

Supplemental information

Infective endocarditis guideline update -delivery of services

Systematic review method

The working party agreed key questions during face to face discussion (pre-COVID-19)

1.0 Types of studies

We considered randomised controlled trials (RCTs), controlled clinical trials (CCTs), interrupted time series with at least three data points before and after implementation of the intervention (ITS), controlled before and after studies (CBA), systematic reviews and meta-analyses, case-controlled studies, case series comprising >10 patients, qualitative studies and journal supplements were considered. Articles in English language were included, and full journal publication was required.

2.0 Types of participants

Patients with definite or possible infective endocarditis according to Duke or modified Duke criteria (or clearly defined clinical coding data).

3.0 Inclusion criteria

All studies that were relevant to the specific questions listed in Methods Section 2 were included (i.e related to delivery of IE services)

4.0 Exclusion criteria

References with no named author, case reports (defined as ≤10 patients), animal studies, abstract and conference proceedings, correspondence and articles in a language other than English were excluded. Studies of the infection of implantable cardiac electronic devices were excluded, as were studies considering the prevention of IE

5.0 Electronic databases searches.

The search was performed on the following electronic databases:

- MEDLINE (1 January 2009 to date)
- EMBASE (1 January 2009 to date)
- WEB OF SCIENCE (Science Citation Index Expanded – 1 January 2009 to present)
- Cochrane Library (including CENTRAL Register of Controlled Trials – Issue 1 2004 to Issue 2 2009)

2009 was chosen as the start date to include some overlap with the end of previous guideline development period.

6.0 Search terms

A “catch-all literature” search strategy was undertaken to identify all new endocarditis publications, from which relevant papers were identified. Literature searches were completed by Vittoria Lutje a literature review consultant.

1. Endocarditis ti, ab, MeSH.
2. Endocarditis, bacterial [MeSH]
3. 1 or 2

To include native valve endocarditis, prosthetic valve endocarditis, heart valve prosthesis, prosthesis related infection.

To exclude: 1. cardiac implantable electronic device (CIED) infection and related endocarditis (including infection of: permanent pacemakers, implantable cardioverter-defibrillators, cardiac resynchronization therapy devices).

To exclude 2. implantable cardiac electronic device infection and related endocarditis (including infection of: permanent pacemakers, implantable cardioverter-defibrillators, cardiac resynchronization therapy devices).

Search terms were limited to humans.

1. Delivery of healthcare [Mesh]
2. Service delivery ti, ab
3. Service structure ti ab
4. Ward round ti ab
5. Multidisciplinary ti ab

7.0 Search diaries.

Search diary October 2018

Search No.	Date	Database (platform) searched	Time limits	Hits (before duplicate removal)
1	28/10/2018	Medline (OVID)	1 January 2009-18 October 2018	7645
2	28/10/2018	Cochrane Library Issue 10, 2018 (Cochrane Reviews and CENTRAL register of controlled trials)	Issue 1 2009-Issue 10 2018	503
3	28/10/2189	EMBASE (OVID) (Exclude Medline journals)	1 January 2009 – 18 October 2018	2621
4	28/10/2018	Web of Science (Science Citation Index Expanded)	1 January 2004-18 October 2018	2905
Final number of records in Endnote after de-duplication = 9669				

Duplicates were deleted from the Endnote database after import of results following the order above (default is Medline format). The final databases were re-checked for duplicates using several criteria (title only, author name+publication date).

Search diary February 2020

Search No.	Date	Database (platform) searched	Time limits	Hits (before duplicate removal)
1	19 February 2020	Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed	1 January 2018-19 February 2020	1569

		Citations, Daily and Versions(R) <1946 to February 18, 2020>		
2		Cochrane Library Issue 2, 2020 (Cochrane Reviews and CENTRAL register of controlled trials)	Issue 1 2018-Issue 2 2020	77
3		EMBASE (OVID) (Exclude Medline journals)	1 January 2018-19 February 2020	1014
4		Web of Science (Science Citation Index Expanded)	1 January 2018-19 February 2020	1015
			TOTAL NUMBER OF RESULTS	3675
			Final number of records in Endnote after removing duplicates	2425

Duplicates were deleted from the Endnote database after import of results following the order above (default is Medline format). The final databases were re-checked for duplicates using several criteria (title only, author name+publication date).

Search diary November 2020

Search No.	Date	Database (platform) searched	Time limits	Hits (before duplicate removal)
1	4 th November 2020	Ovid MEDLINE® and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions® <1946 to November 4, 18, 2020>	1 January 2020-19 February 2020 Human, English language	311
2		Cochrane Library Issue 11, 2020 (Cochrane Reviews and CENTRAL register of controlled trials)	Issue 1 2020-Issue 2 2020	31
3		EMBASE (OVID) (Exclude Medline journals)	1 January 2020-5 November 2020	405
4		Web of Science (Science Citation Index Expanded)	1 January 2020-5 November 2020	578

			TOTAL NUMBER OF RESULTS	1325
			Final number of records in Endnote after removing duplicates	1015

Duplicates were deleted from the Endnote database after import of results following the order above (default is Medline format). The final databases were re-checked for duplicates using several criteria (title only, author name+publication date).

Search diary March 2022

Search No.	Date	Database (platform) searched	Time limits	Hits (before duplicate removal)
1	2 March 2022	Ovid MEDLINE® and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions® <1946 to March 1, 2022>	1 January 2020-2 March 2022	2165
2		Cochrane Library Issue 2, 2022 (Cochrane Reviews and CENTRAL register of controlled trials)	Issue 1 2020-Issue 2 2022	121
3		EMBASE (OVID) (Exclude Medline journals)	1 January 2020-2 March 2022	1545
4		Web of Science (Science Citation Index Expanded)	1 January 2208-2 March 2022	1030
			TOTAL NUMBER OF RESULTS	4861
			Final number of records in Endnote after removing 1770 duplicates	3091

Duplicates were deleted from the Endnote database after import of results following the order above (default is Medline format). The final databases were re-checked for duplicates using several criteria (title only, author name+publication date).

8.0 Literature search results flow diagram

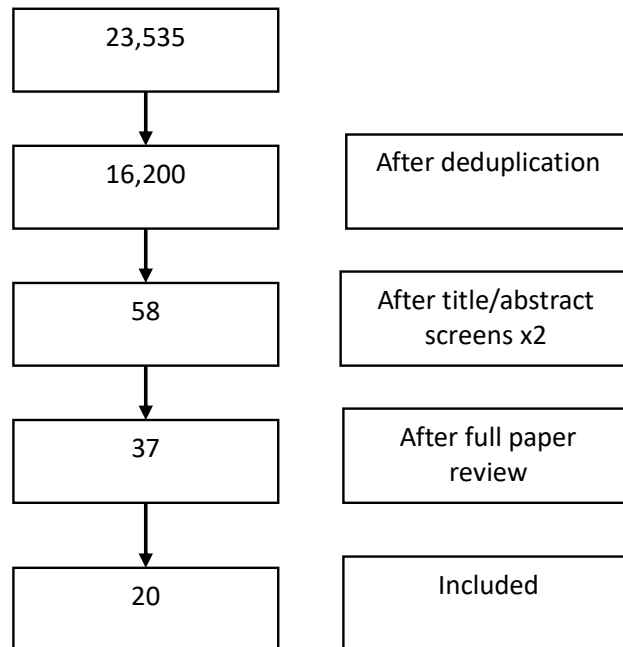


Figure S1 Results of literature search strategy

9.0 Quality assurance (search strategy)

A selection of key papers was used to test the search strategy. In addition, working party members were asked if they are aware of any significant papers that were absent from the output of the literature search.

10.0 Selection of studies

A staged selection process was undertaken. In the first stage, papers that clearly fulfilled exclusion criteria, based on study type, were removed from further consideration by one author (CH), based on titles and abstracts. In order to quality assure this process, a random selection of the references (titles and abstracts) removed was circulated to co-authors to determine if anything of relevance had been excluded (none had). In the second stage of selection, remaining papers, titles and abstracts were screened for inclusion by at least two authors. All reviewers were blinded to the decisions made by their colleagues. If reviewers disagreed whether a reference should be included in the review, the opinion of a third author was sought. In all cases the majority decision for inclusion was taken. For papers deemed eligible for inclusion, full copies were obtained and screened to ensure fulfilment of inclusion criteria. All authors agreed the inclusion of the final papers.

11.0 Data extraction and management

A data extraction record was developed to facilitate the collection of data from each included study. Data extraction included the following information:

- Lead author and date of publication
- Participant details including numbers and age of subjects
- Setting and geographical location

- Study type
- Risk of bias

12.0 Assessment of risk of bias in included studies

Two authors independently assessed the risk of bias for each study. No randomised controlled trials were identified, so a risk of bias tool was not required; the ROBINS-I tool for assessing risk of bias in non-randomised studies of interventions.²⁴

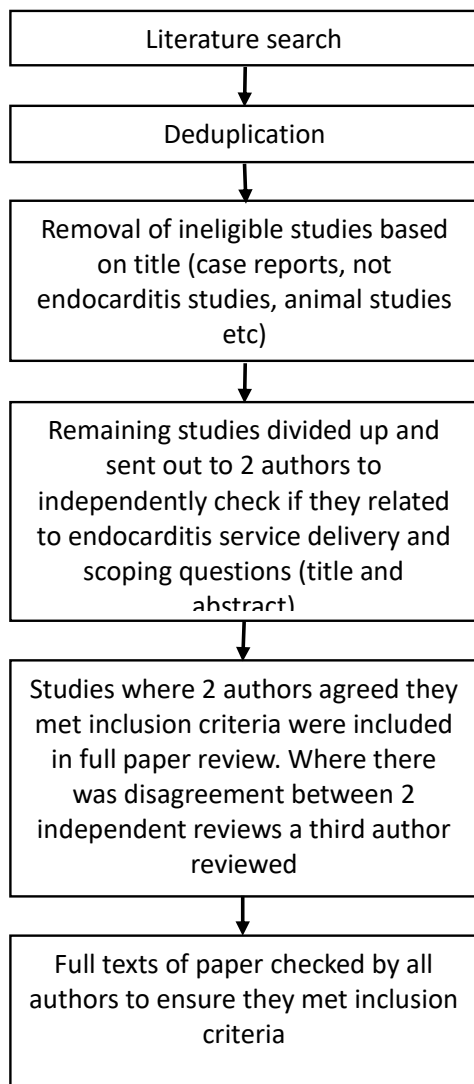


Figure S2 Literature selection strategy summary