

Clinical Management of RSV

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SPAR 2021-2024

Capacities C8 - Health services provision

PAHO



Pan American
Health
Organization



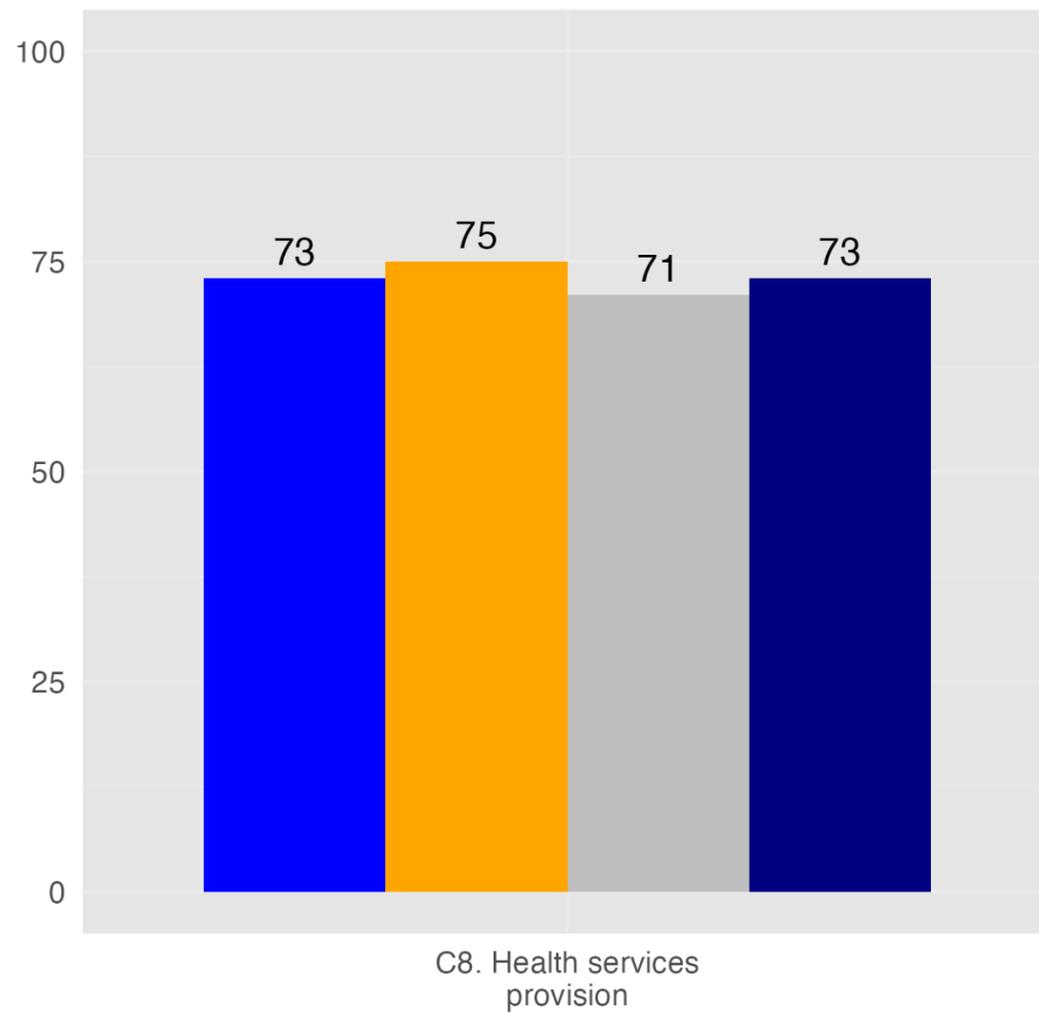
World Health
Organization

Americas Region

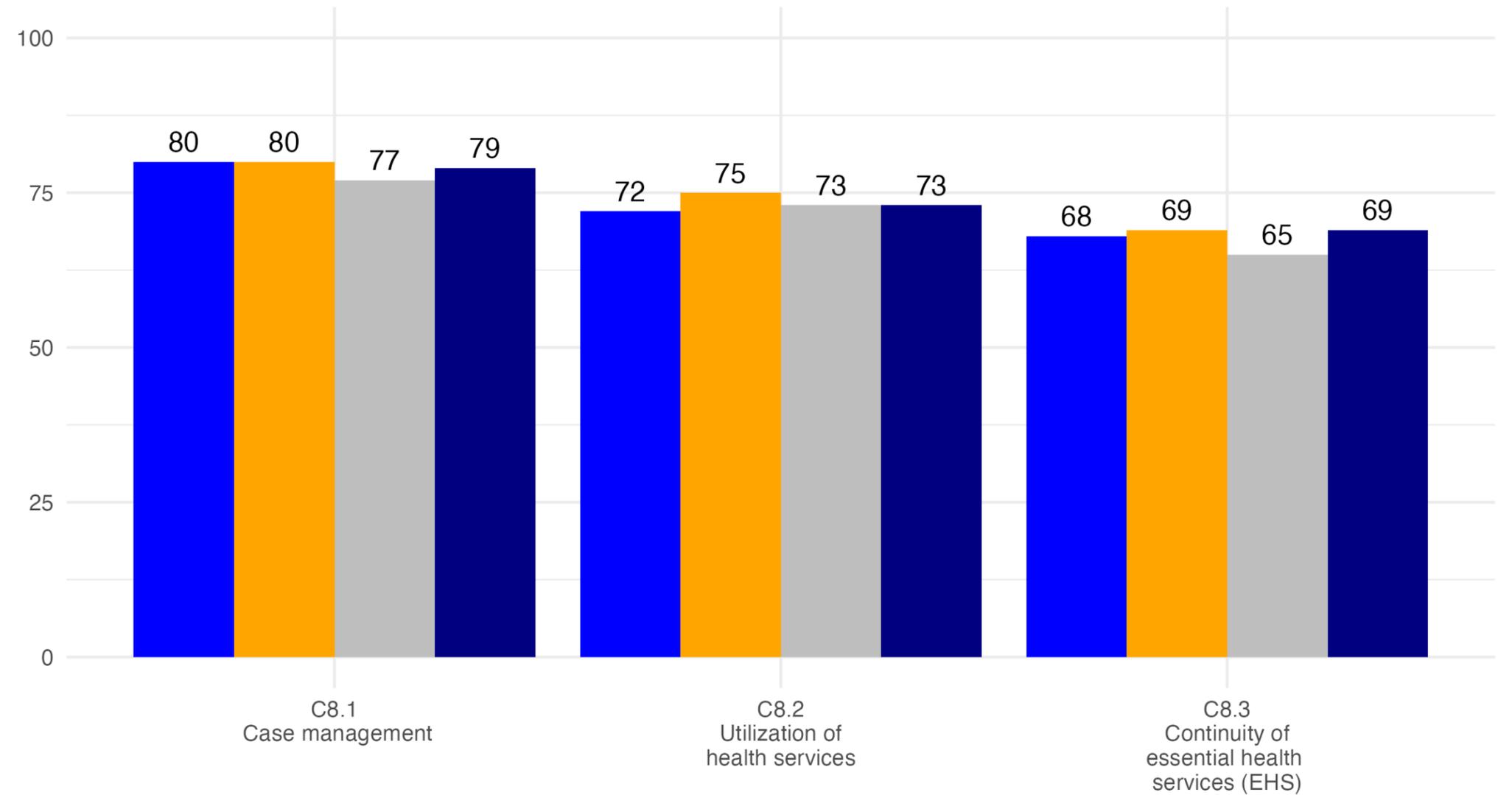
C8 The Americas Region

C8. Health services provision

Capacity average



Scores per indicator



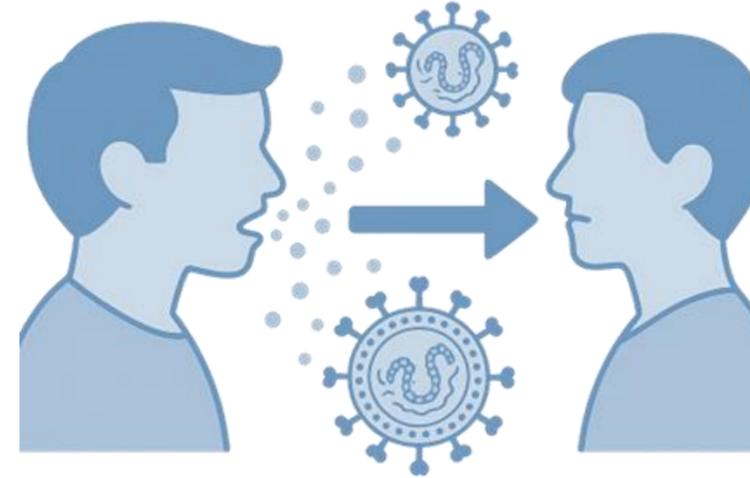
Year ■ SPAR 2021 ■ SPAR 2022 ■ SPAR 2023 ■ SPAR 2024

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Overview

► Transmission:

- **Droplets and direct contact**
- Virus can survive on surfaces for hours

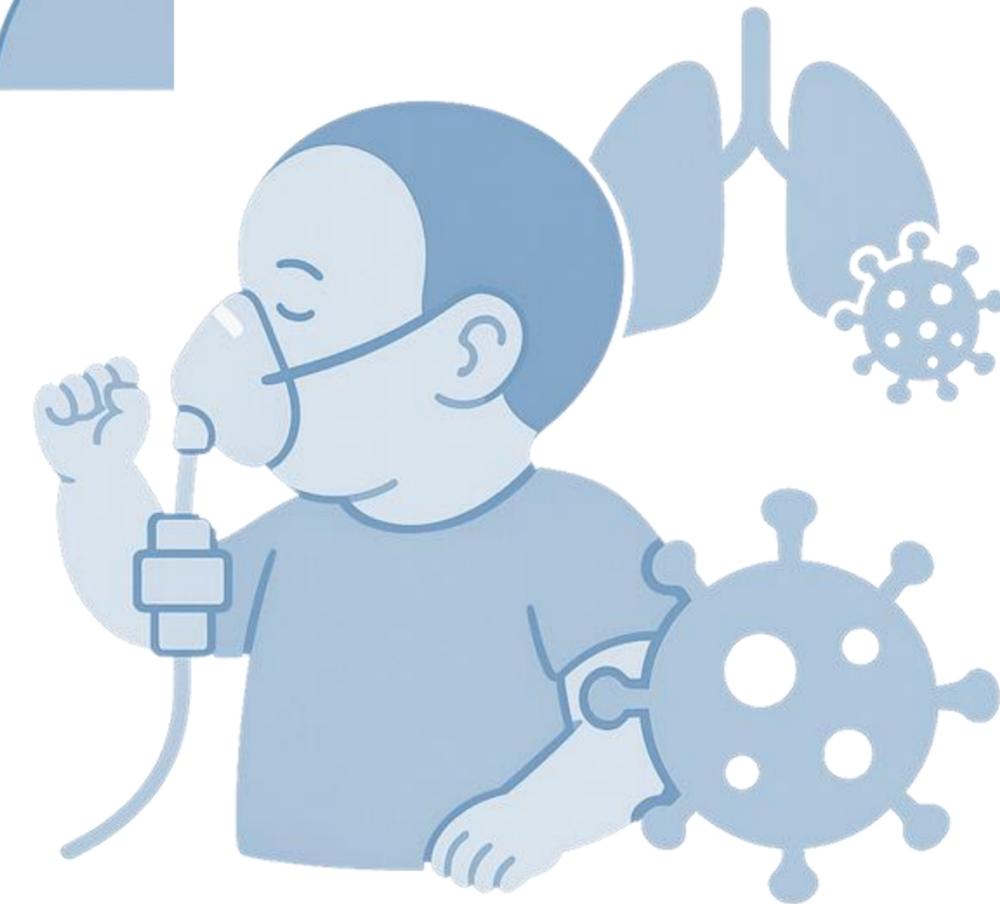


► Clinical spectrum:

- Mild disease: upper respiratory symptoms
- Moderate: bronchiolitis, bronchitis
- **Severe:** pneumonia, acute respiratory failure

► Management: mainly supportive

- oxygen therapy
- respiratory support



RSV is a key driver of SARI burden and hospitalizations globally

Importance of Clinical Management

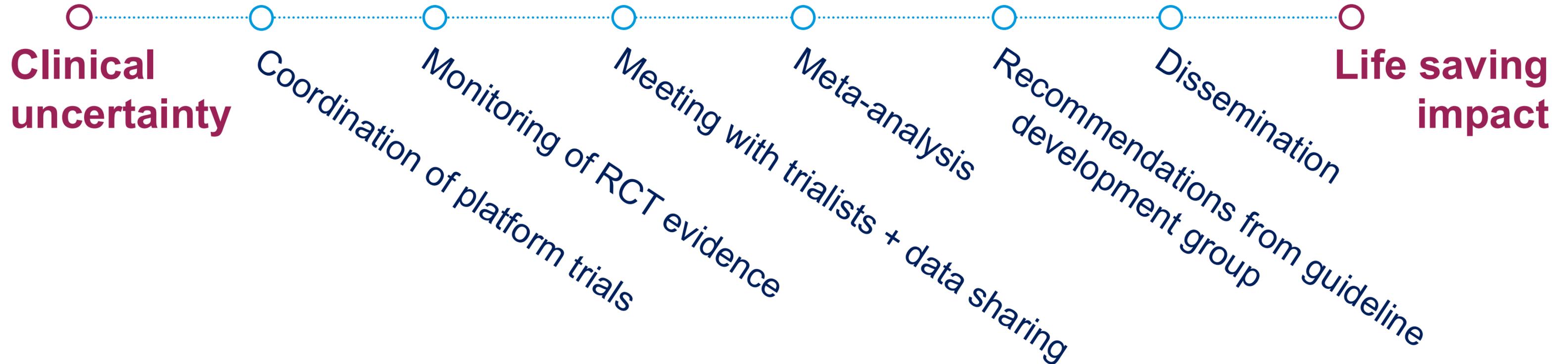
- RSV is a major cause of severe respiratory illness and hospitalizations, especially in infants and older adults
- No widely available antiviral treatment → outcomes depend on timely and effective supportive care
- **Adequate clinical management reduces:**
 - **Lethality**
 - **Hospital / ICU admissions**
 - **Complications (e.g., ARDS, secondary infections)**
- Strongly dependent on:
 - availability of oxygen and trained staff
 - organized care pathways (SARI management)



Effective clinical management is critical to reduce RSV-related morbidity and mortality

Elaboration of guidelines: rapid, transparent and trustworthy evidence to the bedside

● ————— Average time 8-12 weeks —————>



Collaboration of hundreds of people...

clinicians, researchers, methodologists, systematic reviewers, journal editors, patients and families



Methodology

-GRADE (Grading of Recommendations, Assessment, Development and Evaluation) approach
Multidisciplinary Expert Panel convened, with conflict-of-interest disclosure

Target Populations

- **Pediatric population** (including preterm and high-risk infants)
- **Adult population** (older adults and individuals with comorbidities)
- **Pregnant population**

-Development of 8 PICO questions, followed by systematic evidence review
Guideline Development Group (GDG) face-to-face meeting (Bogotá, September 2025)
 Recommendations formulated using a **modified Delphi method**, prioritizing:

Clinical relevance

Feasibility

Equity

Regional applicability

Consensus Criteria: achieved with **≥80% agreement** among GDG members

-Panel of external reviewers

Real-world effectiveness of nirsevimab against respiratory syncytial virus disease in infants: a systematic review and meta-analysis

Devan M Sumritman, Zhen Wang, Joanne M Langley, Syed M Mughadas

Summary
 Background: Nirsevimab was approved in 2023, and implemented in all-infant immunisation programmes in several high-income countries to prevent lower respiratory tract infection (LRTI) caused by respiratory syncytial virus (RSV). Knowledge of real-world effectiveness of broad nirsevimab programmes is crucial to validate the benefits observed in clinical trials and guide immunisation policy. We assessed the real-world effectiveness of nirsevimab in populations where infant immunisation programmes were introduced.

Methods
 For this systematic review and meta-analysis, we searched MEDLINE, Embase, Web of Science, Scopus, Global Health, and medRxiv from Jan 1, 2023, to Feb 25, 2025, to identify observational studies of immunisation programmes for infants aged 2 years or younger in routine clinical practice reporting original data for the real-world effectiveness of nirsevimab. The primary analysis focused on infants aged 12 months or younger. Pooled analyses were done with inverse-variance random-effects models for RSV-related hospital admissions, intensive care unit (ICU) admissions, and RSV-related LRTI incidence. For length of hospital stay, we used a restricted maximum likelihood random-effects model to estimate the weighted mean difference (WMD) in days between the nirsevimab and control groups. This study is registered with PROSPERO (CRD42024428782).

Findings
 We identified and screened 1238 records, of which 32 cohort and case-control studies from five countries (France, Italy, Luxembourg, Spain, and the USA) were included in the systematic review and 27 of them were included in the meta-analysis. Nirsevimab was associated with a lower odds of RSV-related hospitalisation (odds ratio 0.37; 95% CI 0.12–0.23; P=85–85%), a lower odds of ICU admission (0.29; 0.12–0.29; 55–6%), and a lower odds of LRTI incidence (0.25; 0.19–0.33; 35–15%) in infants aged 0–12 months. However, length of hospital stay did not differ between the nirsevimab and control groups (WMD 0.41; 95% CI –0.43 to 0.65; P=62–37%).

Interpretation
 Our findings indicate that the benefits of nirsevimab observed in clinical trials are also evident in real-world settings, effectively reducing the burden of RSV disease in infants and, consequently, health-care use.

Funding
 Natural Sciences and Engineering Research Council of Canada and the Canadian Immunization Research Network.

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Introduction
 Respiratory syncytial virus (RSV) is a leading cause of lower respiratory tract infection (LRTI), including pneumonia and bronchiolitis, in young children and infants, with the highest burden occurring in the first 6 months of life.¹ Globally, RSV is responsible for approximately 3–2 million hospitalisations and up to 200 000 deaths annually in children younger than age 5 years.² The economic burden of RSV-related LRTI in young children is substantial, with hospitalisations representing the largest share of health-care costs.³ The surge in illness with annual outbreaks places substantial strain on paediatric emergency departments, hospital bed availability, and health-care staff, thereby disrupting the provision of other care.

Nirsevimab, a long-acting monoclonal antibody, has been approved by several regulatory agencies, including the European Medicines Agency,⁴ the UK Medicines and Healthcare products Regulatory Agency,⁵ Health Canada,⁶ and the US Food and Drug Administration,⁷ based on prelicensure trial evidence showing its safety and efficacy in preventing RSV-associated LRTI in infants aged 12 months or younger, and in children with chronic conditions aged younger than 2 years.^{8,9} Nirsevimab provides immediate passive immunity through a single intramuscular injection administered before the onset of RSV season, offering protection for at least 150 days.¹⁰ Randomised controlled trials of nirsevimab have shown high efficacy against RSV-related LRTI and severe disease outcomes,¹¹ but its effectiveness might vary in real-world settings.

Several postlicensure real-world effectiveness studies have shown that the effectiveness of nirsevimab is influenced by factors such as age of infants, population

Author(s):

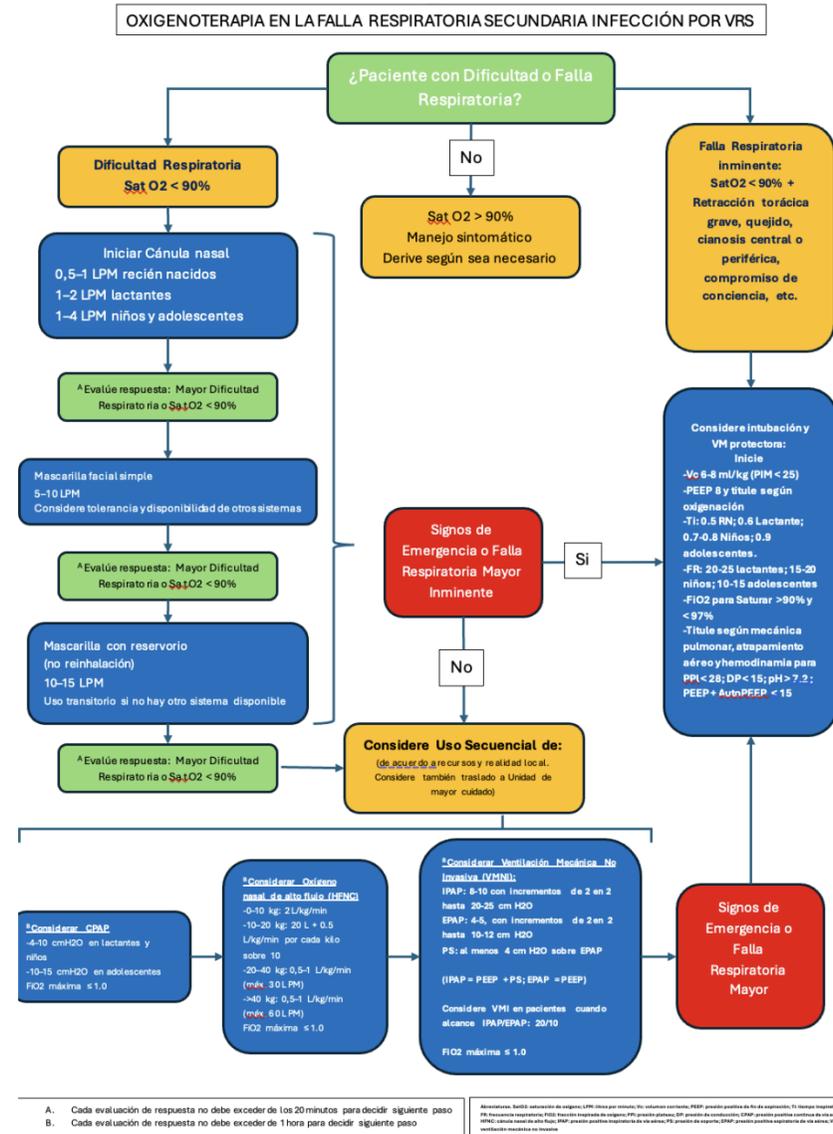
Question: Prophylaxis with a single dose of nirsevimab before or at the start of the RSV season compared to no prophylaxis with nirsevimab (usual care). In infants younger than 6 months born during or before the start of RSV season (includes full-term and preterm infants with no other risk factors) and < 24 months with risk factors in RSV season

Setting:

Bibliography:

Certainty assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Prophylaxis with a single dose of nirsevimab before or at the start of the RSV season	No prophylaxis with nirsevimab (usual care)	Relative (95% CI)	Absolute (95% CI)		
Hospitalization for RSV												
2 ¹³	randomised trials	not serious	not serious	not serious	not serious	none	12/1536 (0.8%)	37/1025 (3.6%)	RR 0.21 (0.11 to 0.41)	29 fewer per 1,000 (from 32 fewer to 21 fewer)	⊕⊕⊕⊕ High	CRITICAL
Hospitalization for RSV												
16 ¹⁴	non-randomised studies	serious	not serious	not serious	not serious	none	15858242 (1.0%)	397921893 (7.7%)	OR 0.17 (0.12 to 0.23)	63 fewer per 1,000 (from 67 fewer to 58 fewer)	⊕⊕⊕○ Moderate	IMPORTANT
Admission to PICU												
0 ¹	non-randomised studies	serious	not serious	not serious	not serious	none	17679545 (0.2%)	61948023 (1.2%)	OR 0.19 (0.12 to 0.29)	10 fewer per 1,000 (from 11 fewer to 9 fewer)	⊕⊕⊕○ Moderate	IMPORTANT
RSV-related LTRI incidence												
7 ¹	non-randomised studies	serious	not serious	not serious	not serious	none	30246303 (0.8%)	10490509 (11.0%)	OR 0.25 (0.19 to 0.33)	90 fewer per 1,000 (from 87 fewer to 77 fewer)	⊕⊕⊕○ Moderate	IMPORTANT
Infant medically treated for RSV Non-RSV wheezing/BRIs												
3 ¹	randomised trials	not serious	not serious	not serious	not serious	none	27/1131 (2.4%)	51576 (8.9%)	OR 0.25 (0.15 to 0.40)	85 fewer per 1,000 (from 74 fewer to 51 fewer)	⊕⊕⊕⊕ High	IMPORTANT

Case management



RESPIRATORY SAMPLE COLLECTION FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES' DIAGNOSIS

To ensure accurate diagnosis of respiratory viruses, it is imperative to collect the correct specimen and to ensure the quality of the sample.

Sample collection

Collection of specimens must be done using flocked nylon swabs and placed immediately in 3 ml of viral transport medium (VTM). Swabs with cotton tips and wooden shafts are not recommended.

Samples should be collected by trained personnel and considering all biosecurity instructions including the use of personal protective equipment appropriate for respiratory viruses.

Label the collected tubes properly. Specimens should be collected as close to illness onset as possible (ideally within 3-4 days after onset of clinical symptoms) and refrigerated (4-8 °C) promptly after collection.

Types of specimens and procedure

Nasopharyngeal is the optimal upper respiratory tract specimen collection method for influenza testing.

Nasopharyngeal swab

- 1 - Insert swab into nostril. (Swab should reach depth equal to distance from nostril to outer opening of ear) leave swab in place for several seconds to absorb secretions.
- 2 - Slowly remove swab while rotating it. Use the same swab for both nostrils.
- 3 - Place tip of swab into sterile viral transport media tube and separate off the applicator stick.

Nasopharyngeal/Nasal Aspirate

- 1 - Attach catheter to suction apparatus.
- 2 - Insert catheter into nostril. (Catheter should reach depth equal to distance from nostril to outer opening of ear.)
- 3 - Insert gentle suction. Remove catheter while rotating it gently.
- 4 - Place specimen in sterile viral transport media tube.

Nasopharyngeal/Nasal Wash

- 1 - Attach catheter to suction apparatus.
- 2 - Insert several drops of sterile normal saline into each nostril.
- 3 - Insert catheter into nostril. Catheter should reach depth equal to distance from nostril to outer opening of ear.
- 4 - Begin gentle suction. Remove catheter while rotating it gently.

Nasal Swab

- 1 - While gently rotating the swab, insert swab less than one inch into nostril (until resistance is met or turbulence).
- 2 - Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.
- 3 - Place tip of the swab into sterile viral transport media tube and cut off the applicator stick.

Combined Nasal & Throat Swab

- 1 - While gently rotating the swab, insert swab less than one inch into nostril (until resistance is met or turbulence).
- 2 - Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.
- 3 - Place tip of the swab into sterile viral transport media tube and cut off the applicator stick.
- 4 - For throat swab, take a second dry polyester swab, insert into mouth, and swab the posterior pharynx and tonsillar areas. Tongue should be avoided.
- 5 - Place tip of the swab into the same tube and cut off the applicator tip.

Sample storage and transport

During transport to the reference laboratory ensure that the cold chain is maintained. Vials should be transported upright and secured in a screw cap container or in a rack in a transport box.

Samples should be kept refrigerated (4-8 °C) and sent to the laboratory (central, national or reference lab) where they should be processed within the first 24-72 hours from the collection. If samples cannot be sent within this period, they should be kept frozen at or below -70 °C.

Shipment of suspected samples for further analysis to reference laboratories or collaborating centers outside of the country and by air must ensure compliance with all international standards (IATA). For further information, please contact flu@paho.org



https://www.youtube.com/watch?v=Utzl7uOgJK0&ab_channel=PAHOTV

Respiratory sample collection infographic

ABCDE Approach: Assessment and Management

RSV



A - Airway

Assessment: Airway patency, stability

Intervention: Positioning, suction, airway adjuncts (cannula, laryngeal mask), consider intubation



B - Breathing

Assessment: Respiratory distress, hypoxia, obstructive signs

Intervention: Respiratory rate, pulse oximetry, oxygen therapy, assisted ventilation, bronchodilators, corticosteroids



C - Circulation

Assessment: Capillary refill, heart rate/rhythm, blood pressure

Intervention: IV access, ECG monitoring, fluid therapy, vasoactive drugs



D - Disability (Neurologic)

Assessment: Level of consciousness, pupils, motor response, seizures, glucose, pain

Intervention: Glasgow Coma Scale, AVPU scale, benzodiazepines, glucose testing, sedation and analgesia



E - Exposure

Assessment: Full exposure to assess injuries, temperature, rashes

Intervention: Control bleeding, serial temperature monitoring

Recommendation 1 – RSV vaccination in Older Adults



Strong recommendation for

In older adults (60-74 years old) or adults < 60 years old with comorbidities, the Pan American Health Organization panel **recommend giving RSV vaccination (Pfizer ABRYSVO (1 IM dose) or GSK-AREXVY (1 IM dose) compared to no vaccination (strong recommendation, moderate certainty evidence)**

RSV vaccination (Pfizer ABRYSVO (1 IM dose) or GSK-AREXVY (1 IM dose) compared to no vaccination in older adults (60-74 years old) or < 60 years old with comorbidities

Patient or population: older adults (60-74 years old) or < 60 years old with comorbidities
Setting:
Intervention: RSV vaccination (Pfizer ABRYSVO (1 IM dose) or GSK-AREXVY (1 IM dose)
Comparison: no vaccination

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with no vaccination	Risk difference with RSV vaccination (Pfizer ABRYSVO (1 IM dose) or GSK-AREXVY (1 IM dose))
Lower respiratory tract infection/disease	59250 (2 RCTs) ^{1,2}	⊕⊕⊕⊕ High	RR 0.24 (0.18 to 0.32)	8 per 1,000	6 fewer per 1,000 (from 7 fewer to 6 fewer)
Severe Lower respiratory tract infection/disease	24966 (1 RCT) ¹	⊕⊕⊕○ Moderate ^{c,d}	RR 0.20 (0.12 to 0.35)	6 per 1,000	5 fewer per 1,000 (from 5 fewer to 4 fewer)
Medically treated for RSV LRTD	47 (1 RCT) ^{3,k}	⊕○○○ Very low ^{d,m}	RR 0.80 (0.29 to 2.17)	600 per 1,000	120 fewer per 1,000 (from 426 fewer to 702 more)
Fever	676 (1 RCT) ⁴	⊕⊕○○ Low ^{d,m}	RR 1.16 (0.30 to 4.45)	13 per 1,000	2 more per 1,000 (from 9 fewer to 46 more)

Strong recommendation for RSV vaccination rests mainly on:

- moderate benefits in terms of reduction in acute respiratory infection (11 fewer per 1000)
- lower respiratory tract infection (6 fewer per 1000)

(Ison et al., 2025, Walsh et al., 2023)



Recommendation 2 – RSV vaccination Pregnancy



Strong recommendation for

In pregnancy (28 to 36 weeks), the Pan American Health Organization panel **recommend RSV vaccination (Pfizer ABRYSVO (1 IM dose))** compared to no vaccination (strong recommendation, moderate certainty evidence)

RSV vaccination (Pfizer - ABRYSVO, RSVpreF) during pregnancy (28 to 36 weeks) compared to no vaccination in pregnant women

Patient or population: pregnant women

Setting:

Intervention: RSV vaccination (Pfizer - ABRYSVO, RSVpreF) during pregnancy (28 to 36 weeks)

Comparison: no vaccination

Outcomes	Nº of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with no vaccination	Risk difference with RSV vaccination (Pfizer - ABRYSVO, RSVpreF) during pregnancy (28 to 36 weeks)
Hospitalization in the first 6 months for RSV	7148 (1 RCT) ^{1,a,b,c}	⊕⊕⊕○ Moderate ^d	RR 0.45 (0.27 to 0.75)	13 per 1,000	7 fewer per 1,000 (from 10 fewer to 3 fewer)
Medically attended severe RSV-LRTI (definition includes ICU >4h, HFNC, MV, SpO ₂ <93%) - 90 days after birth	7148 (1 RCT) ^{1,e}	⊕⊕⊕○ Moderate ^d	RR 0.18 (0.07 to 0.42)	10 per 1,000	8 fewer per 1,000 (from 9 fewer to 6 fewer)
Medically attended severe RSV-LRTI (definition includes ICU >4h, HFNC, MV, SpO ₂ <93%) - 180 days after birth	7148 (1 RCT) ¹	⊕⊕⊕○ Moderate ^d	RR 0.30 (0.19 to 0.49)	20 per 1,000	14 fewer per 1,000 (from 16 fewer to 10 fewer)
Medically Attended RSV-Associated Lower Respiratory Tract Illness- 90 days after birth	7148 (1 RCT) ¹	⊕⊕⊕○ Moderate ^d	RR 0.43 (0.27 to 0.68)	17 per 1,000	9 fewer per 1,000 (from 12 fewer to 5 fewer)
Medically Attended RSV-Associated Lower Respiratory Tract Illness- 180 days after birth	7148 (1 RCT) ¹	⊕⊕⊕⊕ High	RR 0.51 (0.38 to 0.69)	37 per 1,000	18 fewer per 1,000 (from 23 fewer to 11 fewer)
infants with RSV-LRTI with SpO ₂ <90% - 90 days after birth - for the prioritized Respiratory support (NIV, CNAF and VM)	7148 (1 RCT) ¹	⊕⊕⊕○ Moderate ^d	RR 0.21 (0.06 to 0.74)	4 per 1,000	3 fewer per 1,000 (from 4 fewer to 1 fewer)
infants with RSV-LRTI with SpO ₂ <90% - 180 days after birth - for the prioritized Respiratory support (NIV, CNAF and VM)	7148 (1 RCT) ¹	⊕⊕⊕○ Moderate ^d	RR 0.45 (0.20 to 0.98)	6 per 1,000	3 fewer per 1,000 (from 4 fewer to 0 fewer)
Infant RSV specific Mortality <6 months	6975 (1 RCT) ²	⊕⊕○○ Low ^{d,f}	RR 0.33 (0.01 to 8.15)	0 per 1,000	0 fewer per 1,000 (from 0 fewer to 2 more)

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: confidence interval; RR: risk ratio

GRADE Working Group grades of evidence

High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.

Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.

Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.



Recommendation 3 – Hypertonic Saline

Conditional recommendation for

In children under 2 years of age hospitalized with suspected or confirmed RSV infection, the Pan American Health Organization panel suggest using nebulized hypertonic saline solution (3%) compared to nebulized normal saline (conditional recommendation, low certainty evidence)

Remarks: It is important to follow up on clinical severity and to stop management with hypertonic saline if no improvement is observed.

Nebulized hypertonic saline solution (3%) compared to nebulized normal saline in children under 2 years of age in the emergency room or hospitalized with suspected RSV infection or infection

Patient or population: children under 2 years of age in the emergency room or hospitalized with suspected RSV infection or infection

Setting: outpatient, inpatient and emergency department

Intervention: nebulized hypertonic saline solution (3%)

Comparison: nebulized normal saline

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with nebulized normal saline	Risk difference with nebulized hypertonic saline solution (3%)
Length of hospital stay (days)	2803 (25 RCTs) ^{1,2,3,4}	⊕⊕○○ Low ^a	-	The mean length of hospital stay (days) was 0	MD 0.52 fewer (0.76 fewer to 0.27 fewer)
Rate of hospitalisation follow-up: range 1 hours to 72 hours after enrollment	1980 (10 RCTs) ^{1,5}	⊕⊕○○ Low ^b	RR 0.86 (0.76 to 0.97)	411 per 1,000	58 fewer per 1,000 (from 99 fewer to 12 fewer)
Clinical severity score (post-treatment) at day 1 assessed with: Assessed with: Wang clinical severity score (Scale from 0 to 12; lower = better)	1377 (13 RCTs) ^{1,2,3,5}	⊕⊕⊕○ Moderate ^a	-	The mean clinical severity score (post-treatment) at day 1 was 0	MD 0.8 lower (1.2 lower to 0.5 lower)

Recommendation 4 – Salbutamol

Conditional recommendation against

In pediatric patients under 2 years of age in the emergency department or hospitalized with suspected or confirmed RSV infection, the Pan American Health Organization panel suggest **not using nebulized or inhaled salbutamol compared to conventional management** (oxygen therapy if indicated, hydration and fever control if present) and nebulization with SS 0.9% (conditional recommendation against, low certainty evidence)

Nebulized or inhaled salbutamol compared to Conventional management (oxygen therapy if indicated, hydration and fever control if present) and nebulization with SS 0.9% in pediatric patients under 2 years of age in the emergency department or hospitalization with suspected or confirmed RSV infection,

Patient or population: pediatric patients under 2 years of age in the emergency department or hospitalization with suspected or confirmed RSV infection,

Setting:

Intervention: nebulized or inhaled salbutamol

Comparison: Conventional management (oxygen therapy if indicated, hydration and fever control if present) and nebulization with SS 0.9%

Outcomes	Nº of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with Conventional management (oxygen therapy if indicated, hydration and fever control if present) and nebulization with SS 0.9%	Risk difference with nebulized or inhaled salbutamol
Length of hospitalization	146 (2 RCTs) ^{1,2,a,b,c}	⊕⊕○○ Low ^d	-	The mean length of hospitalization was 0	MD 0.01 higher (0.55 lower to 0.58 higher)
Hospitalization rate - not reported	-				
Clinical severity score	430 (8 RCTs) ^{2,b,f}	⊕⊕○○ Low ^{g,hi}	-	The mean clinical severity score was 0	MD 0.03 higher (0.33 lower to 0.38 higher)
Heart rate	385 (4 RCTs) ^{2,b,j,k}	⊕⊕○○ Low ^{l,m}	-	The mean heart rate was 0	MD 1.95 higher (2.02 lower to 5.91 higher)
Oxygen saturation	298 (4 RCTs) ^{2,b,n}	⊕⊕○○ Low ^{l,m}		The mean oxygen saturation was 0	MD 0.03 lower (0.69 lower to 0.62 higher)

Recommendation 5 – Corticosteroids

Conditional recommendation against

In children with RSV infection, the Pan American Health Organization panel suggest **not using systemic corticosteroids (oral or parenteral)** compared to standard treatment (oxygen therapy if indicated, hydration and fever control if present) (conditional recommendation against, moderate certainty evidence)

Systemic corticosteroids (oral or parenteral) compared to standard treatment (oxygen therapy if indicated, hydration and fever control if present) without corticosteroids in children with RSV infection

Patient or population: children with RSV infection
Setting:
Intervention: systemic corticosteroids (oral or parenteral)
Comparison: standard treatment (oxygen therapy if indicated, hydration and fever control if present) without corticosteroids

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with standard treatment (oxygen therapy if indicated, hydration and fever control if present) without corticosteroids	Risk difference with systemic corticosteroids (oral or parenteral)
Length of stay - days	832 (9 RCTs) ^{1,2,3,4,5,6,a,b,c,d}	⊕⊕⊕○ Moderate ^e	-	The mean length of stay - days was 0	MD 0.2 lower (0.406 lower to 0.005 higher)
Clinical scores (change from baseline data)- 3 to 6 hours	174 (1 RCT) ^{3,7,d,f}	⊕⊕○○ Low ^{e,g}	-	-	SMD 1.03 SD lower (1.87 lower to 0.19 lower)
Clinical scores (change from baseline data)- 6 to 12 hours	269 (3 RCTs) ^{2,3,7,d,h}	⊕⊕⊕○ Moderate ^e	-	-	SMD 0.62 SD lower (1 lower to 0.23 lower)
Clinical scores (change from baseline data)- 12 to 24 hours	264 (3 RCTs) ^{7,d,i}	⊕⊕○○ Low ^{e,j}	-	-	SMD 0.28 SD lower (0.66 lower to 0.09 higher)

Recommendation 6 – Palivizumab

Conditional recommendation for

In high-risk children aged less than two years old, the Pan American Health Organization panel **suggest administering palivizumab in full 5-dose regimen** compared to no prophylaxis (vaccine or long action monoclonal antibodies) (conditional recommendation, moderate certainty evidence)

Remarks:

1. High risk children aged less than two years include children born prematurely or with bronchopulmonary dysplasia, congenital heart disease, down syndrome, cystic fibrosis, immunodeficiencies, neuromuscular diseases or severe anatomical malformations via the air or lungs.
2. Full schedule (5 doses) is the most expensive option; cost-effectiveness is variable. It should be considered only when no other prophylaxis strategies are available. Target population: infants <2 years; prioritize those at high risk.

Justification

The conditional recommendation for palivizumab prophylaxis in **high-risk children younger than two years of age** children with explicitly specified conditions and scenarios of use rests mainly on the **reduction in hospitalisation due to RSV infection (55 fewer per 1000), a probable reduction in hospitalisation due to respiratory-related illness (69 fewer per 1000), and a possible reduction in RSV infection (131 fewer per 1000),**

Concerns were specifically around values and preferences, feasibility, acceptability, cost, cost effectiveness and equity where they were not in favor of the **intervention except possibly in high-risk groups due to the large costs, the possible lack of coverage and the 5-dose regimen that requires follow-up and monitoring.** The GDG considered the reduction in the critical outcomes to be clinically relevant, specifically for high-risk groups.



Recommendation 7 – Nirsevimab

Strong recommendation for

In infants younger than 6 months born during or before the start of RSV season (includes full-term and preterm infants with no other risk factors) and < 24 months with risk factors), the Pan American Health Organization panel **recommend taking a single dose of nirsevimab before or at the start of the RSV season as prophylaxis** compared to no prophylaxis with nirsevimab (usual care) (strong recommendation, high certainty evidence)

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with No prophylaxis with nirsevimab (usual care).	Risk difference with Prophylaxis with a single dose of nirsevimab before or at the start of the RSV season
Hospitalization for RSV (Critical)	2561 (2 RCTs) ^{1,2,3,a}	⊕⊕⊕⊕ High	RR 0.21 (0.11 to 0.41)	36 per 1,000	29 fewer per 1,000 (from 32 fewer to 21 fewer)
Hospitalization for RSV (Important)	137135 (16 non-randomised studies) ^{4,5,b}	⊕⊕⊕○ Moderate ^c	OR 0.17 (0.12 to 0.23)	77 per 1,000	63 fewer per 1,000 (from 67 fewer to 58 fewer)
Admission to PICU (Important)	127568 (9 non-randomised studies) ⁵	⊕⊕⊕○ Moderate ^c	OR 0.19 (0.12 to 0.29)	13 per 1,000	10 fewer per 1,000 (from 11 fewer to 9 fewer)
Infant medically treated for RSV Non-RSV wheezing/BRIs (Important)	1707 (3 RCTs) ¹	⊕⊕⊕⊕ High	OR 0.25 (0.15 to 0.40)	89 per 1,000	65 fewer per 1,000 (from 74 fewer to 51 fewer)



Recommendation 7 – Nirsevimab

Strong recommendation for

In infants younger than 6 months born during or before the start of RSV season (includes full-term and preterm infants with no other risk factors) and < 24 months with risk factors), the Pan American Health Organization panel **recommend taking a single dose of nirsevimab before or at the start of the RSV season as prophylaxis** compared to no prophylaxis with nirsevimab (usual care) (strong recommendation, high certainty evidence)

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects	
				Risk with No prophylaxis with nirsevimab (usual care).	Risk difference with Prophylaxis with a single dose of nirsevimab before or at the start of the RSV season
Hospitalization for RSV (Critical)	2561 (2 RCTs) ^{1,2,3,a}	⊕⊕⊕⊕ High	RR 0.21 (0.11 to 0.41)	36 per 1,000	29 fewer per 1,000 (from 32 fewer to 21 fewer)
Hospitalization for RSV (Important)	137135 (16 non-randomised studies) ^{4,5,b}	⊕⊕⊕○ Moderate ^c	OR 0.17 (0.12 to 0.23)	77 per 1,000	63 fewer per 1,000 (from 67 fewer to 58 fewer)
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Infant medically treated for RSV Non-RSV wheezing/BRIs (Important)	1707 (3 RCTs) ¹	⊕⊕⊕⊕ High	OR 0.25 (0.15 to 0.40)	89 per 1,000	65 fewer per 1,000 (from 74 fewer to 51 fewer)



Declaration of good practice

Do not administer empiric antibiotics in patients with respiratory syncytial virus (RSV) infection.

Prescribe antibiotics only when there is a well-founded clinical suspicion or diagnostic confirmation of bacterial co-infection and, in such a case, use reduced-spectrum schemes, in accordance with local guidelines and the age of the patient.



Adapting Clinical Guidelines

ASSESS, REVIEW & SIMPLIFY

1. Rapid Context Assessment

- Disease burden, seasonality, and population size
- Available workforce, medicines, oxygen, ICU capacity, PCR
- Supply chain reliability and referral pathways

2. Prioritization & Feasibility Review

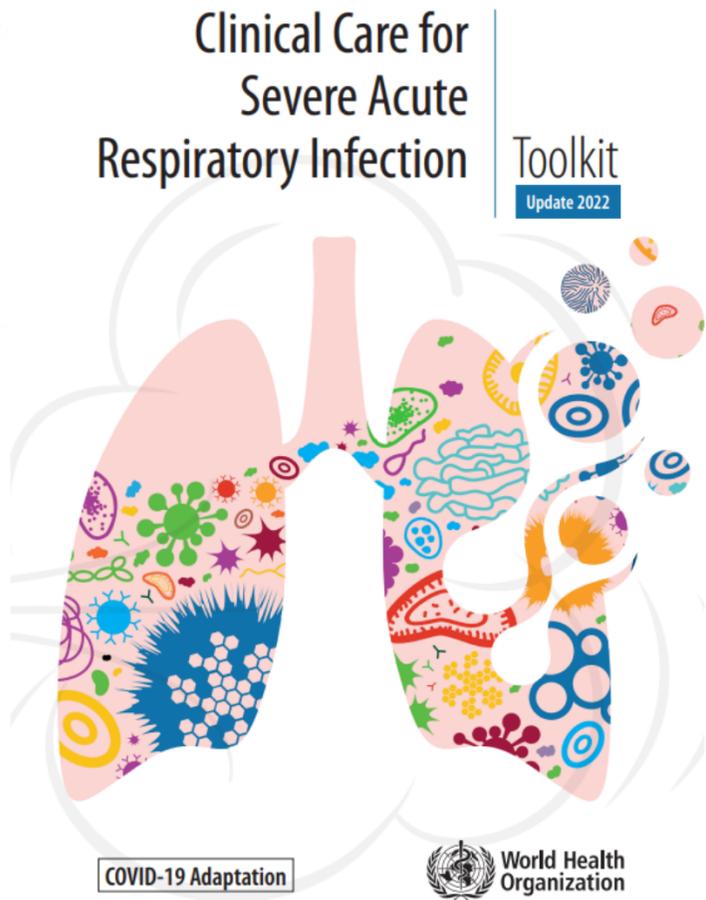
- Identify high-impact, low-cost interventions
- Remove or defer non-feasible recommendations
- Align with essential medicines list

3. Simplification

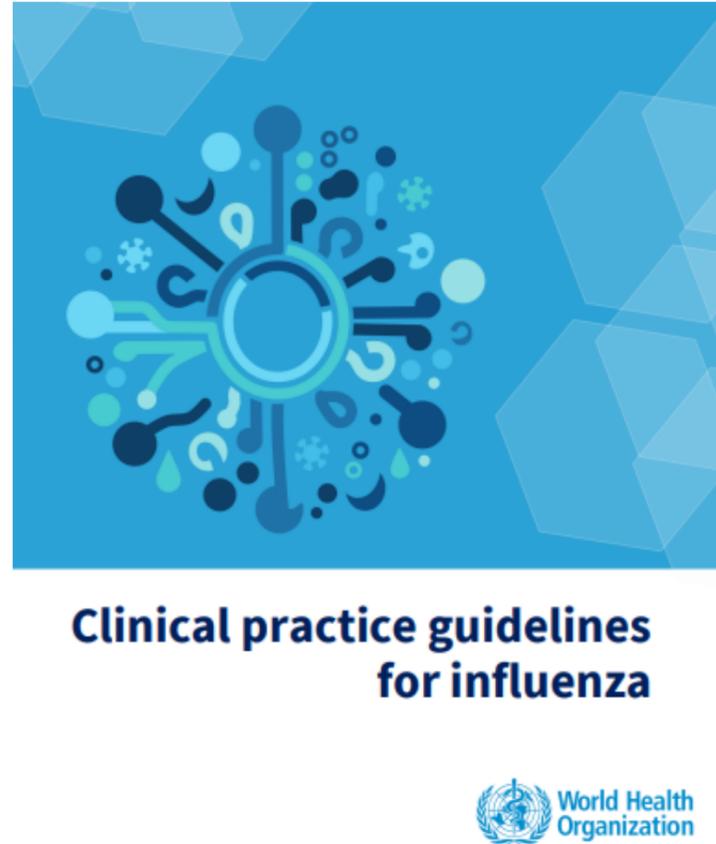
- Develop concise algorithms (1-2 pages flowcharts)
- Standardize triage, referral, and escalation criteria



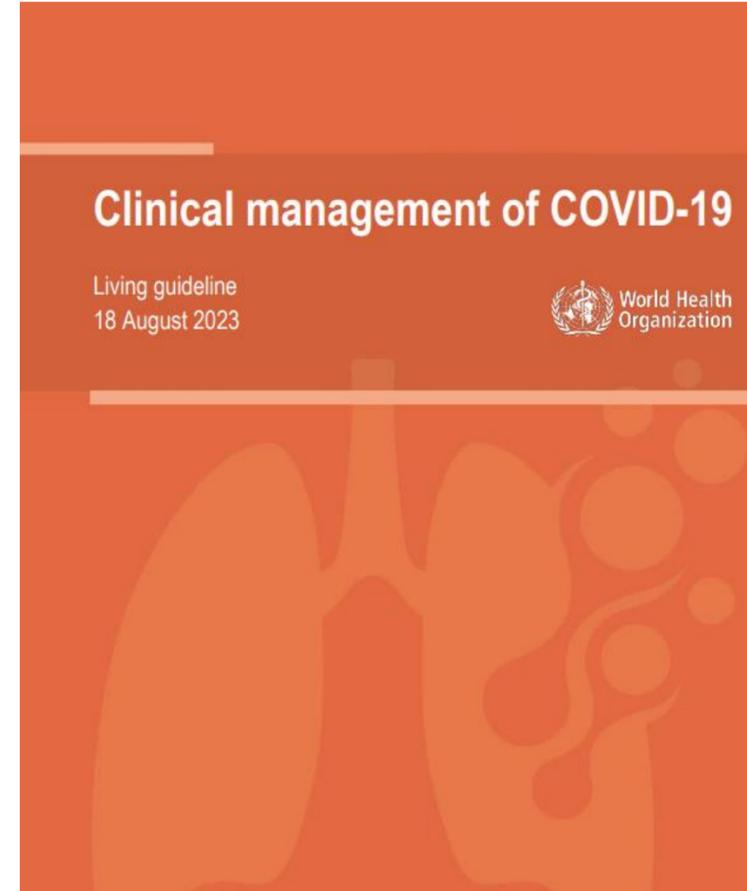
References



[Clinical care of severe acute respiratory infections – Tool kit](#)



[Clinical practice guidelines for influenza](#)



[Guideline Clinical management of COVID-19: living guideline](#)

Therapeutics and COVID-19: living guideline
([magicapp.org](https://app.magicapp.org))
<https://app.magicapp.org/#/guideline/nBkO1E>

Evidence-based Clinical Practice Guideline for Respiratory Syncytial Virus (RSV): Recommendations of the Pan American Health Organization

OPS Organización Panamericana de la Salud Organización Mundial de la Salud Región de las Américas
Washington DC, 2026



Thank you!
¡Gracias!
Obrigado!
Merci !

- Andrea Vicari (IHM)
- Angel Rodríguez (IHM)
- Fernando Tortosa (EIH)
- Francisco Nogareda (CIM)
- Jairo Méndez (IHM)
- Juliana Leite (IHM)
- Ludovic Reveiz (EIH)
- Marc Rondy (IHM)
- Milena Corredor (IHM)
- Paula Couto (IHM)
- Priscila Born (IHM)

Acknowledgments

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