago
Headache	1=Yes 0=No	_____ days ago
Body or muscle aches	1=Yes 0=No	_____ days ago
Sore throat	1=Yes 0=No	_____ days ago
Fatigue	1=Yes 0=No	_____ days ago
Nasal congestion or discharge	1=Yes 0=No	_____ days ago
Wheezing, or dyspnea	1=Yes 0=No	_____ days ago
Cough	1=Yes 0=No	_____ days ago
Sputum production	1=Yes 0=No	_____ days ago
Chest Pain	1=Yes 0=No	_____ days ago
Other	Please specify_____	_____ days ago
<u>For children under 2 years old only</u>		
Chest wall indrawing	1=Yes 0=No	_____ days ago
Head nodding	1=Yes 0=No	_____ days ago
Central cyanosis	1=Yes 0=No	_____ days ago
Apnea or difficulty in breathing	1=Yes 0=No	_____ days ago
Crying can't be eased by parents	1=Yes 0=No	_____ days ago
Unable to feed or choked while breastfeeding	1=Yes 0=No	_____ days ago
Lethargy or difficulty to wake up	1=Yes 0=No	_____ days ago
2.1 Does the subject meet the ARIs’ case definition? 1=Yes; 0=No. If yes, please provide the onset date (Format: YYYY/mm/dd).		
3. Sampling Information		
3.1 Is a swab sampling scheduled? 1=Yes; 0=No If yes, please provide the following information:		
3.2 Name of the Community Healthcare Center for scheduled swab sampling: _____		
3.3 Scheduled swab sampling time: (Format: YYYY/mm/dd)		
Time of survey completion: (YYYY/mm/dd:HH/MM)		
Name of investigator:_____		

19

20 Supplementary Table 3. Weekly Illness Updates and Clinical

21 Recovery Follow-up (D07/D14/D21/D28) Data Form (CRF03)

Participant ID: Family ID:				
1. ARI Symptoms/Signs (multiple choices allowed)				
1.1 Since our last contact, have you experienced any of the following symptoms? 1=Yes, please specify the symptoms (multiple choices allowed); 0=No				
ARI Symptoms/Signs	Day 7	Day 14	Day 21	Day 28
Fever	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Chills	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Headache	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Body or muscle aches	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Sore throat	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Fatigue	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Nasal congestion or discharge	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Wheezing, or dyspnea	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Cough	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Sputum production	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Chest Pain	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Other	Please specify__	Please specify__	Please specify__	Please specify__
For children aged under 2 years old only				
Chest wall indrawing	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Head nodding	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Central cyanosis	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Apnea or difficulty in breathing	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Crying can't be eased by parents	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Unable to feed or choked while breastfeeding	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Lethargy or difficulty to wake up	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
2. Healthcare Utilization				
2.1 Since our last contact, have you ever experienced any of the following? (Multiple choices allowed)				
Healthcare Utilization	Day 7	Day 14	Day 21	Day 28
Outpatient/clinic visit	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Emergency department visit	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Hospital admission	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
Absent from school or work	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No	1=Yes 0=No
2.2 Outpatient and Emergency Department Visits				
2.2.1 Total number of visits to outpatient and emergency Department: times				
2.2.2 Name of the hospital or clinic for the first visit:				
2.2.3 Date of the first visit: / / (Format: YYYY/mm/dd)				
2.2.4 Diagnosis from the first visit:				
2.2.5 Total cumulative expenditure: 1=Below 200 yuan; 2=200-499 yuan; 3=500-999 yuan; 4=1000 yuan and above				
2.3 Hospitalization				
2.3.1 Name of the Hospital:				
2.3.2 Admission Date: / / (Format: YYYY/mm/dd)				
2.4 Absence from Work/School				
2.4.1 Total number of days absent from work or school due to the illness:				
3. Clinical Outcome				
3.1 By the end of the follow-up period, the clinical outcome for the subject is: 1=Clinical recovery; 2=Improvement or remission; 3=Worsening or Hospitalization; 4=Death.				

(Note: Clinical recovery is defined as a normal body temperature for two consecutive days and the complete disappearance of symptoms such as body or muscle aches and pain, fatigue, cough, nasal congestion or discharge, sore throat, and wheezing, or dyspnea. Improvement/Remission is defined as an improvement in systemic and/or respiratory symptoms by the 28-day follow-up, but without complete resolution. Worsening or Hospitalization is defined as being admitted to the hospital during the follow-up period)
Time of survey completion: □□□□/□□/□□:□□/□□ (YYYY/mm/dd:HH/MM)
Name of investigator: _____

23 Supplementary Table 4. Hospital Discharge Data Collection

24 Form (CRF04)

Participant No. □□□□□□							Family No. □□□□□□						
1. Basic information of admission													
1.1 Hospital name:_____													
1.2 Date of admission:□□□□/□□/□□ (Format: YYYY/mm/dd)													
1.3 Admitting diagnosis:_____													
1.4 Date of discharge:□□□□/□□/□□ (Format: YYYY/mm/dd)													
1.5 Discharge diagnosis:													
Principal diagnosis 1. _____													
Secondary diagnosis 1. _____; 2. _____; 3. _____													
2. Clinical examination results													
2.1 Signs/symptoms and physical examinations													
Temperature:___C° Respiratory rate:___beats/min Heart rate:___beats/min													
Blood pressure:___ /___mmHg													
Pulse oxygen saturation (oxygen inhalation) sPO ₂ :___%													
Pulse oxygen saturation (without oxygen) sPO ₂ :___%													
Pulmonary auscultation: 1=dry rales; 2=wet rales; 3=normal													
Mental status: 1=clear; 2=drowsiness; 3=irritability; 4=delirium; 5=convulsion;													
6=coma; 7=normal													
2.2 Blood examination: WBC_____×10 ⁹ /L; L_____×10 ⁹ /L; N_____×10 ⁹ /L; Plt _____×10 ⁹ /L; Hb_____g/L;													
2.3 Blood biochemical examination: CRP_____mg/L; GLU_____mmol/L; BUN_____mmol/L; PCT_____μg/L													
2.4 Clinical laboratory testing for respiratory pathogens was performed. 1=Yes; 0=No													
2.4.1 If yes, the name of pathogen was tested for_____													
2.4.2 If yes, the method of laboratory testing: 1=PCR; 2=antigen testing; 3=antibody testing													
2.4.3 If yes, the result of laboratory testing: 1=positive; 0=negative													
2.5 Whether chest radiography or other chest imaging was performed? 1=Yes; 0=No													
If yes, is there a sign of pneumonia? 1=Yes; 0=No													
2.6 Complications													
<input type="checkbox"/> Septic shock <input type="checkbox"/> Viral pneumonia <input type="checkbox"/> Bacterial pneumonia <input type="checkbox"/> Pneumothorax													
<input type="checkbox"/> ARDS <input type="checkbox"/> Bronchiolitis <input type="checkbox"/> Respiratory failure <input type="checkbox"/> Coagulopathy													
<input type="checkbox"/> Anemia <input type="checkbox"/> Pleural effusion <input type="checkbox"/> Acute kidney injury <input type="checkbox"/> Myolysis													
<input type="checkbox"/> Bacteremia <input type="checkbox"/> Gastrointestinal bleeding <input type="checkbox"/> Encephalitis/meningitis <input type="checkbox"/> pancreatitis													
<input type="checkbox"/> Convulsion <input type="checkbox"/> Arrhythmia <input type="checkbox"/> Liver dysfunction <input type="checkbox"/> Stroke													
<input type="checkbox"/> Hyperglycemia <input type="checkbox"/> Hypoglycemia <input type="checkbox"/> Congestive heart failure <input type="checkbox"/> Heart infection													
<input type="checkbox"/> Cardiac arrest <input type="checkbox"/> Disseminated intravascular Coagulation <input type="checkbox"/> Other (_____)													
3. Treatment during hospitalization													
3.1 Was oxygen therapy administered during hospitalization? 1=Yes; 0=No													
If yes, the method of treatment: 1=nasal cannula or mask oxygen; 2=high-flow nasal cannula; 3=non-invasive mechanical ventilation; 4=invasive mechanical ventilation; 5= Other _____													
3.2 Admission to the ICU? 1=Yes; 0=No													
If yes, the length of ICU admission (____days)													
3.3 Were vasopressors administered? 1=Yes; 0=No													
3.4 Were extracorporeal membrane oxygenation (ECMO) administered? 1=Yes; 0=No													
3.5 Were Continuous renal replacement therapy(CRRT) administered? 1=Yes; 0=No													
4. Drugs administered													
Drug name	Category	Route	Daily dose		Frequency	Starting date (YYYY/mm/dd)	Stop date (YYYY/mm/dd)						
			Dose	Unit									

4.1 Drug Name: (Please use the name of the drug. If it is a fixed compound preparation, please use the trade name.)

4.2 Category: A=antibiotics; B=antiviral drugs; C=steroid hormone drugs; D=angiotensin-converting enzyme inhibitors (ACE-Is) or angiotensin-receptor blockers (ARBs); E=Statins

4.3 Route of medication: 1=oral administration, 2=intravenous injection, 3=intravenous drip, 4=intramuscular injection, 5=inhalation, 6=others

4.4 Frequency: 1= continuous, 2= intermittent

5. Patient prognosis

☐cured

☐improved and be discharged

☐transferred to the other hospital

Reasons for transfer: community rehabilitation/other (____)

☐gave up treatment

reasons for giving-up: economic reasons/illness exacerbation/other (____)

☐death date of death: ____/____/____(YYYY/mm/dd) death diagnosis: ____

6. The total expenditure of your hospitalization:_____RMB yuan

Time of survey completion: ____/____/____:____/____(YYYY/mm/dd:HH/MM)

Name of investigator:_____

26

Supplementary Table 5. Semi-annual Survey Data Form

27

(CRF05)

Participant No. □□□□□□	Family No. □□□□□□
1. Update of family information	
1.1 Total number of members living in your family: _____(persons)	
1.2 The number of children aged <5 years in your family: _____(persons)	
1.3 The number of people aged ≥65 years in your family: _____(persons)	
2. Update of vaccination information during the study	
2.1 Have you received the flu vaccine during your participation in the study? 1=Yes; 0=No; 9=Unknown	
2.2 Have you received the Covid-19 vaccine during your participation in the study? 1=Yes; 0=No; 9=Unknown	
If yes, how many doses have been administered cumulatively? 1=1 dose; 2=2 doses; 3=3 doses; 4=4 doses and more	
2.3 Have you received the 23 valent pneumococcal polysaccharide vaccine during your participation in the study? 1=Yes; 0=No; 9=Unknown	
2.4 Have you received the 13 valent pneumococcal conjugate vaccine during your participation in the study? 1=Yes; 0=No; 9=Unknown	
2.5 Have you received the <i>Haemophilus influenzae type b</i> (Hib) conjugate vaccine during your participation in the study? 1=Yes; 0=No; 9=Unknown	
Time of survey completion: □□□□/□□/□□:□□/□□ (YYYY/mm/dd:HH/MM)	
Name of investigator: _____	

28

29 Supplementary Table 6. Lists of respiratory pathogens tested for
30 in the study

no.	Viruses	no.	Bacteria
1	Influenza A	27	<i>Bordetella holmesii</i>
2	Influenza B	28	<i>Bordetella pertussis</i>
3	Respiratory syncytial virus subtype A/B	29	<i>Chlamydophila pneumoniae</i>
4	SARS-Cov-2	30	<i>Haemophilus influenzae</i>
5	Human Coronavirus-229E	31	<i>Klebsiella pneumoniae</i>
6	Human Coronavirus- HKU1	32	<i>Legionella pneumophila</i>
7	Human Coronavirus- NL63	33	<i>Moraxella catarrhalis</i>
8	Human Coronavirus- OC43	34	<i>Mycoplasma pneumoniae</i>
9	MERS-CoV	35	<i>Staphylococcus aureus</i>
10	SARS-CoV	36	<i>Streptococcus pneumoniae</i>
11	Adenovirus		Fungus
12	Human parainfluenza virus serotype 1	37	<i>Pneumocystis jirovecii</i>
13	Human parainfluenza virus serotype 2		
14	Human parainfluenza virus serotype 3		
15	Human parainfluenza virus serotype 4		
16	Human metapneumovirus		
17	Rhinovirus		
18	Enterovirus		
19	Bocavirus		
20	varicella-zoster virus		
21	Epstein-Barr virus		
22	Cytomegalovirus		
23	Human herpesvirus 6		
24	Measles virus		
25	Mumps virus		
26	Parechovirus		