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# Preventing asthma deaths: Interventions aimed at adolescents with asthma

## **Cochrane Airways Scoping Search Report**

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## Introduction to the scoping search report

This scoping search report describes the methods and results of scoping activities undertaken by Cochrane Airways on interventions aimed at adolescents with asthma. Interventions to prevent asthma deaths was identified as priority by the Cochrane Airways Priority Setting Group (CAPSG) as part of the Cochrane Airways ‘whole of scope’ priority setting exercise conducted in 2019/2020. Transition of care for adolescents with asthma from paediatric to adults services was identified as a factor in asthma-associated deaths by the 2014 National Review of Asthma Deaths.

This scoping search report does not attempt to appraise or synthesise the included studies. It provides a summary of the existing evidence on this topic.

## Purpose

The purpose of this scoping search report is:

- to assess what evidence exists for this topic
- to inform the development of future Cochrane Review titles
- to provide a transparent record of scoping work undertaken by Cochrane Airways

## Study inclusion criteria

Population: adolescents with asthma

Intervention: any behavioural, educational, self-management, psychological or system/organisational intervention specifically aimed at adolescents with asthma

Comparator: any

Outcomes: any

Study design: systematic reviews, randomised controlled trials (RCTs), quasi-RCTs

## Literature search

A limited literature search was conducted to identify relevant systematic reviews and trials. A search limited to the last 10 years was conducted in the [Cochrane Airways Trials Register](#) to identify relevant RCTs and quasi-RCTs. A search of the [Epistemonikos](#) database was conducted to identify relevant systematic reviews published in the last 5 years. The search strategies can be found in the [appendix](#). Searches were conducted on 12<sup>th</sup> May 2020.

## Assessment of search results

The search of the Cochrane Airways Trials Register retrieved 389 references and the search of Epistemonikos retrieved 27 references. One member of the Cochrane Airways team (LS) screened the titles and abstracts using the Cochrane Register of Studies triage function, and checked full-text if necessary.

## Included studies

The search identified 8 related systematic reviews. The RCTs were not assessed. The reviews are summarised in **Table 1**. The primary reference for each review and study is listed in the [References](#) section.

**Table 1: Summary of reviews**

| Study ID     | Review type                       | Included study types       | Population                         | Intervention/theme   | Outcome(s)  | No. included studies |
|--------------|-----------------------------------|----------------------------|------------------------------------|--|---|----------------------|
| Ahmad 2016   | Systematic literature review      | All study types            | Adolescents with asthma            | Enabling and hindering factors for adherence to asthma treatment | Behaviour; belief; self-management; health literacy; role of health provider; assessment of adherence; role of caregiver; role of peers; national asthma guidelines | 42                   |
| Alquran 2018 | Systematic review                 | All study types            | Adolescents with asthma            | Smartphone applications for self-management                      | Asthma control; medication adherence; self-efficacy   | 8                    |
| Harris 2019  | Cochrane Review (mixed methods)   | RCTs; process evaluations  | Adolescents & children with asthma | School-based self-management                                     | admission to hospital; emergency department (ED) visits; absence from school; and days of restricted activity due to asthma symptoms                                | 55                   |
| Holley 2017  | Systematic Review (mixed methods) | Quantitative & qualitative | Adolescents with asthma            | Barriers and facilitators to self-management of asthma           | Knowledge; Lifestyle; Beliefs and Attitudes; Relationships; Intrapersonal Characteristics; and Communication  | 16                   |
| Jung 2018    | Systematic review                 | RCTs                       | Adolescents & children with asthma | Telemonitoring   | Asthma control; exacerbations; medication adherence; intervention adherence   | 8                    |

|              |                   |                          |                         |                                    |  |    |
|--------------|-------------------|--------------------------|-------------------------|------------------------------------|--|----|
| Kew 2017     | Cochrane Review   | RCTs                     | Adolescents with asthma | Lay-led and peer support           | Asthma-related quality of life; exacerbations                      | 5  |
| Mosnaim 2015 | Systematic review | All intervention studies | Adolescents with asthma | Behavioural interventions          | Adherence to medication; asthma knowledge & self-management skills | 21 |
| Zhong 2017   | Systematic review | RCTs                     | Adolescents with asthma | Peer-led self-management education | Health status; behaviour   | 4  |

## References

### *Systematic Reviews*

- Ahmad A, Sorensen K. Enabling and hindering factors influencing adherence to asthma treatment among adolescents: a systematic literature review *Journal of asthma* **2016**: 53 ( 8) ; 862-878
- Alquran A, Lambert KA, Farouque A, Holland A, Davies J, Lampugnani ER, Erbas B. Smartphone applications for encouraging asthma self-management in adolescents: a systematic review *International journal of environmental research and public health* **2018**: 15 ( 11)
- Harris KM, Kneale D, Lasserson TJ, McDonald VM, Grigg J, Thomas J. School-based self-management interventions for asthma in children and adolescents: a mixed methods systematic review *Cochrane database of systematic reviews (Online)* **2019**: 1 ; CD011651
- Holley S, Morris R, Knibb R, Latter S, Lioffi C, Mitchell F, Roberts G. Barriers and facilitators to asthma self-management in adolescents: a systematic review of qualitative and quantitative studies *Pediatric pulmonology* **2017**: 52 ( 4) ; 430-442
- Jung Y, Kim J, Park DA. Effectiveness of Telemonitoring Intervention in Children and Adolescents with Asthma: a Systematic Review and Meta-Analysis *Journal of Korean Academy of Nursing* **2018**: 48 ( 4) ; 389-406
- Kew KM, Carr R, Crossingham I. Lay-led and peer support interventions for adolescents with asthma *Cochrane database of systematic reviews. 4:CD012331, 2017 apr 19* **2017**: ( 4) ; CD012331
- Mosnaim GS, Pappalardo AA, Resnick SE, Codispoti CD, Bandi S, Nackers L, Malik RN, Vijayaraghavan V, Lynch EB, Powell LH. Behavioral Interventions to Improve Asthma Outcomes for Adolescents: a Systematic Review *Journal of allergy and clinical immunology* **2015**: 4 ( 1) ; 130-141
- Zhong CS, Melendez-Torres GJ. The effect of peer-led self-management education programmes for adolescents with asthma: a systematic review and meta-analysis *Health education journal* **2017**: 76 ( 6) ; 676-694

## **Appendix: Database search strategies**

*Cochrane Airways Register of Trials via The Cochrane Register of Studies*

- #1 AST:MISC1 AND INREGISTER
- #2 MeSH DESCRIPTOR Asthma Explode All AND INREGISTER
- #3 asthma\*:ti,ab AND INREGISTER
- #4 #1 or #2 or #3 AND INREGISTER
- #5 (adolescen\* or teen\* or "young adult" or youth):ti,ab AND INREGISTER
- #6 #4 AND #5 AND INREGISTER
- #7 (2010 or 2011 or 2012 or 2013 or 2014 or 2015 or 2016 or 2017 or 2018 or 2019 or 2020):yr AND INREGISTER
- #8 #6 AND #7

*Epistemonikos*

Keyword search: Asthma adolescents