Infection Control in Healthcare Personnel: Epidemiology and Control of Selected Infections Transmitted Among Healthcare Personnel and Patients

Viral Respiratory Infections Supplement

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This document contains supplementary information to the Viral Respiratory Infections section of the Infection Control in Healthcare Personnel: Epidemiology and Control of Selected Infections Transmitted Among Healthcare Personnel and Patients, 2026.

A. Background

Work restrictions for exposed or infected HCP are a critical intervention to interrupt transmission and are considered a mainstay of infection prevention and control in healthcare settings. However, restricting HCP from work can lead to staffing shortages and potential lapses in HCP safety and suboptimal patient care.[1-3] Therefore, it is important to exclude HCP for long enough to mitigate the risk of transmission to others while minimizing unintended health and safety consequences at the same time. The criteria for determining the duration of HCP exclusion from work include the duration of the infectious period, availability of other interventions (e.g., masking) that may reduce the risk of transmission, and potential for unintended consequences from excluding HCP from work. However, the duration of the infectious period is difficult to define and likely overestimated when relying on the duration of viral shedding alone. Generation time, defined as the time from the moment of infection in a primary case to infection in a secondary case, includes the duration of the infectious period but is impractical to measure as the moment of infection is often unknown.[4] The incubation period is defined as the time between the moment of infection and symptom onset, and while transmission may occur during this period, what is relevant to managing infected healthcare personnel, is that most individuals only realize they are contagious once symptoms begin. Serial interval, defined as the time from symptom onset in a primary case to symptom onset in a secondary case, can be used to approximate generation time. By subtracting the incubation period from the serial interval, the duration of the symptomatic contagious period (i.e., time from symptom onset to the end of contagiousness) can be estimated and used to inform the duration of work restrictions.[5]

The *Guideline for infection control in health care personnel, 1998*[6] (1998 Guideline) did not provide recommendations on the management of healthcare personnel (HCP) exposed to a respiratory virus or those with suspected or confirmed viral respiratory infections in non-outbreak settings. In the intervening years, CDC developed guidance for the management of symptomatic HCP with suspected influenza virus infection[7], and for HCP exposed to and infected with SARS-CoV-2 based on the presence or absence of symptoms[8]. The recent accumulation of publications on respiratory virus transmission offered the opportunity to update existing guidance for the duration of work restrictions and source control for infected or exposed HCP using evidence-based methods.

Many systematic reviews report the mean serial interval or the mean duration of shedding. If a measure of central tendency, such as the mean, is used to inform the day HCP can return to work, it is possible a substantial proportion of people may still be shedding or potentially transmitting after that day, which is an unacceptable risk in healthcare. An integrated analysis, published in 2025, estimated the daily risk for transmission from previously healthy adults infected with symptomatic SARS-CoV-2 Omicron variant and influenza A virus[5]. The integrated analysis reported the daily changes in the proportion of people whose viral shedding resolved, and the number of secondary cases that experienced symptom

onset to estimate risk thresholds for transmission, which is a safer measure upon which to base decisions than a mean or median. The objective of this document is to develop evidence-based recommendations using the GRADE methodology and an update to the 2025 integrated analysis. This document includes the relevant evidence published since the end of the last literature search, updated analyses for the six systematic reviews, and the synthesis of these reviews assessing the potential association between the resolution of symptoms and the resolution of viral shedding, and the serial interval for the relevant pathogens.

B. Recommendations and Evidence to Decision Frameworks

B.1. Summary of Recommendations and Rationale

Recommendation Update:

1. For asymptomatic healthcare personnel who have a known or suspected exposure to a respiratory virus not addressed elsewhere in this guideline or other interim guidance[+]:
    - Work restrictions are not necessary.
    - Wear source control from the day of first exposure through at least the 5th day after last exposure[*].
    - Monitor for development of signs or symptoms of a viral respiratory infection for at least 5 days after their last exposure.
        - Healthcare personnel who develop signs or symptoms of a viral respiratory infection should be restricted from work as described in recommendation 2.
2. For healthcare personnel with a suspected or confirmed viral respiratory infection not addressed elsewhere in this guideline or other interim guidance[+]:

    - Restrict from work until:
        - At least 3 days have passed from symptom onset[**] (or from their first positive respiratory virus test if asymptomatic throughout their infection), AND
        - They are fever free for at least 24 hours without the use of antipyretics, AND
        - Symptoms are improving, AND
        - They feel well enough to return to work.

[+] This recommendation is intended to apply to respiratory viruses such as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), influenza, respiratory syncytial virus (RSV), parainfluenza, rhinovirus, human metapneumovirus, and additional adenoviruses, endemic coronaviruses, enteroviruses, and others. This recommendation is NOT intended to apply to viral respiratory pathogens addressed in other sections of this guideline (i.e., measles, mumps, rubella, varicella, cytomegalovirus, parvovirus B19, and viral conjunctivitis) or other interim guidance (e.g., Middle East Respiratory Syndrome coronavirus).

[*] Where the last day of exposure is day 0, making the first possible day of working without source control day 6

[**] Where the day of symptom onset is day 0, making the first possible day of return to work on day 4

- Wear source control upon return to work until at least the end of day 7, where the day of symptom onset (or first positive test if asymptomatic throughout their infection) is day 0[***].

Table 1. Adolopment Decision and Recommendation Rationale

2026 Recommendation	Recommendation Category	Adolopment Decision	Superseded Recommendations
1. For asymptomatic healthcare personnel who have a known or suspected exposure to a respiratory virus not addressed elsewhere in this guideline or other interim guidance[+]: • Work restrictions are not necessary.	Good Practice Statement (Existing Recommendation)	ADAPT SARS-CoV-2 interim recommendation[8] for work restrictions to apply to other respiratory viruses.	For HCP Who Were Exposed to Individuals with Confirmed SARS-CoV-2 Infection: Work restriction is not necessary for most asymptomatic HCP KQ1. following a higher-risk exposure, regardless of vaccination status.
1. For asymptomatic healthcare personnel who have a known or suspected exposure to a respiratory virus not addressed elsewhere this guideline or other interim guidance[+]: • Wear source control from the day of first exposure through the 5th day after last exposure[*].	Recommendation	ADAPT SARS-CoV-2 source control guidance[9] and interim recommendations[8] to apply other respiratory viruses.	For HCP Who Were Exposed to Individuals with Confirmed SARS-CoV-2 Infection: a. HCP should follow all recommended infection prevention and control practices, including wearing well-fitting source control, monitoring themselves for fever or symptoms consistent with COVID-19, and not reporting to work when ill or if testing positive for SARS-CoV-2 infection. Source control is recommended for individuals in healthcare settings who: b. Had close contact (patients and visitors) or a higher-risk exposure (HCP) with someone with SARS-CoV-2 infection, for 10 days after their exposure.
1. For asymptomatic healthcare personnel who have a known or suspected exposure to a respiratory virus not addressed elsewhere in this guideline or other interim guidance[+]: • Monitor for development of signs or symptoms of a viral respiratory infection for at least 5 days after their last exposure.	Good Practice Statement (Existing Recommendation)	ADAPT SARS-CoV-2 monitoring interim recommendations[8] to apply other respiratory viruses.	For HCP Who Were Exposed to Individuals with Confirmed SARS-CoV-2 Infection: 1. HCP should follow all recommended infection prevention and control practices, including wearing well-fitting source control, monitoring themselves for fever or symptoms consistent with COVID-19, and not reporting to work when ill or if testing positive for SARS-CoV-2 infection.
1. For asymptomatic healthcare personnel who have a known or suspected exposure to a respiratory virus not addressed elsewhere in this guideline or other interim guidance[+]:	Good Practice Statement (Existing Recommendation)	ADAPT SARS-CoV-2 interim recommendations[8] for HCP who develop symptoms to apply other respiratory viruses.	For HCP Who Were Exposed to Individuals with Confirmed SARS-CoV-2 Infection: HCP should follow all recommended infection prevention and control practices, including wearing well-fitting source control, monitoring themselves for fever or symptoms

[***] Making the first possible day of working without source control day 8

2026 Recommendation	Recommendation Category	Adolopment Decision	Superseded Recommendations
– Healthcare personnel who develop signs or symptoms of a viral respiratory infection should be restricted from work as described in recommendation 2.			consistent with COVID-19, and not reporting to work when ill or if testing positive for SARS-CoV-2 infection.
2. For healthcare personnel with a suspected or confirmed viral respiratory infection not addressed elsewhere in this guideline or other interim guidance[+]: • Restrict from work until: – At least 3 days have passed from symptom onset[**] (or from their first positive respiratory virus test if asymptomatic throughout their infection), AND	Recommendation	ADAPT SARS-CoV-2 interim recommendation[8] for work restrictions to apply to other respiratory viruses.	For HCP with SARS-CoV-2 Infection: 1. HCP with mild to moderate illness who are not moderately to severely immunocompromised could return to work after the following criteria have been met: a. At least 7 days have passed since symptoms first appeared if a negative viral test is obtained within 48 hours prior to returning to work (or 10 days if testing is not performed or if a positive test at day 5-7), and b. At least 24 hours have passed since last fever without the use of fever-reducing medications, and c. Symptoms (e.g., cough, shortness of breath) have improved.
2. For healthcare personnel with a suspected or confirmed viral respiratory infection not addressed elsewhere in this guideline or other interim guidance[+]: • Restrict from work until: – They are fever free for at least 24 hours without the use of antipyretics, AND – Symptoms are improving, AND – They feel well enough to return to work.	Good Practice Statement (Existing Recommendation)	ADAPT influenza guidance[7] and SARS-CoV-2 interim recommendation[8] for work restrictions to apply to other respiratory viruses.	For HCP who develop fever and respiratory symptoms should be: - Instructed not to report to work, or if at work, to stop patient-care activities, don a facemask, and promptly notify their supervisor and infection control personnel/occupational health before leaving work. - Excluded from work until at least 24 hours after they no longer have a fever (without the use of fever-reducing medicines such as acetaminophen). Those with ongoing respiratory symptoms should be considered for evaluation by occupational health to determine appropriateness of contact with patients. For HCP with SARS-CoV-2 Infection: 3. HCP with mild to moderate illness who are not moderately to severely immunocompromised could return to work after the following criteria have been met: a. At least 7 days have passed since symptoms first appeared if a negative viral test is obtained within 48 hours prior to returning to work (or 10 days if testing is not performed or if a positive test at day 5-7), and

2026 Recommendation	Recommendation Category	Adolopment Decision	Superseded Recommendations
			b. At least 24 hours have passed since last fever without the use of fever-reducing medications, and c. Symptoms (e.g., cough, shortness of breath) have improved.
2. For healthcare personnel with a suspected or confirmed viral respiratory infection not addressed elsewhere in this guideline or other interim guidance[+]: • Wear source control upon return to work until the end of day 7, where the day of symptom onset (or first positive test if asymptomatic throughout their infection) is day 0[***].	Recommendation	ADAPT SARS-CoV-2 source control guidance[9] and influenza guidance[7] to apply to respiratory viruses.	Source control is recommended for individuals in healthcare settings who: 1. Had close contact (patients and visitors) or a higher-risk exposure (HCP) with someone with SARS-CoV-2 infection, for 10 days after their exposure. For HCP who develop fever and respiratory symptoms should be: a. Reminded that adherence to respiratory hygiene and cough etiquette after returning to work is always important. If symptoms such as cough and sneezing are still present, HCP should wear a facemask during patient-care activities. The importance of performing frequent hand hygiene (especially before and after each patient contact and contact with respiratory secretions) should be reinforced.

[+]This recommendation is intended to apply to respiratory viruses such as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), influenza, respiratory syncytial virus (RSV), parainfluenza, rhinovirus, human metapneumovirus, and additional adenoviruses, endemic coronaviruses, enteroviruses, and others. This recommendation is NOT intended to apply to viral respiratory pathogens addressed in other sections of this guideline (i.e., measles, mumps, rubella, varicella, cytomegalovirus, parvovirus B19, and viral conjunctivitis) or other interim guidance (e.g., Middle East Respiratory Syndrome coronavirus).

B.2. Evidence to Decision Framework for Work Restrictions for Asymptomatic HCP

Table 2. GRADE Evidence to Decision Framework: Work Restrictions for Asymptomatic HCP

	Health system and public health recommendations
Benefits & harms	No review was conducted on the benefits and harms of work restrictions for asymptomatic HCP with known or suspected exposure to a respiratory virus. The 1998 Guideline did not contain an influenza work restriction recommendation which was an implicit conditional recommendation that they were not necessary.
Certainty of the evidence	Not applicable.
Balance	HICPAC decided that the benefits outweigh the potential harms for continuing the existing guidance recommendation and adapting it to include multiple respiratory viruses such as influenza viruses and RSV.

	Health system and public health recommendations
Resource use	There is high confidence in the evidence from two studies that suggested either the elimination of understaffing[3] or allowing 75% of staff who were mildly ill to work while masked[10] was associated with additional cases but saved money and mitigated understaffing/ staffing shortages.
Population- & setting-specific differences	No population-specific sub-analyses were performed. However, the recommendation supports maintenance of appropriate staffing levels, ensuring sufficient care for patients across different settings, population, and needs.
Acceptability	No review of acceptability performed. However, the Workgroup discussed acceptability and determined that this recommendation is likely acceptable as this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens.
Feasibility	No review was conducted on the feasibility or implementation of not restricting exposed and asymptomatic HCP from work. However, the Workgroup discussed feasibility and anticipated that the recommendation is feasible because there have not been recommended work restrictions for HCP with an exposure to influenza viruses who are asymptomatic and this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. HICPAC discussed the importance of aligning work restriction recommendations across viral respiratory illnesses – where possible – which would ease implementation of these recommendations.
Intentional vagueness	The use of "respiratory virus" in the recommendation is intentionally vague so that the recommendation applies across viruses, while a footnote[+] specifies a non-exhaustive list of examples. Exposure to a respiratory virus is defined in the supporting narrative.

B.3. Evidence to Decision Framework for Source Control for Asymptomatic HCP

Table 3..GRADE Evidence to Decision Framework: Source Control Use and Duration for Asymptomatic HCP

	Health system and public health recommendations
Benefits & harms	Use: No review was conducted on the benefits and harms of source control for asymptomatic HCP with known or suspected exposure to a respiratory virus. The benefits discussed by HICPAC include the potential reduction in respiratory virus transmission while harms discussed include dermatological symptoms, sensory symptoms, neurological symptoms, and time pressures.[11] Duration: Guidance exists recommending the use of source control for individuals in healthcare settings for 10 days after their exposure to SARS-CoV-2. However, the evidence suggests symptom onset occurred in ≥70% of secondary cases by the end of day five post symptom onset in primary cases for Omicron and day four for influenza A virus in all but one study.[5,12,13] The one influenza study[12,14] below the ≥70% threshold by the end of day four post symptom onset had a small sample size (n = 9) and potential sampling bias due to the retrospective identification of secondary cases through primary case interviews. HICPAC's decision to use the ≥70% threshold was an evidence-informed policy choice.[15] The evidence is consistent across SARS-CoV-2 Omicron and influenza A but is limited or unavailable for other viral respiratory pathogens and includes household and community studies. HICPAC recommended aligning recommendations across viral respiratory illnesses for feasibility. Thus, the recommendation for asymptomatic HCP to use source control through five days after the last exposure is extrapolated from SARS-CoV-2 Omicron and influenza A findings and relies in part on indirect or linked evidence.
Certainty of the evidence	There is high certainty in the evidence for the estimated serial intervals for SARS-CoV-2 Omicron and influenza A virus, and moderate confidence for viral respiratory pathogens overall.

	Health system and public health recommendations
Balance	Use: HICPAC decided that the benefits outweigh the potential harms, and to adapt the existing SARS-CoV-2 guidance recommendation to include multiple respiratory viruses such as influenza viruses and RSV. Duration: The balance of the evidence supports the recommendation of the use of source control through the fifth day after last exposure for asymptomatic HCP with known or suspected exposure to a respiratory virus. The use of a 70% threshold was an evidence-informed policy choice
Resource use	There is high confidence in the evidence from two studies suggesting eliminating understaffing[3] or allowing 75% of staff who were mildly ill to work while masked[10] was associated with additional cases but saved money and mitigated understaffing/ staffing shortages.
Population- & setting-specific differences	No population-specific sub-analyses were performed. However, the recommendation supports maintenance of appropriate staffing levels, ensuring sufficient care for patients across different settings, population, and needs.
Acceptability	No review of acceptability was performed. However, the Workgroup discussed acceptability and determined this recommendation is likely acceptable as this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. In addition, this approach shortens the duration for the use of source control for asymptomatic HCP with a known or suspected exposure to a respiratory virus.
Feasibility	No review was conducted on the feasibility or implementation of source control use among exposed and asymptomatic HCP. However, Workgroup discussed feasibility and determined that the recommendation is likely feasible because this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. HICPAC discussed the importance of aligning source control recommendations across viral respiratory illnesses – where possible – which would ease implementation of these recommendations. In addition, this approach shortens the duration for the use of source control for asymptomatic HCP with a known or suspected exposure to a respiratory virus.
Intentional vagueness	The use of "respiratory virus" in the recommendation is intentionally vague so that the recommendation applies across viruses, while a footnote[+] specifies a non-exhaustive list of examples. Source control devices are not specified to allow for provider preference in selection. Exposure to and the signs or symptoms of a respiratory viral illness are not specified but are defined in the supporting narrative.

B.4. Evidence to Decision Framework for Monitoring of Signs and Symptoms for Asymptomatic HCP

Table 4. GRADE Evidence to Decision Framework: Monitoring of Signs and Symptoms for Asymptomatic HCP

	Health system and public health recommendations
Benefits & harms	Use: No review was conducted on the benefits and harms of monitoring signs and symptoms for asymptomatic HCP with known or suspected exposure to a respiratory virus. The benefits discussed by HICPAC include the reduction in respiratory virus transmission, while harms discussed include delayed diagnosis. Duration: The existing guidance did not specify a duration for the monitoring of signs and symptoms of HCP exposed to individuals with confirmed SARS-CoV-2. However, the evidence suggests symptom onset occurred in ≥70% of secondary cases by the end of day five post

	Health system and public health recommendations
	symptom onset in primary cases for Omicron and day four for influenza A virus in all but one study.[5,12,13] The one influenza study[12,14] below the ≥70% threshold by the end of day four had a small sample size (n = 9) and potential sampling bias due to the retrospective identification of secondary cases through primary case interviews. HICPAC's decision to use the ≥70% threshold was an evidence-informed policy choice.[15] The evidence is consistent across SARS-CoV-2 Omicron and influenza A but is limited or unavailable for other viral respiratory pathogens and includes household and community studies. HICPAC recommended aligning recommendations across viral respiratory illnesses for feasibility. Thus, the recommendation to monitor for development of signs or symptoms of a viral respiratory infection for at least five days after the last exposure is extrapolated from SARS-CoV-2 Omicron and influenza A findings and relies in part on indirect or linked evidence.
Certainty of the evidence	There is high certainty in the evidence for the estimated serial intervals for SARS-CoV-2 Omicron and influenza A virus, and moderate confidence for viral respiratory pathogens overall.
Balance	Use: HICPAC decided that the benefits outweigh the potential harms for continuing the existing guidance recommendation and adapting it to include multiple respiratory viruses such as influenza viruses and RSV. Duration: The balance of the evidence supports the recommendation of monitoring for the development of signs or symptoms through the fifth day after last exposure for asymptomatic HCP with known or suspected exposure to a respiratory virus.
Resource use	There is high confidence in the evidence from two studies suggesting eliminating understaffing[3] or allowing 75% of staff who were mildly ill to work while masked[10] was associated with additional cases but saved money and mitigated understaffing/ staffing shortages.
Population- & setting-specific differences	No population-specific sub-analyses were performed. However, the recommendation supports maintenance of appropriate staffing levels, ensuring sufficient care for patients across different settings, population, and needs
Acceptability	No review was performed for acceptability. However, the Workgroup discussed acceptability and determined this recommendation is likely acceptable as this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. In addition, this approach specifies the duration for monitoring signs and symptoms of asymptomatic HCP with a known or suspected exposure to a respiratory virus.
Feasibility	No review was conducted on the feasibility or implementation of monitoring for signs and symptoms among exposed and asymptomatic HCP. However, the Workgroup discussed feasibility and anticipated that the recommendation is feasible because this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. HICPAC discussed the importance of monitoring recommendations across viral respiratory illnesses – where possible – which would ease implementation of these recommendations. In addition, this approach specifies the duration for monitoring signs and symptoms of asymptomatic HCP with a known or suspected exposure to a respiratory virus.
Intentional vagueness	The use of "respiratory virus" in the recommendation is intentionally vague so that the recommendation applies across viruses, while a footnote[+] specifies a non-exhaustive list of examples. Exposure to and the signs or symptoms of a respiratory viral illness are not specified but are defined in the supporting narrative.

B.5. Evidence to Decision Framework for Work Restrictions for Symptomatic HCP

Table 5. GRADE Evidence to Decision Framework: Work Restrictions for Symptomatic HCP

	Health system and public health recommendations
Benefits & harms	Use: Work restrictions for symptomatic HCP who may be contagious is a mainstay of preventing transmission and maintaining a safe work and patient care environment.[16] The benefits discussed by HICPAC include the potential reduction in respiratory virus transmission, while harms discussed include understaffing which can lead to a higher adjusted hazard of death, increased chances of readmission, increased length of stay, and increased staff attrition.[1-3] Duration: The existing guidance for HCP with SARS-CoV-2 infection and HCP who develop fever and respiratory symptoms recommend HCP be restricted from work until at least 24 hours after last fever without use of fever-reducing medications. The SARS-CoV-2 guidance also specifies HCP should be restricted from work for at least seven days since symptom onset. However, the evidence suggests: • viral shedding ends among ≥80% of participants by the end of day 10 post symptom onset for Omicron and day nine for influenza A virus,[5,17-19] • fever resolves before viral shedding ends,[5] and • symptom onset occurred in ≥70% of secondary cases by the end of day five post symptom onset in primary cases for Omicron, and day four for influenza A virus in all but one study[12,14] of nine transmission pairs. Subtracting the incubation period of two days[20] for Omicron from day five when ≥70% of secondary cases reported symptom onset suggests 70% of Omicron transmission from primary cases have occurred by the end of day three. Subtracting the incubation period of one day[21] for influenza A virus from day four when almost all studies report ≥70% of secondary cases reported symptom onset suggests 70% of influenza A virus transmission from primary cases have occurred by the end of day three. The one influenza study below the ≥70% threshold by the end of day four had a small sample size (n = 9) and potential sampling bias due to the retrospective identification of secondary cases through primary case interviews. HICPAC recommended using the ≥70% threshold to determine the duration of work restriction for HCP with the understanding that source control would be used to further mitigate transmission.[15] Additionally, the evidence is consistent across SARS-CoV-2 Omicron and influenza A but is limited or unavailable for other viral respiratory pathogens, specifically addresses symptomatic infections, and includes household and community studies. HICPAC recommended aligning recommendations across viral respiratory illnesses for feasibility. Thus, the recommendation for work restrictions of symptomatic HCP is extrapolated from SARS-CoV-2 Omicron and influenza A findings and relies in part on indirect or linked evidence. The recommendation for asymptomatic HCP with confirmed infections is based on indirect evidence and expert judgment.
Certainty of the evidence	There is high certainty in the evidence for the durations of viral shedding and the estimated serial intervals for SARS-CoV-2 Omicron and influenza A virus, and moderate confidence for viral respiratory pathogens overall. There is moderate certainty in the evidence for the duration of SARS-CoV-2 Omicron and influenza A virus shedding following resolution of fever or other symptoms, and low confidence for viral respiratory pathogens overall.
Balance	Use: HICPAC decided that the benefits outweigh the potential harms for adapting the existing guidance recommendations to align across multiple respiratory viruses such as RSV. Duration: The balance of the evidence supports the recommendation of work restrictions for symptomatic HCP with a suspected or confirmed viral respiratory infection for at least 3 days since symptom onset given at least 24 hours have elapsed since fever cessation without the use of fever-reducing medications, their symptoms are improving, and they feel well enough to work.

	Health system and public health recommendations
Resource use	There is high confidence in the evidence from two studies suggesting eliminating understaffing[3] or allowing 75% of staff who were mildly ill to work while masked[10] was associated with additional cases but saved money and mitigated understaffing/ staffing shortages.
Population- & setting-specific differences	No population-specific sub-analyses were performed. However, the recommendation supports maintenance of appropriate staffing levels, ensuring sufficient care for patients across different settings, population, and needs.
Acceptability	No review of acceptability was performed. However, the Workgroup discussed acceptability and determined this recommendation is likely acceptable as this approach was already in place for SARS-CoV-2 and influenza viruses and is modified to apply to multiple viral respiratory pathogens. In addition, this approach shortens the duration for work restrictions for symptomatic HCP with a suspected or confirmed viral respiratory infection.
Feasibility	No review was conducted on the feasibility or implementation of work restricting symptomatic HCP. However, the Workgroup discussed feasibility and anticipated that the recommendation is feasible because this approach was already in place for both SARS-CoV-2 and influenza viruses and is modified to apply to multiple viral respiratory pathogens. HICPAC discussed the importance of aligning work restriction recommendations across viral respiratory illnesses – where possible – which would ease implementation of these recommendations. In addition, this approach shortens the duration for work restrictions for symptomatic HCP with a suspected or confirmed viral respiratory infection.
Intentional vagueness	The use of "viral respiratory infection" in the recommendation is intentionally vague so that the recommendation applies across viruses, while a footnote[+] specifies a non-exhaustive list of examples. Source control devices are not specified to allow for provider preference in selection.

B.6. Evidence to Decision Framework for Source Control for Symptomatic HCP

Table 6. GRADE Evidence to Decision Framework: Source Control Use and Duration for Symptomatic HCP

	Health system and public health recommendations
Benefits & harms	Use: The evidence suggests there is a possibility of shedding beyond symptom resolution and beyond the 70% threshold used as the basis for the duration of work restrictions. Source control is considered standard of care during respiratory infection outbreaks in healthcare settings and in settings with high baseline transmission of respiratory infections.[22] HICPAC decided the evidence warranted use of source control to mitigate the risk of transmission from a recovered HCP who may continue shedding, and the discussed benefits include the potential reduction in respiratory virus transmission, while potential harms include dermatological symptoms, sensory symptoms, neurological symptoms, and time pressures.[11] Duration: Neither the existing recommendation nor guidance specified a duration for the use of source control for symptomatic HCP with a suspected or confirmed viral respiratory infection. The evidence suggests symptom onset occurred in ≥90% of secondary cases by the end of day eight post symptom onset in primary cases for Omicron and day seven for influenza A virus.[5,12,13] Subtracting the incubation period of two days[20] for Omicron from day eight when ≥90% of secondary cases reported symptom onset suggests 90% of Omicron transmission from primary cases have occurred by the end of day six. Subtracting the incubation period of one day[21] for influenza A virus from day seven when ≥90% of secondary cases reported symptom onset suggests 90% of influenza A virus transmission from primary cases have occurred by the end of day six. HICPAC recommended to extend the duration of source control one day beyond when 90% of transmission

	Health system and public health recommendations
	have occurred, making the recommendation seven days.[15] Additionally, the evidence is consistent across SARS-CoV-2 Omicron and influenza A but is limited or unavailable for other viral respiratory pathogens, specifically addresses symptomatic infections, and includes household and community studies. HICPAC recommended aligning recommendations across viral respiratory illnesses for feasibility. Thus, the recommendation for symptomatic HCP to use source control through seven days after symptom onset is extrapolated from SARS-CoV-2 Omicron and influenza A findings and relies in part on indirect or linked evidence. The recommendation for asymptomatic HCP with confirmed infections is based on indirect evidence and expert judgment.
Certainty of the evidence	There is high certainty in the evidence for the estimated serial intervals for SARS-CoV-2 Omicron and influenza A virus, and moderate confidence for viral respiratory pathogens overall.
Balance	Use: HICPAC decided that the benefits outweigh the potential for adapting the existing influenza guidance recommendations to include multiple respiratory viruses such as SARS-CoV-2 and RSV. Duration: The balance of the evidence supports the recommendation of the use of source control for 7 days for symptomatic HCP with suspected or confirmed viral respiratory infection.
Resource use	There is high confidence in the evidence from two studies suggesting eliminating understaffing[3] or allowing 75% of staff who were mildly ill to work while masked[10] was associated with additional cases but saved money and mitigated understaffing/ staffing shortages.
Population- & setting-specific differences	No population-specific sub-analyses were performed. However, the recommendation supports maintenance of appropriate staffing levels, ensuring sufficient care for patients across different settings, population, and needs.
Acceptability	No review was conducted to assess the acceptability of source control upon returning to work. However, the Workgroup discussed acceptability and determined that this recommendation is likely acceptable as this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. In addition, this approach shortens the duration for the use of source control for symptomatic HCP with a suspected or confirmed viral respiratory infection.
Feasibility	No review was conducted on the feasibility or implementation of source control use among symptomatic HCP. However, the Workgroup discussed feasibility and anticipated that the recommendation is feasible because this approach was already in place for SARS-CoV-2 and is modified to apply to multiple viral respiratory pathogens. HICPAC discussed the importance of aligning source control recommendations across viral respiratory illnesses – where possible – which would ease implementation of these recommendations. In addition, this approach shortens the duration for the use of source control for symptomatic HCP with a suspected or confirmed viral respiratory infection.
Intentional vagueness	The use of “viral respiratory infection” in the recommendation is intentionally vague so that the recommendation applies across viruses, while a footnote[+] specifies a non-exhaustive list of examples. Source control devices are not specified to allow for provider preference in selection.

C. Methods

This is an update of an integrated assessment of six rapid systematic reviews[5] evaluating the best available evidence on elements of the natural history of infection with SARS-CoV-2 Omicron variant and influenza A virus that includes the addition of two rapid reviews on respiratory syncytial virus (RSV). These reviews were conducted to inform strategies to prevent transmission of viral respiratory infections in healthcare settings.

C.1. Key Question Development

Key questions were developed by occupational health, infectious disease, and systematic review methodology subject matter experts using the PICO framework[23] (Population, Infection, Comparator, and Outcome). The key questions used to guide this update of a previously published rapid systematic review[5] are:

KQ1. Among symptomatic adults infected with SARS-CoV-2 (Omicron Variant), influenza A virus, or respiratory syncytial virus (RSV), what is the duration of viral shedding measured from symptom onset or diagnosis using viral culture or RT-qPCR?
KQ2. Among symptomatic adults infected with SARS-CoV-2 (Omicron Variant) or influenza A virus, what is the association between the resolution of symptoms, specifically fever, and the resolution of viral shedding measured using culture, RT-qPCR, or RT-PCR?
KQ3. Among symptomatic adults infected with SARS-CoV-2 (Omicron Variant), influenza A virus, or RSV, what is the pair-level serial interval, defined as the number of days between symptom onset in primary and secondary cases?

C.2. Literature Search

For all searches, a CDC informationist (J.T.) performed updates of the searches in MEDLINE, EMBASE, CINAHL, Cochrane Library, and the Public Health Database. Searches for RSV were conducted from the start of each database until April 2, 2024 (KQ3) or June 13, 2025 (KQ1). The searches for SARS CoV-2 and influenza viruses were updated from the previous search date to either January 26 (KQ3) or January 27, 2026 (KQ1, KQ2). The detailed search strategies for RSV are in Section E of this document, and for SARS CoV-2 and influenza viruses, searches are available in the supplementary material for the previously published rapid systematic review.[5]

C.3. Study Selection

Results of the literature search updates were uploaded into EndNote 21 (Clarivate Analytics©, Thomson Reuters, New York, NY, USA), duplicate records were removed, and unique titles and abstracts were uploaded to Covidence (Veritas Health Innovation Ltd., Melbourne, VIC, Australia) where a second round of deduplication was conducted. Two reviewers (D.O.S., E.C.S., M.W.) independently screened all titles and abstracts and removed irrelevant references. Relevant full texts were screened independently by two reviewers (D.O.S., E.C.S., M.W.) and disagreements were resolved by consensus. All studies were screened according to previously published inclusion and exclusion criteria,[5] and results of the study selection process are provided in *Figures 6-13*. Potential areas for risk of bias were identified *a priori,* and exclusion criteria were selected to

minimize anticipated information or selection biases in the final body of evidence. The full exclusion criteria and the associated domains of bias each criterion is aimed at preventing or reducing are presented in *Table 14*.

C.4. Data Extraction, Study Assessment, and Synthesis

Data extraction and synthesis have been published previously.[5] Outcomes of interest for each key question are defined in *Table 15*. For key question 1, respiratory viral shedding was defined as the presence of a) replication-competent infectious virus measured by culture or b) viral RNA measured by qPCR in a respiratory sample. Possible confounding factors identified *a priori* for stratified analyses included concurrent infection prevention and control interventions such as masking and lockdown orders, vaccination status, differences in sub-variants or strains, and the timing of data collection in the spread of Omicron for those studies. Potential internal validity concerns were identified *a priori* and operationalized as exclusion criteria intended to reduce major sources of bias and confounding in the final body of evidence (*Table 14*). As potential risk of bias concerns were assessed through prespecified eligibility restrictions, separate post-inclusion study-level risk of bias assessments were not conducted for each included study. Validity judgments in GRADE tables therefore reflect qualitative body-of-evidence judgments after application of these eligibility criteria, rather than formal study-level risk-of-bias ratings (*Tables 8 -10*).

C.5. GRADE-ing and Recommendation Development

Where the evidence is sufficient, the strength, direction, consistency, and directness were assessed for each outcome using a modified Grading of Recommendations, Assessment, Development, and Evaluations (GRADE) approach.[24] For this review, modifications were made because the key questions address natural history and transmission timing rather than e interventions or exposures, and thus randomized controlled trials would not be the optimal study design to answer these research questions. Instead, the most informative study types that directly answer the research question start as “high” confidence in the evidence. For key questions 1 and 2, human challenge studies or household transmission studies reporting daily shedding and/or symptom data are the optimal study type to answer the research question and start as “high” confidence in the evidence. For key question 3, outbreak reports, case series, or household transmission studies reporting on transmission pairs are identified as the optimal study type to answer the research question. These study types start as “high” confidence in the evidence in the GRADE framework.

Certainty judgements were then informed by consideration of internal validity, inconsistency, indirectness, and imprecision. Due to the rapid review design, internal validity concerns were addressed through prespecified exclusion criteria rather than a formal study-level risk of bias assessment. For indirectness, evidence in previously healthy adults was considered sufficiently direct for key questions 1 and 2 because occupation is not expected to alter the biologic course of viral shedding or symptom resolution. And while evidence from household and community studies was considered indirect to healthcare settings for key question 3, it was used as conservative linked evidence because standard infection prevention and control measures in healthcare settings would likely shorten observed serial intervals. Once the confidence in the evidence was determined for the body of evidence, the GRADE Evidence-to-Decision Framework was used to guide the development of recommendations using the population perspective to make health system decisions.[25,26]

C.6. Expert Review and Public Input

Draft analyses and findings were presented at a public meeting of the Healthcare Infection Control Practices Advisory Committee (HICPAC) on November 14, 2024. HICPAC reviewed preliminary draft recommendations and proposed a duration of work restrictions based on the data and further refined the recommendation language. Draft recommendation language was finalized on November 14. Written public comments were not limited by length and were received via email during an open written public comment period from August 6 through December 14, 2024 (*Table 16*). Oral public comments were randomly selected from volunteers, limited to three minutes, and heard during the public comment sessions on November 14 and 15, 2024. HICPAC voted to approve final recommendations to CDC on November 15, 2024. After the HICPAC meeting, CDC staff updated the evidence reviews through January 26 (KQ3) or January 27, 2026 (KQ1, KQ2), and determined whether the updated evidence changed the recommendation rationale.

D. Summary of Evidence

D.1. Narrative Summaries of Evidence

The previously published integrated assessment of six rapid systematic reviews[5] included 43[27-69] unique studies meeting inclusion criteria. This update identified six[12,13,17-19,70] new articles meeting inclusion criteria, bringing the total number to 48 studies. One newly identified article[17] included a follow-up analysis of data[31] that was previously included and another[12] evaluated data from two different studies.[14,71] Three studies[17-19] reported durations of viral shedding, two[17,70] reported on the association between the durations of viral shedding and symptoms, and two[12,13] reported serial intervals among transmission pairs. The total number of participants or transmission pairs in the six studies was 488 (range: 9 – 184) and all were conducted in the United States except for one[13] conducted in Belgium. The results of the two systematic literature searches for RSV have not been published previously. These searches identified one study[72] meeting inclusion criteria that reports on the duration of shedding.

D.1.a. KQ1 Duration of Shedding

Three articles reporting the duration of viral shedding for Omicron[17,19,31] or influenza viruses[18] were identified in the update, bringing the total to 16 articles reporting on 15 studies. Studies used culture[17-19] to measure viral shedding from symptom onset,[17,19,31] first positive viral load,[17,31] or inoculation.[18] One outpatient cohort study[17] and one household transmission study[19] reported shedding for Omicron subvariants BA.1,[19] BA.2,[17,19] BA.4,[17,19] BA.5,[17] XBB, and JN.[17,19] One human challenge study[18] reported shedding after inoculation with influenza A(H1N1)pdm09 virus. *Figure 1* provides the daily cumulative proportion of resolution of Omicron or influenza virus shedding for all studies included in the rapid systematic review[5] and this update.

By the end of day four post symptom onset, no Omicron studies reported resolution of shedding among at least 70% of participants, but by the end of day nine, all studies (N = 8; 792 participants) reported resolution of shedding among ≥70% of participants with Omicron (*Table 7)*. No studies exceeded the ≥90% threshold by the end of day six; however, all but two Omicron studies[17,19,31] reported resolution of shedding among ≥90% of participants by the end of day 10. For influenza virus, one study reported resolution of shedding among ≥70% of participants by the end of day four, and by the end of day nine, all studies (N = 7; 142 participants) reported resolution of shedding among ≥90% of participants.

One RSV challenge study[72] met inclusion criteria (*Figure 2*). This study measured viral shedding using culture and qPCR to test daily nasal washes. However, this study only reported resolution of viral shedding measured using qPCR for participants on days 10 (68%) and the last day of data collection, day 12 (84%) post inoculation. One study was determined to be insufficient for decision making and was not incorporated into the recommendation.

Figure 1. The cumulative proportion (%) of participants whose shedding resolved, measured in days from symptom onset, diagnosis, or inoculation. A. Studies reporting Omicron. B. Studies reporting influenza virus infection. .

A. Omicron	N	Subvariant	Dates (M/Y)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Measured until
Study (Natural Infection: shedding measured from symptom onset unless noted)																			
Jang 2022	9	NR	12/2021	0	0	0	0	11	11	33	67	100							Discharge
Kang 2023 (JMV)	34	NR	9/2021 - 5/2022	3	14	29	47	50	64	73	73	82	94	94	94	97	97		Discharge
Jung 2023	32	BA.1, BA.2	3/2013 - 4/2022	12	32	25	47	69	84	97	100								NR
Bouton 2023[a]	75	NR	11/2021 - NR	12	32	38	50	62	71	74	79	88	97	100					At least day 10
Boucau 2025[a]	35	BA.1	12/2021 - 9/2024	0	8	11	11	15	26	48	63	81	86	93	96	100			Repeated negative
Boucau 2025[a]	17	BA.2	12/2021 - 9/2024	0	6	35	41	59	83	88	94	94	94	94	100				Repeated negative
Boucau 2025[a]	23	BA.4, BA.5	12/2021 - 9/2024	0	6	12	12	34	50	56	61	78	78	94	94	100			Repeated negative
Boucau 2025[a]	40	XBB	12/2021 - 9/2024	3	25	48	58	65	73	80	83	85	88	90	93	97	100		Repeated negative
Boucau 2025[a]	25	JN	12/2021 - 9/2024	0	12	12	12	20	24	36	56	60	72	80	84	88	88	96	Repeated negative
Kang 2023 (JOI)[a]	82	BA.1, BA.2, BA.5	1/2022 - 8/2022	1	5	37	65	79	89	99	100								NR
Shah 2026 (low-risk)	78	BA.1, BA.2, XBB	1/2022 - 6/2023	42	39	49	56	59	72	72	83	92	94	100					Day 28
Shah 2026 (high-risk)	106	BA.1, BA.2, XBB	1/2022 - 6/2023	31	25	34	38	56	68	74	76	80	83	94	98	100			Day 28
Smith-Jeffcoat 2024[a]	236	NR	11/2022 - 5/2023	50	49	57	62	69	78	84	89	89	92	98	97	98	99	100	Day 10

B. Influenza A	N	Subtype	Dates (M/Y)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Study (Natural Infection: shedding measured from symptom onset unless noted)																			
Killingley 2016[b]	39	H1N1	9/2009 - 1/2011	0	0	10	34	70	82	89	89	94	94	100					Day 12
Killingley 2010	4	H1N1	9/2009 - 1/2010	0	44	81	88	94	100										Day 12
Han 2019[c]	16	H3N2	12/2015 - 7/2017	0	0	0	25	50	75	75	75	100							Second negative
Study (Challenge Study: shedding measured from inoculation)																			
Doyle 1998	42	H1N1	NR	0	22	35	43	55	76	96									Day 7
Fujita 2025	9	H1N1	NR	0	0	0	11	67	100										Day 8
Hooker 2021	12	H1N1	6/1997 - 7/1997	0	0	8	17	33	75	92	100								Day 9
Memoli 2015[b]	20	H1N1	4/2012 6/2013	0	5	5	30	30	40	60	75	95	100						Second negative

[a]Shedding measured from symptom onset or diagnosis; [b]Shedding measured using RT-qPCR; [c]Challenge study reporting duration of shedding in days from first positive viral load; NR = Not reported

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

Table 7. Daily cumulative number of studies reaching at least a cumulative threshold of A. participants with resolution of shedding measured in days from symptom onset, diagnosis, or inoculation, or B. secondary cases with symptom onset in secondary cases measured in days from primary case symptom onset. .

Virus, N Studies (N participants/pairs)	Cumulative Participant Threshold (%)	Cumulative number of studies (Participants in study)						
		Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
A. Participants with resolution of shedding								
Omicron	70	0	1 (82)	5 (609)	6 (643)	7 (783)	8 (792)	
8 (792)	80	0	0	2 (114)	3 (350)	3 (350)	7 (652)	8 (792)
	90	0	0	0	2 (114)	2 (114)	3 (123)	6 (468)
	100	0	0	0	0	2 (114)	3 (123)	3 (123)
Influenza	70	1 (4)	2 (43)	6 (130)	6 (130)	7 (142)		
7 (142)	80	1 (4)	1 (4)	3 (52)	5 (114)	5 (114)	7 (142)	
	90	0	1 (4)	2 (13)	4 (75)	4 (75)	7 (142)	
	100	0	0	2 (13)	2 (13)	3 (33)	4 (49)	5 (61)
B. Secondary cases with symptom onset								
Omicron	70	13 (≥15,256)	15 (≥15,812)					
15 (≥15,812)[a]	80	9 (1,711)	13 (≥15,256)	15 (≥15,812)				
	90	2 (139)	6 (468)	11 (3,523)	13 (≥15,256)	15 (≥15,812)		
	100	0	0	2 (214)	3 (225)	4 (316)	7 (487)	9 (818)
Influenza	70	15 (348)	15 (348)	16 (357)				
16 (357)	80	10 (166)	14 (297)	16 (357)				
	90	4 (41)	10 (175)	13 (252)	16 (357)			
	100	3 (22)	5 (46)	9 (155)	12 (189)	13 (203)	15 (306)	15 (306)

[a]One study (an der Heiden 2022) reported the denominator as household clusters, leaving the total number of secondary cases unclear

Figure 2. The cumulative proportion (%) of RSV infected participants whose shedding resolved, measured in days from inoculation. .

Study	N	Subvariant	Dates (M/Y)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Measured until
Study (Challenge Study: shedding measured from inoculation)																			
Bagga 2018[a]	25	A	NR	--	--	--	--	--	--	--	--	--	68	68	84				Day 13

[a]Shedding measured using RT-qPCR; NR = Not reported

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

D.1.b. KQ2 Duration of Shedding and Symptoms

Two Omicron studies[17,31,70] reporting daily assessment of symptoms and shedding measured via culture[17,31] and RT-qPCR[70] were identified in the update, bringing the total to six studies. One study[17,31] reported viral shedding ended before or at the same time as symptoms resolved in 92% (102/111) of participants when using the full list of 10 symptoms captured during the study and 82% (97/119) when evaluating cough and congestion only (*Figure 3*). The other study[70] found that four of ten participants with daily assessment of symptoms and shedding were still shedding after symptoms resolved and only one still shedding by the end of day six post-symptom resolution. No additional influenza virus studies and no RSV studies were identified.

Figure 3. The cumulative proportion (%) of participants with A. shedding after disappearance of symptoms, or B. both resolution of shedding and resolution of symptoms. .

Study	Pathogen (subtype/subvariant)	N	Resolution of Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Measured until
A. Resolution of shedding measured from disappearance of symptoms																			
Jang 2022	SARS-CoV-2 (BA.1)	8	Fever	38	75	75	75	100											Day 14
Jia 2011[a]	Influenza (H1N1)	67	Fever	--	18	45	64	76	82	91	97	100							Day 14
Jia 2011 [a]	Influenza (seasonal)	37	Fever	--	--	30	83	97	97	100									Day 14
Boucau 2025	SARS-CoV-2 (mixed)	119	Cough and congestion	82															Repeated negative
Boucau 2025	SARS-CoV-2 (mixed)	111	Any symptom	92															Repeated negative
Katz 2025[a]	SARS-CoV-2 (mixed)	10	Any symptom	60	60	60	80	80	90										Day 14
Memoli 2015 [a,b]	Influenza (H1N1)	19	Any symptom	95	95	100													Repeated negative
B. Resolution of shedding and resolution of any symptoms																			
Han 2019	Influenza (H3N2)	16	Shedding	0	44	81	88	94	100										NR
($10^6 + 10^7$ $TICD_{50}$)[b,c]		21	Symptoms	7	7	14	24	33	67	86	90	90	90	90	100				Day 14

[a]Shedding measured using RT-qPCR; [b]Only 2 participants developed fever; [c]Challenge study reporting duration of shedding in days from first positive viral load; NR = Not reported

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

D.1.c. KQ3 Serial Interval

Two articles reporting on three studies evaluating serial intervals for Omicron[13] and influenza virus[12,14,71] transmission pairs were identified in the update, bringing the total to 31 studies. *Figures 4A* and *4B* provide the daily cumulative proportion of symptom onset in secondary cases for all Omicron and influenza virus studies included in the rapid systematic review[5] and this update.

The Omicron study[13] reported serial interval data for subvariants BA.1 and BA.2, and reported that at least 70% of secondary cases experienced symptom onset by the end of day five following symptom onset in the primary case, at least 80% by end of day six, and at least 90% by end of day eight, aligning with previously published results (*Table 7*).[5]

The influenza article[12]reported serial interval data from two studies[14,71] for influenza A(H1N1), A(H3N2), and non-subtyped influenza A viruses where secondary cases were identified through individual daily follow-up with household contacts[71] or through retrospective interviews with primary cases.[14] One study[71] reported at least 70% of secondary cases experienced symptom onset by the end of day four following symptom onset in the primary case, aligning with previously published results.[5] However, the other study[14] did not reach the 70% threshold until the end of day six following symptom onset in the primary case. This study had a small sample size of only nine transmission pairs with an adult primary case and retrospectively identified secondary cases through interviews with primary cases 7-14 days after enrollment. Both studies reported at least 80% of secondary cases experienced symptom onset by the end of day six following symptom onset in the primary case, and at least 90% by the end of day seven, aligning with previously published results.[5]

In the influenza study,[12,14,71] there were 20 transmission pairs where the primary patient was unvaccinated and 34 where the primary case was vaccinated (*Figure 5B*). When the primary case was unvaccinated, 85% (17/20) of secondary cases experienced symptom onset by the end of day four following symptom onset in the primary case, but when the primary case was vaccinated, only 62% (21/34) of secondary cases experienced symptom onset by the end of day four. There were no additional studies providing results that could be stratified by the vaccination status of primary cases.

No RSV studies were identified that met inclusion criteria.

Figure 4A. The cumulative proportion (%) of symptom onset in secondary SARS-CoV-2 Omicron cases measured in days from symptom onset in the primary case.

A. Omicron	Pairs (N)	Setting	Dates (M/Y)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Measured until
Study (Mixed Subvariant)																			
Thibaut 2026	91	C	11/2021 - 5/2022	40	69	84	90	95	98	99	100								Day 18
Shim 2022	202	C	11/2021 - 1/2022	24	51	71	84	93	100										NR
Weil 2022	43	C	12/2021 - 2/2022	28	53	77	86	86	91	93	98	100							Day 15
Guo 2023 (JMV)	1090	C	1/2022 - 2/2022	25	51	69	81	88	92	95	97	98	99	99	99	100			Day 15
an der Heiden 2022	≥11,512	HH	1/2022 - 4/2022	21	43	61	74	82	88	92	94	96	98	98	99	100			NR
Li 2024	48	C	3/2022 - 4/2022	8	56	75	90	90	94	96	96	96	98	100					NR
Guo 2023 (IORV)	104	C	1/2022 - 7/2022	28	47	72	87	92	96	99	99	100							Day 15
Study (BA.1 only)																			
Song 2022	12	HH	11/2021 - 12/2021	20	47	67	87	93	100										NR
Kremer 2022	1,788	C	11/2021 - 12/2021	15	37	58	75	85	91	95	97	98	99	100					Day 15
Del Aguila-Mejia 2022	443	C	12/2021	9	23	40	59	73	80	87	91	94	96	98	99	100			NR
Zeng 2023	72	C	12/2021 - 1/2022	0	49	68	83	83	95	98	98	100							NR
Backer 2022	221	C	12/2021	14	34	54	74	84	89	95	98	99	100						Day 15
Bendall 2023	11	HH	12/2021 - 1/2022	27	55	73	82	91	91	100									NR
Guo 2023 (JMV)	15	C	1/2022 - 2/2022	14	22	50	50	72	94	94	100								Day 15
Xin 2023	113	C	1/2022 - 2/2022	5	19	42	59	73	80	87	92	96	98	100					NR
Liu 2023	10	C	1/2022 - 3/2022	35	53	59	75	85	94	100									NR
Study (Later subvariants)																			
Zeng 2023 (BA.2)	38	C	12/2021 - 1/2022	8	45	84	95	97	97	97	97	97	100						NR
Guo 2023 (JMV) (BA.2)	254	C	1/2022 - 2/2022	24	46	59	71	79	85	91	100								Day 15
Liu 2023 (BA.2)	14	C	1/2022 - 3/2022	46	60	71	80	86	91	96	97	100							NR
Guo 2023 (IORV) (BA.2)	45	C	5/2022- 7/2022	28	54	72	82	92	92	97	97	100							Day 15
Guo 2023 (IORV) (BA.4)	8	C	5/2022- 7/2022	29	29	71	100												Day 15
Guo 2023 (IORV) (BA.5)	51	C	5/2022- 7/2022	27	43	73	89	91	98	100									Day 15

C = Community; HH = Household

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

Figure 5B. The cumulative proportion (%) of symptom onset in secondary influenza cases measured in days from symptom onset in the primary case.

B. Influenza A	Pairs (N)	Setting	Dates (M/Y)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Measured until
Study (Mixed Subtypes)																			
Cowling 2009	14	HH	1/2008 - 9/2008	7	29	43	71	93	93	100									Day 10
Eibach 2014	5	HC	1/2012 - 4/2012	40	40	60	80	100											NR
Luvira 2022	5	HC	2/2013	0	20	60	80	80	100										NR
Iyengar 20215	8	HH	5/2013 - 10/2013	0	88	100													Day 12
Cohen 2019	30	HH	2013 - 2014	20	60	87	87	93	100										Day 8
Biddle 2026 (Rolfes 2023)	45	HH	10/2023 - 4/2024	18	40	58	71	84	89	96	98	100							Day 14
Biddle 2026 (Chung 2025)	9	HH	10/2023 - 4/2024	22	44	44	67	67	89	100									Day 14
Study (H1N1 only)																			
Mcbryde 2009	37	HH	5/2009 - 6/2009	16	43	68	86	97	100										NR
Morgan 2010	11	C	4/2009 - 5/2009	18	45	55	82	91	91	100									Day 9
Ghani 2010	58	HH	4/2009 - 6/2009	8	35	50	72	85	91	98	98	100							NR
Suess 2010	8	HH	4/2009 - 7/2009	13	25	100													Day 8
Komiya 2010	14	HH	5/2009- 7/2009	7	36	71	79	86	93	93	100								NR
Roll 2011	51	C	4/2009 - 7/2009	12	43	59	73	78	86	90	92	94	96	96	98	98	98	100	Day 15
Archer 2012	19	HH	6/2009 - 7/2009	37	63	74	95	100											Day 8
teBeest 2013	37	C	6/2009	14	35	70	86	97	100										NR
Thai 2014	6	HH	6/2009 - 4/2010	33	67	100													Day 8

C = Community; HC = Healthcare; HH = Household

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

Figure 6A. The cumulative proportion (%) of symptom onset in secondary SARS-CoV-2 Omicron cases stratified by the proportion of COVID-19 vaccinations in the population at that time.

Study	Pairs	Subtype	Dates	Location	Vaccination	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. Unclear vaccination up to 55% vaccination																				
Backer 2022	221	BA.1 Week 1	12/2021	Netherlands	NR	14	34	54	74	84	89	95	98	99	100					
Backer 2022	610	BA.1 Week 2	12/2021	Netherlands	NR	16	41	63	78	88	94	97	99	100						
Bendall 2023	11	BA.1	12/2021 - 1/2022	USA	NR	27	55	73	82	91	91	100								
Thibaut 2026	91	Mixed	11/2021 - 5/2022	Belgium	NR	40	69	84	90	95	98	99	100							
Kremer 2022	1,788	BA.1	11/2021 - 12/2021	Belgium	36%	15	37	58	75	85	91	95	97	98	99	100				
Song 2022	8	BA.1 (B.1.1.529)	11/2021 - 12/2021	South Korea	44%	20	47	67	87	93	100									
Shim 2022	202	Mixed	11/2021 - 1/2022	South Korea	53%	24	51	71	84	93	100									
B. 55-100% vaccination																				
an der Heiden 202	≥11,512	Mixed	1/2022 - 4/2022	Germany	70-80%	21	43	61	74	82	88	92	94	96	98	98	99	100		
Del Aguila-Mejia 2	443	BA.1	12/2021	Spain	80%	9	23	40	59	73	80	87	91	94	96	98	99	100		
Xin 2023	113	BA.1.1	1/2022 - 2/2022	China	84%	5	19	42	59	73	80	87	92	96	98	100				
Zeng 2023	72	BA.1	12/2021 - 1/2022	Singapore	87%	0	49	68	83	83	95	98	98	100						
Zeng 2023	38	BA.2	12/2021 - 1/2022	Singapore	87%	8	45	84	95	97	97	97	97	97	100					
Liu 2023	10	BA.1	1/2022 - 3/2022	China	89%	35	53	59	75	85	94	100								
Guo 2023 (IORV)	104	Mixed	1/2022 - 7/2022	China	90%	28	47	72	87	92	96	99	99	100						
Li 2023	48	Mixed	3/2022 - 4/2022	China	90%	8	56	75	90	90	94	96	96	96	98	100				
Guo 2023 (JVM)	248	Mixed	1/2022 - 2/2022	Hong Kong	90%	25	51	69	81	88	92	95	97	98	99	99	99	100		
Weil 2022	37	Mixed	12/2021 - 2/ 2022	USA	97%	28	53	77	86	86	91	93	98	100						
				Legend: colors every 10%		0	10	20	30	40	50	60	70	80	90	100				

Figure 7B. The cumulative proportion (%) of symptom onset in secondary influenza cases stratified by the proportion of influenza vaccinations in the population at that time.

Study	Pairs	Subtype	Dates (M/Y)	Location	Vaccination	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. Unclear vaccination up to 55% vaccination																				
Cowling 2009	14	Mixed	1/2008 - 9/2008	Hong Kong	NR	7	29	43	71	93	93	100								
Mcbryde 2009	37	H1N1	5/2009 - 6/2009	Australia	NR	16	43	68	86	97	100									
Ghani 2010	58	H1N1	4/2009 - 5/2009	UK	NR	8	35	50	72	85	91	98	98	100						
Suess 2010	8	H1N1	4/2009 - 7/2009	Germany	NR	13	25	100												
Komiya 2010	14	H1N1	5/2009 - 7/2009	Japan	NR	7	36	71	79	86	93	93	100							
Roll 2011	51	H1N1	4/2009 - 7/2009	Isreal	NR	12	43	59	73	78	86	90	92	94	96	96	98	98	98	100
Archer 2012	19	H1N1	6/2009 - 7/2009	South Africa	NR	37	63	74	95	100										
teBeest 2013	37	H1N1	6/2009	Netherlands	NR	14	35	70	86	97	100									
Thai 2014	6	H1N1	6/2009 - 4/2010	Vietnam	0%	33	67	100												
Biddle 2026	20	Mixed	10/2023 - 4/2024	USA	0%	25	55	65	85	85	95	100								
Cohen 2019	30	Mixed	2013 - 2014	South Africa	1-4%	20	60	87	87	93	100									
Iyengar 20215	8	Mixed	5/2013 - 10/2013	South Africa	3-5%	0	88	100												
Morgan 2010	11	H1N1	4/2009 - 5/2009	USA	29%	18	45	55	82	91	91	100								
Eibach 2014	5	Mixed	1/2012 - 4/2012	France	33% HCP	40	40	60	80	100										
Luvira 2022	5	Mixed	2/2013	Thailand	50%	0	20	60	80	80	100									
B. 55-100% vaccination																				
Biddle 2026	34	Mixed	10/2023 - 4/2024	USA	100%	15	32	50	62	79	85	94	97	100						

Legend: colors every 10%	0	10	20	30	40	50	60	70	80	90	100

D.2. Discussion

Overall, the evidence retrieved by the update search[12,13,17-19,70] and the previously published rapid systematic review[5] indicates that viral shedding for both Omicron and influenza A viruses can persist for up to 10 days for most participants and that shedding often continues after fever cessation. However, the vast majority of secondary case symptom onset for both Omicron and influenza A virus infections occurred in the first few days following symptom onset in primary cases. This suggests that work restrictions for HCP with suspected or confirmed viral respiratory infections may be most impactful earlier in the course of illness. The symptomatic contagious period of an individual – the time from symptom onset to the end of contagiousness – can be approximated by subtracting the incubation period from the serial interval. Subtracting the incubation period of two days for Omicron from day seven when at least 80% of secondary cases reported symptom onset suggests at least 80% of Omicron transmissions occurred by the end of day five after symptom onset in primary cases. Similarly, subtracting the incubation period of one day for influenza A virus from day six when at least 80% of secondary cases reported symptom onset suggests at least 80% of influenza A virus transmission occurred by the end of day five after symptom onset in primary cases.

This review has several limitations that are addressed in previously published rapid systematic review.[5] Briefly, the duration of shedding may be overestimated due to the inclusion of data measured by RT-qPCR rather than culture and data measured from diagnosis instead of symptom onset. The serial intervals may be overestimated due to the exclusion of transmission pairs with serial intervals of zero. However, the serial intervals reported in several influenza studies may also be underreported due to truncated reporting of symptom onset among secondary cases on a specific day, as these transmissions were assumed to be tertiary rather than secondary cases. Additionally, no formal study-level risk of bias assessment was conducted for included studies; however, exclusion criteria were crafted to reduce or eliminate major concerns of bias and confounding. Lastly, this review did not retrieve serial interval data from healthcare settings, only serial interval data from household and community studies. While the household and community settings are usually classified as indirect data when making recommendations for healthcare settings, in this instance, it is not downgraded for several reasons. First, healthcare personnel are first and foremost, previously healthy adults, which was the population of interest in these research questions, and at this time, there is not a biologically plausible reason to expect that the duration of a HCP's infectious period would be markedly different from other previously healthy adults. Further, in healthcare settings, the implementation of standard infection prevention and control measures would likely shorten observed serial interval, which would lead to an underestimation of the number of days a previously healthy adult would likely be able to infect another person.[29,73] While it may appear indirect, the use of household data provides a more conservative estimate of the risk period for transmission for HCP.

D.3. Evidence Tables

D.3.a. GRADE-ed Summary of Findings

Table 8. GRADE Table for KQ1: Duration of Shedding

Outcome	Summary	Studies	Validity	Imprecision	Inconsistency	Indirectness	Confidence
Omicron: Mixed subvariant	For all studies, results indicate that Omicron shedding ends among ≥70% of all participants by day 9, ≥80% by day 10, ≥90% by day 11, and nearly 100% by the end of day 15 post symptom onset or diagnosis.	8 studies (N = 792)	No concerns[i]	No concerns	No concerns[ii]	No concerns	High confidence
Influenza A virus: Mixed subtype	For all studies, results indicate that influenza virus shedding among ≥70% of all participants by day 8, ≥80% and ≥90% by day 9, and nearly 100% by day 13 post symptom onset, diagnosis, or inoculation.	7 studies (N = 142)	No concerns[i]	No concerns	No concerns	No concerns	High confidence

[i] No major concerns identified after application of prespecified eligibility criteria designed to mitigate major anticipated bias domains. No formal post-inclusion study-level risk of bias assessment was conducted.

[ii] Some inconsistency may be explained by the longer duration of shedding that may be seen with different subvariants or subtypes.

Outcome	Summary	Studies	Validity	Imprecision	Inconsistency	Indirectness	Confidence
RSV	Insufficient data from one study suggests RSV shedding ends among 84% of participants by day 12 post inoculation.	1 study (N = 25)	No concerns[i]	Some concerns[iii]	Some concerns[iii]	No concerns	Low confidence[iii]
Viral respiratory pathogens[+]	Across viral respiratory pathogens, results indicate that shedding ends among ≥70% of all participants by day 9, ≥80% by day 10, ≥90% by day 11, and nearly 100% by day 13 post symptom onset, diagnosis, or inoculation in all but one RSV study.	16 studies (N = 959)	No concerns[i]	No concerns	No concerns	Some concerns[iv]	Moderate confidence[iv]

Table 9. GRADE Table for KQ2: Duration of Shedding & Symptoms

Outcome	Summary	Studies	Validity	Imprecision	Inconsistency	Indirectness	Confidence
Omicron & Influenza A: Mixed subvariant/ subtype and fever	Limited data from two studies suggests fever resolves before shedding.	2 studies (N = 112)	No concerns[i]	Some concerns[v]	No concerns	No concerns	Moderate confidence[v]
Omicron & Influenza A: Mixed subvariant/ subtype and symptoms	Four studies suggest that resolution of shedding occurs before resolution of symptoms in 60-92% of participants.	4 studies (N = 169)	No concerns[i]	Some concerns[vi]	No concerns[vii]	No concerns	Moderate confidence[vi]
Viral respiratory pathogens[+]: Fever	Limited data from two studies suggests fever resolves before shedding.	2 studies (N = 112)	No concerns[i]	Some concerns[v]	No concerns	Some concerns[iv]	Low confidence[iv,v]
Viral respiratory pathogens[+]: Any symptoms	Four studies suggest that resolution of shedding occurs before resolution of symptoms in 60-92% of participants.	4 studies (N = 169)	No concerns[i]	Some concerns[vi]	No concerns[vii]	Some concerns[iv]	Low confidence[iv,vi]

[iii] Limited data from one small study are insufficient for decision making.

[iv] Evidence is strongest for SARS-CoV-2 Omicron and influenza A and data is indirect for respiratory viruses such as parainfluenza, rhinovirus, human metapneumovirus, and additional adenoviruses, endemic coronaviruses, enteroviruses, and others.

[v] Limited data from two studies, one of which is small (n = 8), may be insufficient to make decisions.

[vi] One study has a small sample size (n = 10) and another reports the resolution of shedding (n = 16) and symptoms (n = 21) in overlapping but not equivalent populations as not all participants shed.

[vii] Some inconsistency may be explained by one study with a small sample size (n = 10) and this is accounted for under imprecision.

Table 10. GRADE Table for KQ3: Serial Interval

Outcome	Summary	Studies	Validity	Imprecision	Inconsistency	Indirectness	Confidence
Omicron: Any subvariant	For all studies, results indicate that secondary case symptom onset occurs among ≥70% of all participants by day 5, ≥80% by day 6, ≥90% by day 8, and 100% by day 13 post symptom onset in the primary case.	15 studies (N ≥15,812)	No concerns[i]	No concerns	No concerns[viii]	No concerns	High confidence
Omicron: BA.1 subvariant	For all studies, results indicate that secondary case symptom onset occurs among ≥70% of all participants by day 5, ≥80% by day 7, ≥90% by day 8, and 100% by day 13 post symptom onset in the primary case.	9 studies (N = 2,685)	No concerns[i]	No concerns	No concerns	No concerns	High confidence
Omicron: Later subvariants	For all studies, results indicate that secondary case symptom onset occurs among ≥70% of all participants by day 4, ≥80% by day 6, ≥90% by day 7, and 100% by day 10 post symptom onset in the primary case.	4 studies (N = 410)	No concerns[i]	No concerns	No concerns	No concerns	High confidence
Influenza A: Any subtype	For all studies, results indicate that secondary case symptom onset occurs among ≥70% and ≥80% of all participants by day 6, ≥90% by day 7, and 100% by day 15 post symptom onset in the primary case.	16 studies (N = 357)	No concerns[i]	No concerns	No concerns[ix]	No concerns	High confidence
Influenza A: H1N1	For all studies, results indicate that secondary case symptom onset occurs among ≥70% of all participants by day 4, ≥80% by day 6, ≥90% by day 7, and 100% by day 15 post symptom onset in the primary case.	9 studies (N = 241)	No concerns[i]	No concerns	No concerns	No concerns	High confidence
Viral respiratory pathogens[+]	Across viral respiratory pathogens, results indicate that shedding ends among ≥70% and ≥80% of all participants by day 6, ≥90% by day 8, and 100% by day 15 post symptom onset in the primary case.	31 studies (N ≥16,169)	No concerns[i]	No concerns	No concerns	Some concerns[x]	Moderate confidence[x]

[+]This recommendation is intended to apply to respiratory viruses such as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), influenza, respiratory syncytial virus (RSV), parainfluenza, rhinovirus, human metapneumovirus, and additional adenoviruses, endemic coronaviruses, enteroviruses, and others. This recommendation is NOT intended to apply to viral respiratory pathogens

[viii] Some inconsistency may be explained by the longer periods of infectiousness that may be seen with different subvariants or subtypes.

[ix] Some inconsistency may be explained by different methods for identifying secondary cases in households.

[x] Evidence is strongest for SARS-CoV-2 Omicron and influenza A and data is indirect for respiratory viruses such as parainfluenza, rhinovirus, human metapneumovirus, and additional adenoviruses, endemic coronaviruses, enteroviruses, and others. Additionally, application to HCP in healthcare settings relies in part on linked evidence.

addressed in other sections of this guideline (i.e., measles, mumps, rubella, varicella, cytomegalovirus, parvovirus B19, and viral conjunctivitis) or other interim guidance (e.g., Middle East Respiratory Syndrome coronavirus).

D.3.b. Extracted Evidence from Studies Identified in Update Searches

Table 11. Brief Summary of Extracted Evidence

Study	KQ	N	Population	Location	Dates	Pathogen	Strain/ Variant	Diagnostic test	Measured since	Vaccination	Household transmission	Societal NPIs	Figure extraction
Bagga 2018[72]	KQ1	25	Adult volunteers	USA	NR	RSV	A	qPCR	Inoculation	NR	N	NR	R
Biddle 2026[12,14,71]	KQ3	54	Household	USA	Oct 1, 2023 - Apr 30, 2024	Influenza	H1N1, H3N2, & A	RT-PCR	SO1C	63% (34/54)	Y	NR	D-R
Boucau 2025[17,31]	KQ1, KQ2	140	Outpatients	USA	Dec 2021 - Sept 2024	SARS-CoV-2	BA.1, BA.2, BA.4, BA.5, XBB, & JN	Culture (Vero, VAT) & qPCR	SO or diagnosis	100% (140/140) with at least 1 dose	NR	NR	F-D
Fujita 2025[18,74]	KQ1	9	Adult volunteers	USA	NR	Influenza	H1N1	Culture	Inoculation	NR	No	NR	F-D
Katz 2025[70]	KQ2	10	HCP	USA	Apr – Nov 2023	SARS-CoV-2	XBB.1.16, HV.1, EG.5.1.1, XBB.1.16.6, FL.1.5.1	RT-qPCR	Diagnosis	NR	No	No	F
Shah 2026[19]	KQ1	184	Household	USA	Jan 1, 2022 - Jun 10, 2023	SARS-CoV-2	BA.1, BA.2, & XBB	Culture	SO	NR	Yes	NR	F-D
Thibaut 2026[13]	KQ3	91	Community	Belgium	Nov 8, 2021 - May 31, 2022	SARS-CoV-2	BA.1 & BA.2	PCR & WGS	SO or diagnosis	NR	No	NR	F-D

KQ: Key question; NR: Not reported in study; SO: Symptom onset; SO1C: Symptom onset in primary case; R: Data were reported in study; D-R: Data requested from author; F: Data extracted from figure; F-D: Data was digitized from figure; WGS: Whole genome sequencing.

E. Search Strategies and Results

The detailed search strategies for SARS-CoV-2 and influenza have been published previously.[5]

Table 12. Search strategy and results for KQ1 RSV shedding

Database	Strategy	Date	Records
Medline (OVID) 1946-	1. Respiratory Syncytial Viruses/ OR Respiratory Syncytial Virus, Human/ OR Respiratory Syncytial Virus Infections/ 2. (Respiratory Syncytial Virus* OR RSV).ti,ab,kf,hw. 3. 1 OR 2 4. exp virus shedding/ 5. ((shed* OR replica* OR competent OR infectiousness OR infectivity OR contagiousness emission* or emit* OR viable OR viability) ADJ5 (duration OR period OR time OR timing OR cease OR cessation)) .ti,ab,kf,hw. 6. 4 OR 5 7. (Symptom* OR fever* OR chill* OR cough* OR (difficult* ADJ2 breathing) OR (shortness ADJ2 breath*) OR dyspnea OR appetite OR aches OR fatigue OR headache OR sore throat OR congest* OR runny nose OR stuffy nose OR nausea OR vomiting OR diarrhea).mp 8. 3 AND 6 AND 7 9. Limit 8 to yr="2010-2025"	06/13/2025	29
Embase (OVID) 1974-	1. Human respiratory syncytial virus/ 2. (Respiratory Syncytial Virus* OR RSV).ti,ab,kf,hw. 3. 1 OR 2 4. exp virus shedding/ 5. ((shed* OR replica* OR competent OR infectiousness OR infectivity OR contagiousness emission* or emit* OR viable OR viability) ADJ5 (duration OR period OR time OR timing OR cease OR cessation)).ti,ab,kf,hw. 6. 4 OR 5 7. (Symptom* OR fever* OR chill* OR cough* OR (difficult* ADJ2 breathing) OR (shortness ADJ2 breath*) OR dyspnea OR appetite OR aches OR fatigue OR headache OR sore throat OR congest* OR runny nose OR stuffy nose OR nausea OR vomiting OR diarrhea).mp 8. 3 AND 6 AND 7 9. Limit 8 to yr="2010-2025"	06/13/2025	173 - duplicates =148 unique items
Cochrane Library	• [mh "Respiratory Syncytial Viruses"] OR [mh "Respiratory Syncytial Virus,	06/13/2025	20 -

Database	Strategy	Date	Records
	Human"] OR [mh "Respiratory Syncytial Virus Infections"] • ("Respiratory Syncytial Virus*" OR RSV):ti,ab,kw • #1 OR #2 • [mh ^"virus shedding"] • ((shed* OR replica* OR competent OR infectiousness OR infectivity OR contagiousness OR emission* or emit* OR viable OR viability) NEAR/5 (duration OR period OR time OR timing OR cease OR cessation)):ti,ab,kw • #4 OR #5 • (Symptom* OR fever* OR chill* OR cough* OR (difficult* NEAR/2 breathing) OR (shortness NEAR/2 breath*) OR dyspnea OR appetite OR aches OR fatigue OR headache OR "sore throat" OR congest* OR "runny nose" OR "stuffy nose" OR nausea OR vomiting OR diarrhea):ti,ab,kw • #3 AND #6 AND #7 with Cochrane Library publication date from Jan 2010 to Jun 2025		duplicates =15 unique items
CINAHL (EBSCOHost)	• (MH "Respiratory Syncytial Viruses") OR (MH "Respiratory Syncytial Virus, Human") OR (MH "Respiratory Syncytial Virus Infections") • (TI ("Respiratory Syncytial Virus*" OR rsv)) OR (AB ("Respiratory Syncytial Virus*" OR rsv)) OR (SU ("Respiratory Syncytial Virus*" OR rsv)) • S1 OR S2 • (MH "virus shedding") • ((shed* OR replica* OR competent OR infectiousness OR infectivity OR contagiousness OR emission* or emit* OR viable OR viability) N5 (duration OR period OR time OR timing OR cease OR cessation)) • S4 OR S5 • (Symptom* OR fever* OR chill* OR cough* OR (difficult* N2 breathing) OR (shortness N2 breath*) OR dyspnea OR appetite OR aches OR fatigue OR headache OR "sore throat" OR congest* OR "runny nose" OR "stuffy nose" OR nausea OR vomiting OR diarrhea)	06/13/2025	6 - duplicates =0 unique items

Database	Strategy	Date	Records
	• S3 AND S6 AND S7 **Limiters** - Publication Date: 20100101-20250613; Exclude MEDLINE records		
Scopus	TITLE-ABS-KEY("Respiratory Syncytial Virus*" OR rsv) AND TITLE-ABS-KEY((shed* OR replica* OR competent OR infectiousness OR infectivity OR contagiousness OR emission* or emit* OR viable OR viability) W/5 (duration OR period OR time OR timing OR cease OR cessation)) AND TITLE-ABS-KEY(Symptom* OR fever* OR chill* OR cough* OR (difficult* W/2 breathing) OR (shortness W/2 breath*) OR dyspnea OR appetite OR aches OR fatigue OR headache OR "sore throat" OR congest* OR "runny nose" OR "stuffy nose" OR nausea OR vomiting OR diarrhea) AND NOT INDEX(medline)	06/13/2025	6 - duplicates =0 unique items

Notes: Duplicates were identified using the Endnote automated "find duplicates" function with preference set to match on title, author, and year, and removed from your Endnote library. There will likely be additional duplicates found that Endnote was unable to detect.

Table 13. Search strategy and results for KQ3 RSV serial interval

Database	Strategy	Run Date	Records
Medline (OVID) 1946-	• Respiratory Syncytial Viruses/ OR Respiratory Syncytial Virus, Human/ OR Respiratory Syncytial Virus Infections/ 1. (Respiratory Syncytial Virus* OR RSV).ti,ab,kf,hw. 1. 1 OR 2 • Onset OR on-set OR symptom* • Serial interval* OR generation time* OR generation interval* OR time series • 3 AND 4 AND 5 • Exp animals/ NOT exp humans/ 1. 6 NOT 7	04/02/2024	13
Embase (OVID) 1974-	1. Human respiratory syncytial virus/ 1. (Respiratory Syncytial Virus* OR RSV).ti,ab,kf,hw. 1. 1 OR 2 2. Onset OR on-set OR symptom* 2. Serial interval/ OR (Serial interval* OR generation time* OR generation interval* OR time series).ti,ab,kf,hw. • 3 AND 4 AND 5 1. Exp animals/ NOT exp humans/ 1. 6 NOT 7	04/02/2024	34 - duplicates =21 unique items

Database	Strategy	Run Date	Records
Cochrane Library	#1 [mh "Respiratory Syncytial Viruses"] OR [mh "Respiratory Syncytial Virus, Human"] OR [mh "Respiratory Syncytial Virus Infections"] S1 ("Respiratory Syncytial Virus" OR "Respiratory Syncytial Viruses" OR RSV):ti,ab,kw 1. #1 OR #2 2. (Onset OR on-set OR symptom*):ti,ab,kw 3. ((Serial NEAR/2 interval*) OR "generation time" OR "generation interval" OR "generation times" OR "generation intervals" OR "time series"):ti,ab,kw 4. #3 AND #4 AND #5	04/02/2024	0 - duplicates =0 unique items
CINAHL (EBSCOHost)	5. (MH "Respiratory Syncytial Viruses") OR (MH "Respiratory Syncytial Virus, Human") OR (MH "Respiratory Syncytial Virus Infections") 6. (TI ("Respiratory Syncytial Virus*" OR rsv)) OR (AB ("Respiratory Syncytial Virus*" OR rsv)) OR (SU ("Respiratory Syncytial Virus*" OR rsv)) 7. S1 OR S2 8. (TI (Onset OR on-set OR symptom*)) OR (AB (Onset OR on-set OR symptom*)) OR (SU (Onset OR on-set OR symptom*)) 1. (TI ((serial N2 interval*) OR "generation time*" OR "generation interval*" OR "time series")) OR (AB ((serial N2 interval*) OR "generation time*" OR "generation interval*" OR "time series")) OR (SU ((serial N2 interval*) OR "generation time*" OR "generation interval*" OR "time series")) 2. S3 AND S4 AND S5	04/02/2024	9 - duplicates =1 unique items
Scopus	TITLE-ABS-KEY("Respiratory Syncytial Virus*" OR rsv) AND TITLE-ABS-KEY(Onset OR on-set OR symptom*) AND TITLE-ABS-KEY((Serial W/2 interval*) OR "generation time*" OR "generation interval*" OR "time series") AND NOT INDEX(medline)	04/02/2024	7 - duplicates =1 unique items

Notes: Duplicates were identified using the Endnote automated "find duplicates" function with preference set to match on title, author and year, and removed from your Endnote library. There will likely be additional duplicates found that Endnote was unable to detect.

Table 14. Exclusion Criteria and Relevant Rationale[5]

Exclusion Criteria	Domain of Bias	Rationale
KQ1, 2, & 3: Exclude studies conducted in populations that are predominantly children-based.	Confounding	Minimize or eliminate confounding or effect measure modification due to differences in age-related shedding & risk of transmission.
KQ1, 2, & 3: Exclude studies conducted in populations that are highly comorbid or immunocompromised.	Confounding	Minimize or eliminate confounding or effect measure modification due to differences in

Exclusion Criteria	Domain of Bias	Rationale
		shedding & risk of transmission due to comorbidities or immunocompromised status.
KQ1, 2, & 3: Exclude studies conducted in populations that are hospitalized for moderate, severe, or critical illness.	Confounding	Minimize or eliminate confounding or effect measure modification due to differences in shedding & risk of transmission due to severity of illness.
KQ1, 2, & 3: Exclude studies examining patients with non-Omicron variants of SARS-CoV-2, non-influenza A types or subtypes, or parainfluenza.	Information Bias: measurement	Minimize or eliminate measurement bias associated with longer serial intervals and durations of shedding associated with prior variants of SARS-CoV-2 and other types of influenza.
KQ1 & KQ2: Exclude studies that collect shedding data at any frequency other than daily.	Information Bias: measurement	Minimize or eliminate unclear duration of shedding.
– KQ1. Exclude studies reporting results collected using diagnostic tests that are not culture or RT-qPCR.	Information Bias: measurement	Eliminate bias associated with comparing other test methods (e.g., antigen tests) to the gold standard of culture, or improved measurement of quantitative PCR.
KQ2. Exclude studies reporting results collected using diagnostic tests that are not culture, RT-qPCR, or RT-PCR.	Information Bias: measurement	Eliminate bias associated with comparing other test methods (e.g., antigen tests); however, due to concerns that many influenza studies were published prior to the widespread use of RT-qPCR, RT-PCR was included.
KQ1 & KQ2. Exclude studies reporting RT-qPCR (Omicron) or RT-PCR (influenza) results reported as Ct values.	Information Bias: measurement	Eliminate bias that may be associated with comparing Ct values and $\log_{10}$ copies per mL values across studies.
KQ1 & KQ2. Exclude studies that do not report the end of shedding for <90% of the study population.	Information bias: measurement	Eliminate biases associated with incomplete data and an unclear duration of shedding.
KQ 1& KQ2: Exclude studies that do not measure shedding from symptom onset, diagnosis, or inoculation, or are unclear in their reporting of the start of measurement.	Information bias: measurement	Eliminate biases associated with incomplete data and an unclear duration of shedding.
KQ2: Exclude studies that do not collect daily symptom data either in person, via telephone, or using a daily log.	Information bias: recall bias	Eliminate bias associated with mis-remembering past events.
KQ3. Exclude studies that do not report data, either in chart, table, supplement, or requested data that enables the determination of the day of symptom onset in the secondary case measured in days from symptom onset in the primary case.	Information bias: measurement	Eliminate bias associated with estimating the cumulative proportion of secondary case day of symptom onset using incomplete data or inappropriate data.
RQ3. Exclude studies that report on serial estimates based on indirect transmission.	Information bias: misclassification	Eliminate bias in the data from inaccurate measurements of serial interval.

Table 15. Outcomes of Interest for Each Key Question[5]

Key Question	Outcome of interest	Definition
KQ1	Duration of respiratory viral shedding measured by qPCR or viral culture and reported as log_{10} copies/mL or Ct values.	The day, measured daily from symptom onset, that at least one diagnostic test (preferably two) returns a negative value.
KQ2	Duration of respiratory viral shedding measured daily using RT-PCR, RT-qPCR, or culture (days)	The day, measured from symptom onset, at least one diagnostic test (preferably two) returns a negative value.
KQ2	Duration of fever by clinician evaluation or self-reported via questionnaire. (days)	The day, measured daily, that the participants temperature returns to normal, or the fever "ends".
KQ3	Symptom onset in secondary case (day)	The day symptom onset in the secondary case occurs, as measured from the day of symptom onset in the primary case. May be self-reported

Figure 8. Prisma Diagram for KQ1 Omicron Shedding

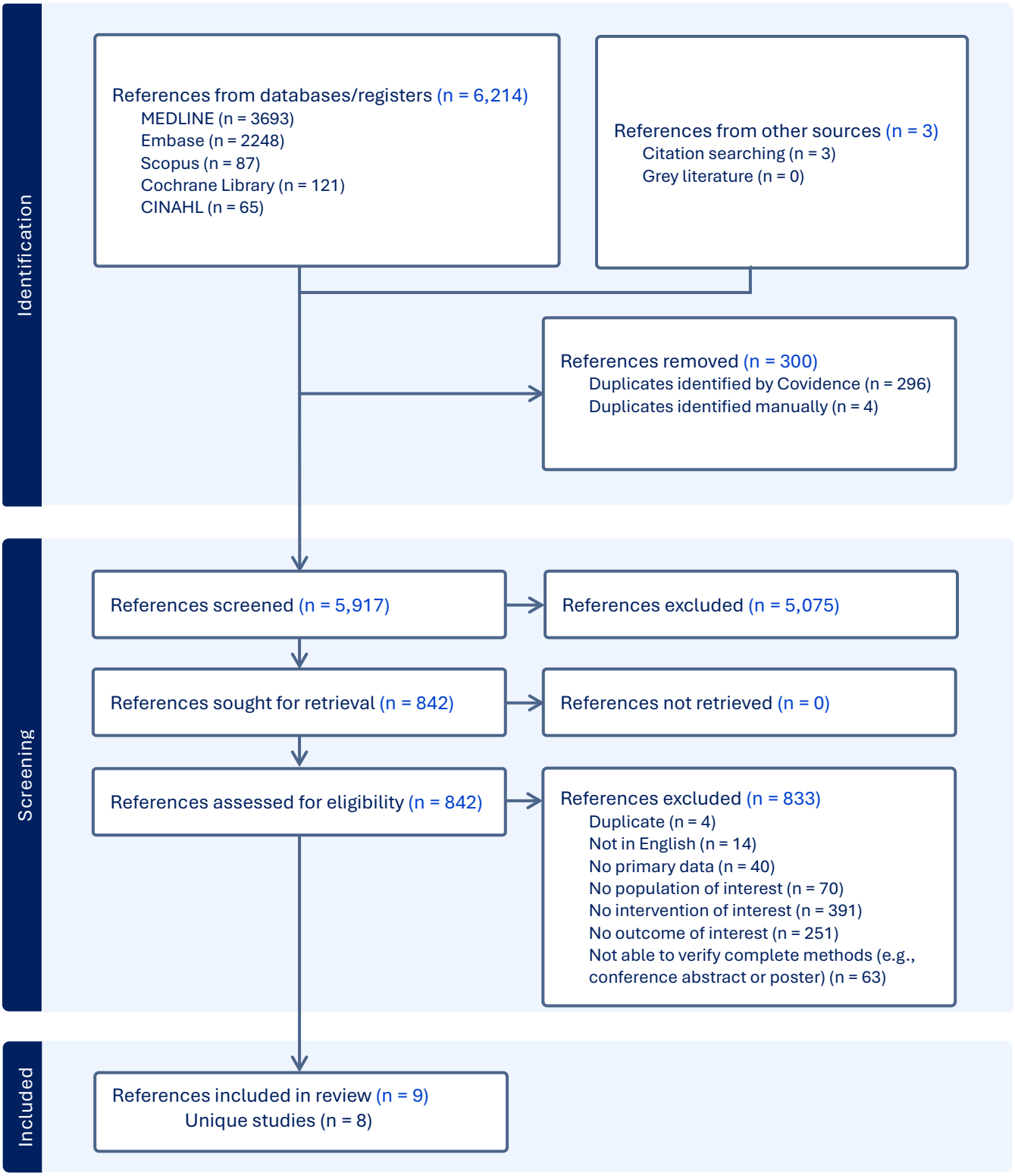


Figure 9. Prisma Diagram for KQ1 Influenza Shedding

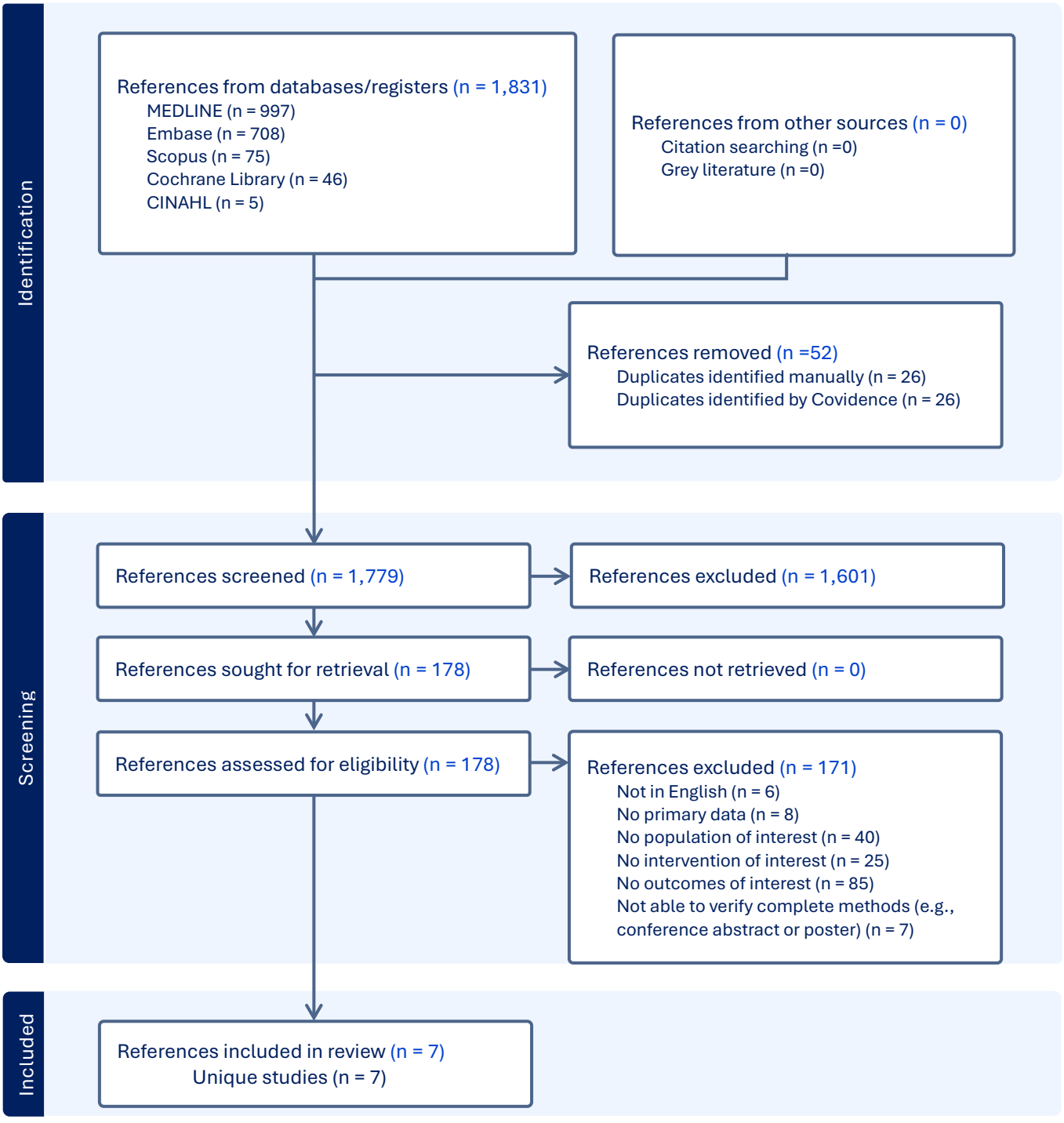


Figure 10. Prisma Diagram for KQ1 RSV Shedding

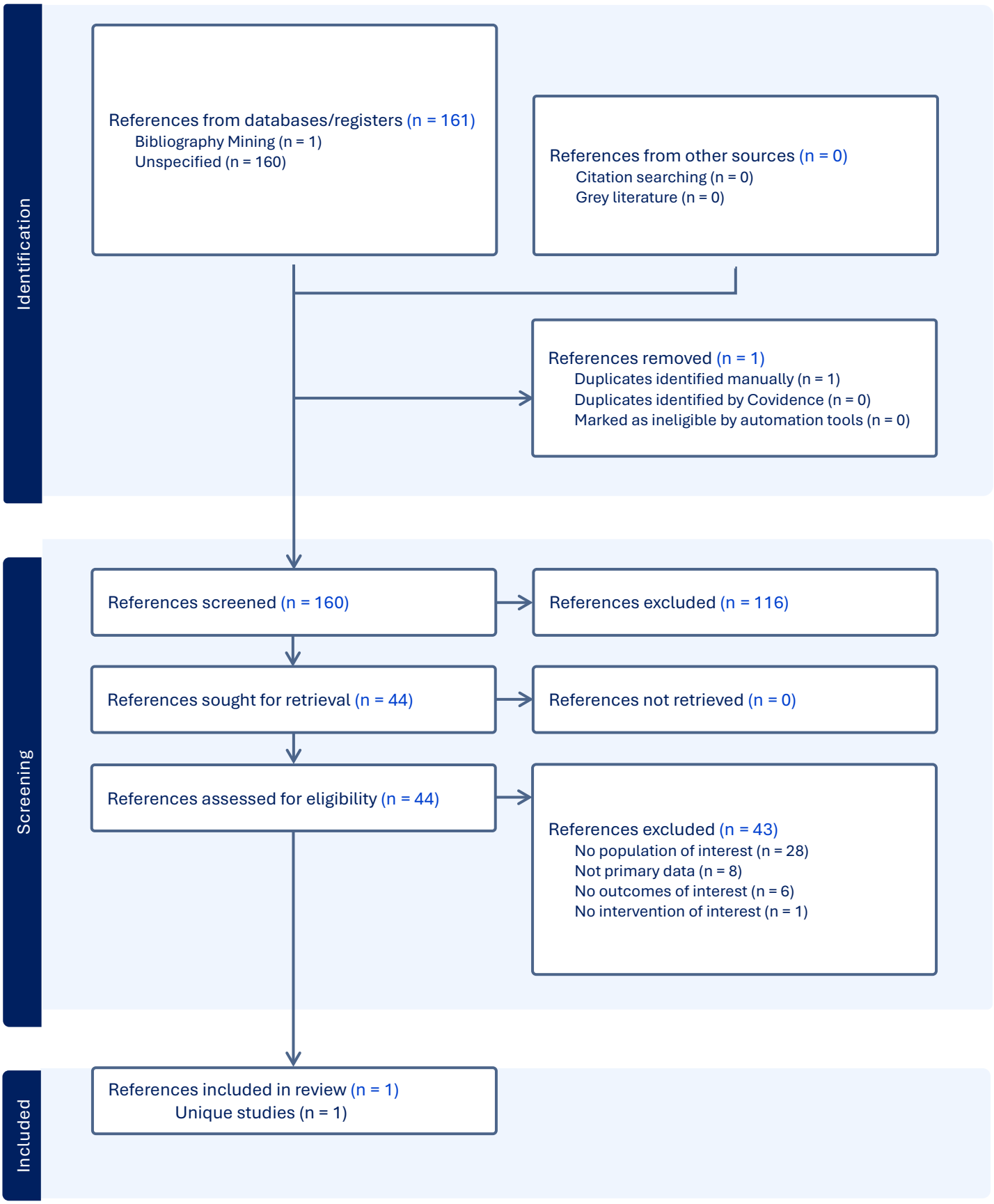


Figure 11. Prisma Diagram for KQ2 Omicron Shedding & Symptom Association

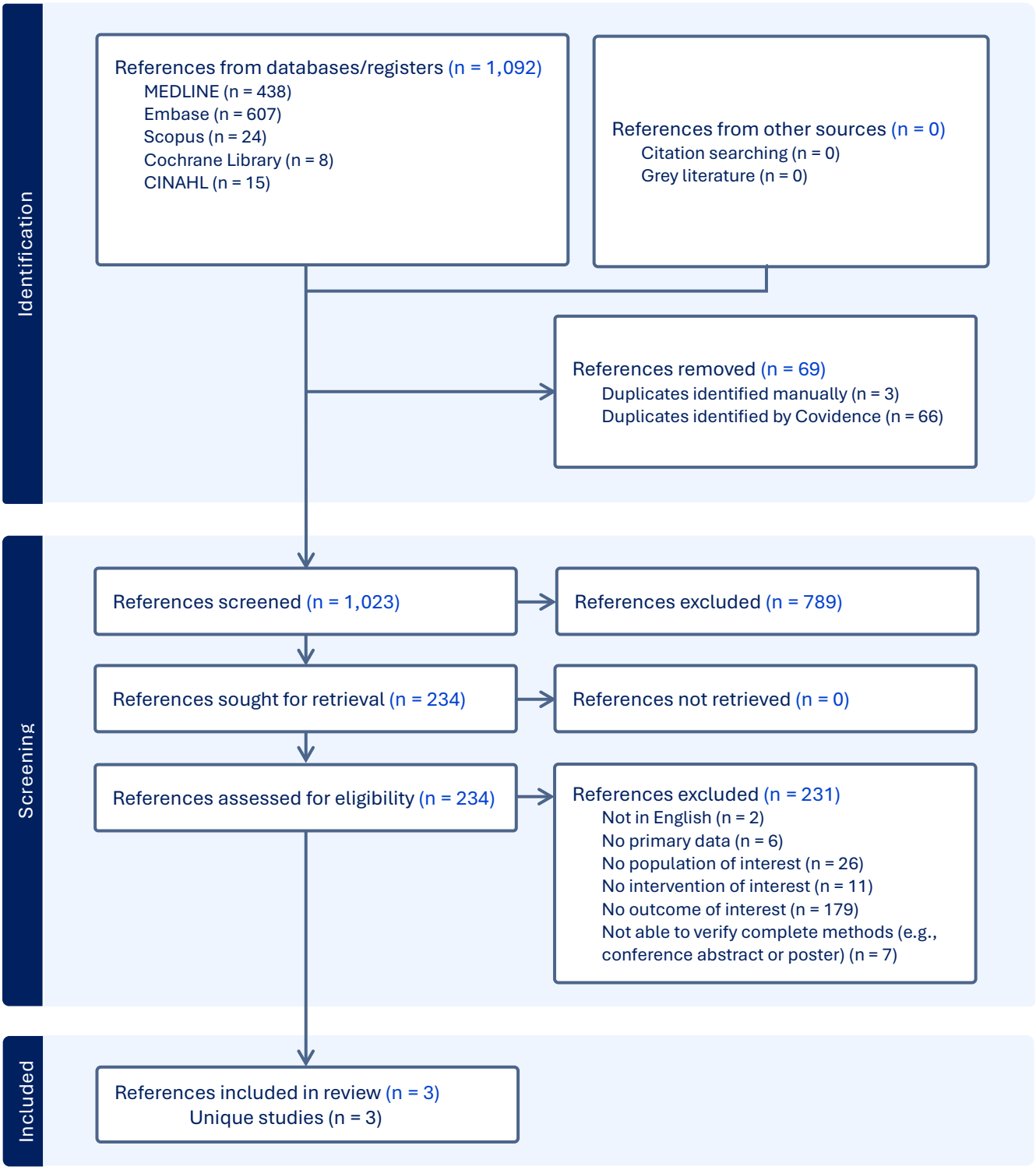


Figure 12. Prisma Diagram for KQ2 Influenza Shedding & Symptom Association

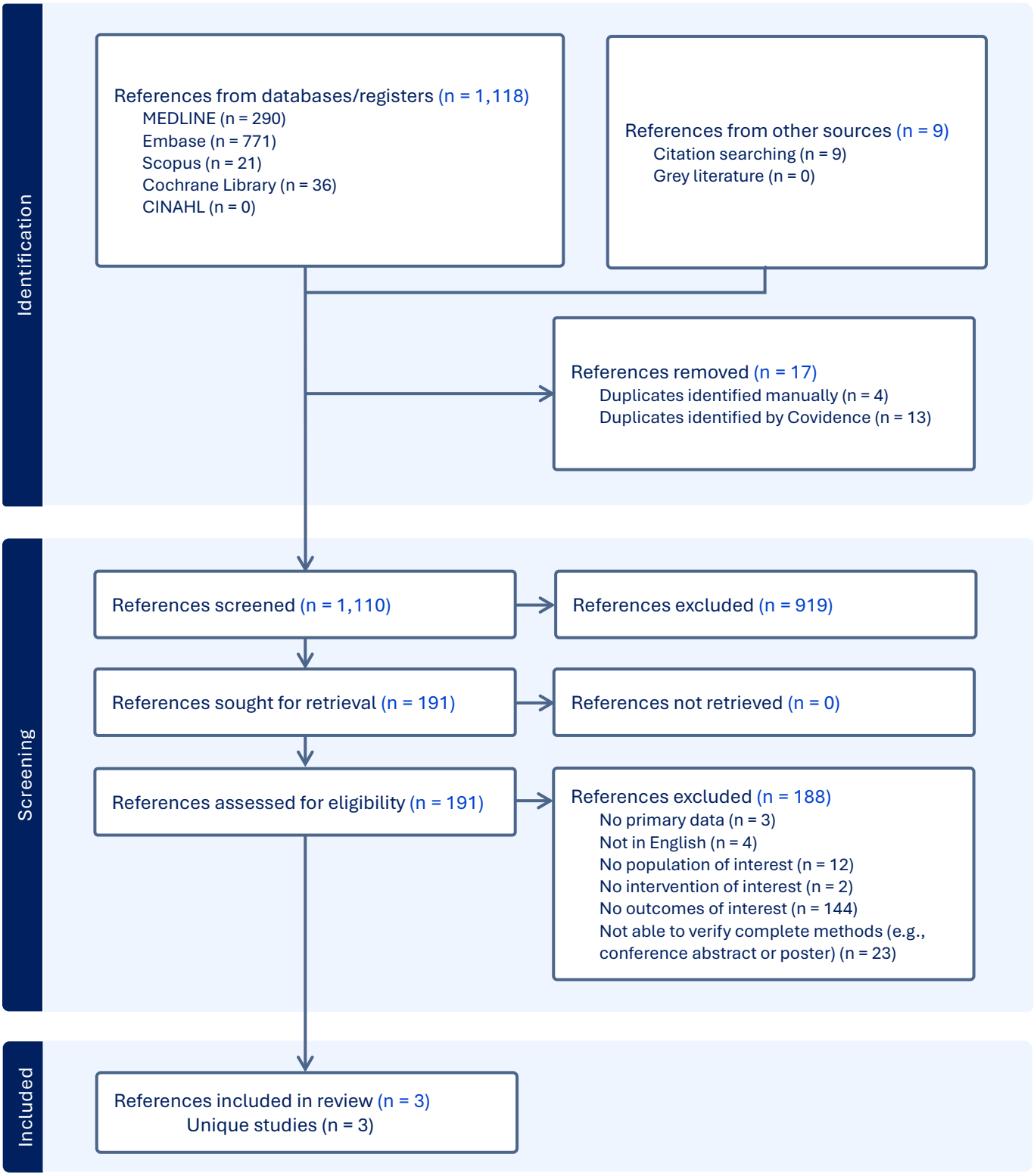


Figure 13. Prisma Diagram for KQ3 Omicron Serial Interval

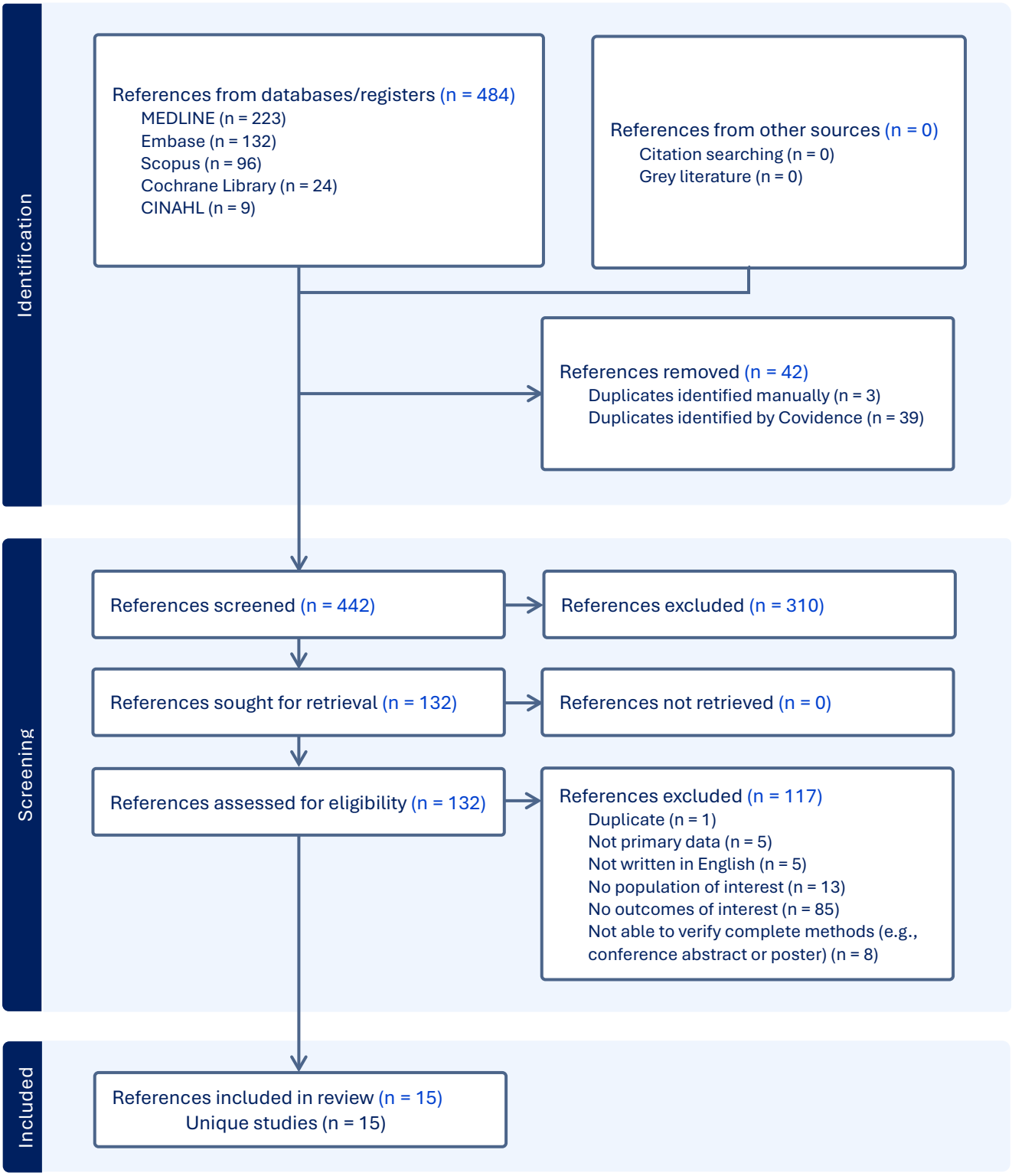


Figure 14. Prisma Diagram for KQ3 Influenza Serial Interval

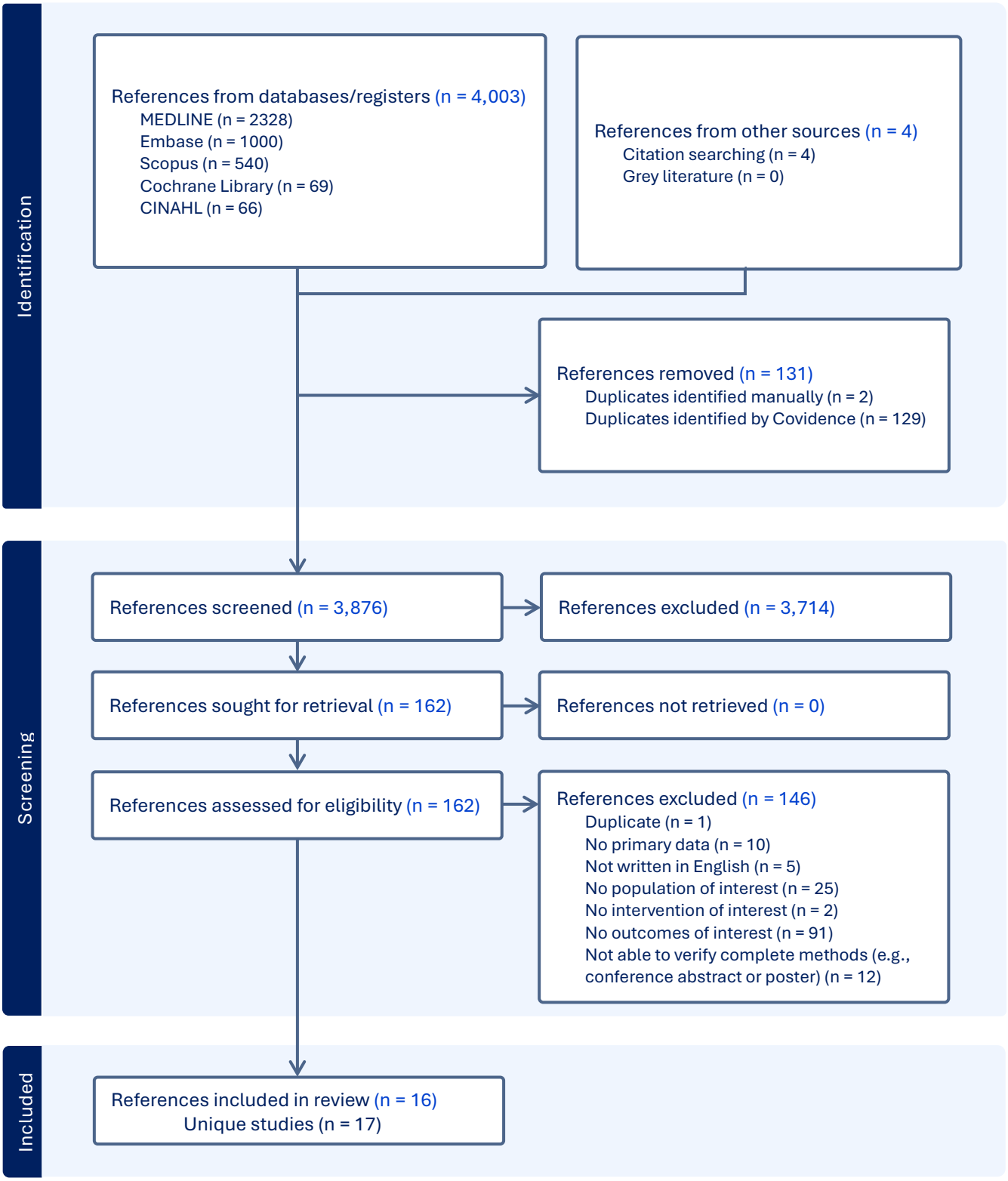
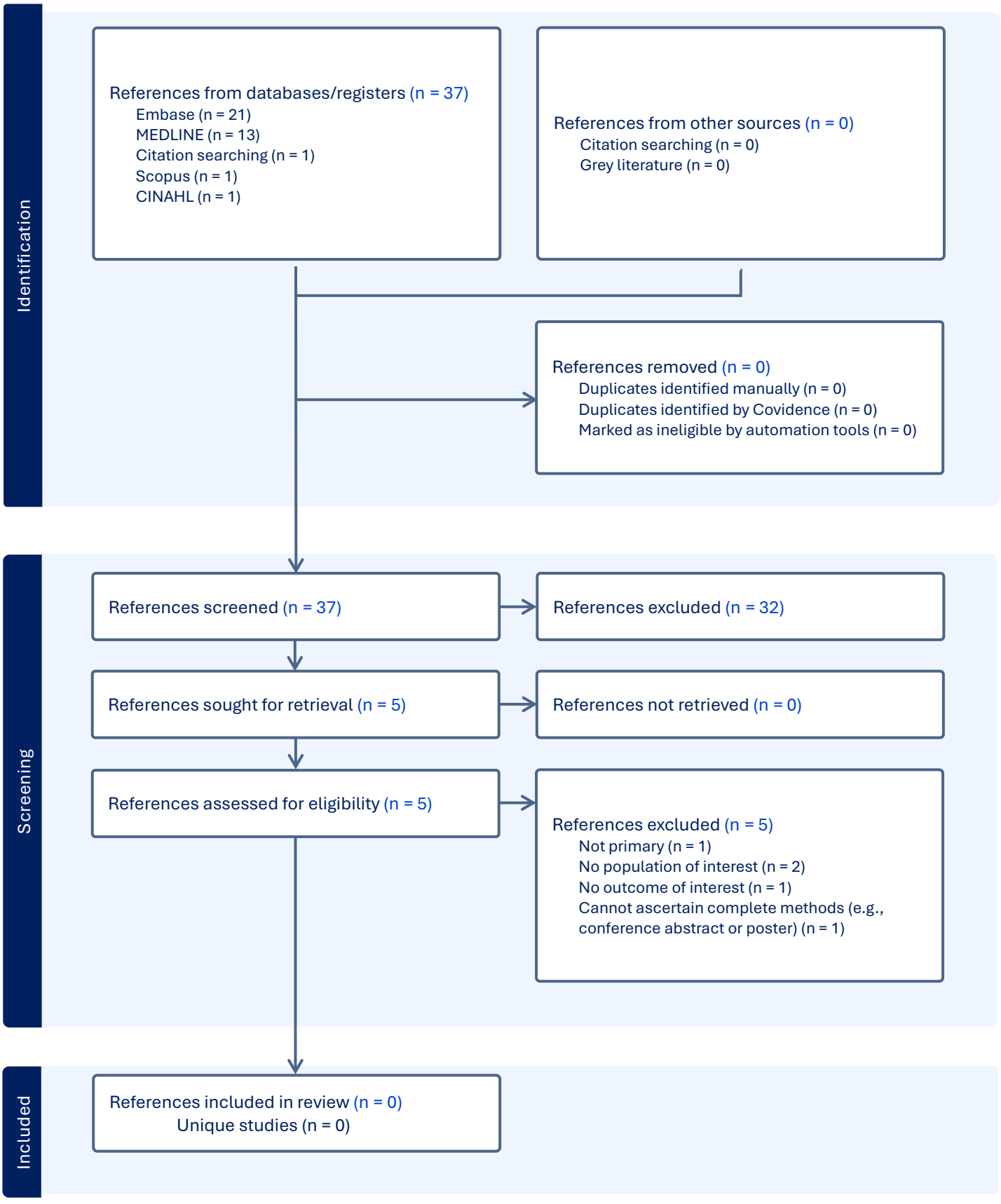


Figure 15..Prisma Diagram for KQ3 RSV Serial Interval



F. Public Comments

Table 16. Summary of public comments received related to the draft recommendations of the Infection Control in HCP: Viral Respiratory Infection section for the Public Meeting of the HICPAC on November 14-15, 2024.

Public Comment Topic	Public Comments		
	Written	Oral	Total
Any topic	2282	28	2310
Related to HCP work restrictions, the HCP Guideline: viral respiratory section, or the draft recommendations.	38	13	51
Supported the draft recommendations due to the following potential benefits:	17	0	17
Ease of implementation due to closer alignment with community respiratory viral infection recommendations	7	0	7
Reduction in staffing shortages, the associated stress on HCP, and potential harm to patients	11	0	11
Reduction in lost wages for HCP who feel better but were required to be out of work for 7-10 days.	2	0	2
Advocated for any changes to the draft recommendations	18	13	31
Changes relevant to the Guideline scope:			
Maintain the current recommendations for 7-10 days of work restrictions	4	3	7
Recommend testing of HCP before returning to work	4	3	7
Recommend a longer work restriction period for infected healthcare workers (unspecified duration).	6	2	8
Changes not relevant to the Guideline scope:			
Add recommendations for stronger infection control policies in healthcare settings.	10	2	12
Add recommendations for universal use of high-quality respirators	11	5	16
Add recommendations for improved ventilation and air purification.	9	1	10
Add recommendations for layered mitigation strategies	9	1	10
Asked questions related to the draft HCP recommendations:	2	0	2
For HCP exposed to SARS-CoV2, do they need to mask for 10 days or if they can monitor for signs and symptoms instead?	1	0	1
Should administrative/clerical staff be required to follow the same recommendations as clinical staff?	1	0	1

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