



# The CareSearch Heart Failure Filter and PubMed Topic Searches

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## Introduction

There is growing recognition that heart failure (HF) patients may have unmet palliative and end-of-life care needs. [1] Advance care planning and symptom-oriented palliation are especially important care issues in light of the heavy symptom burden and uncertain disease trajectory associated with HF.

## Why a Heart Failure Search Filter?

Clinicians providing HF care need ongoing, timely access to the best available HF research evidence to inform their practice. Successful literature searching, however, can be undermined by such factors as the rapidly increasing size of the knowledge base, citation database complexity, inadequate searching skills, and clinical practice time pressures.

Search filters can be useful tools for busy clinician searchers. These experimentally developed, tested and validated search strategies provide a standardised shortcut to that small subset of relevant information existing within a larger pool of biomedical literature. [2]

## Developing the Medline Heart Failure Filter

CareSearch followed a strict research methodology to create a Heart Failure Filter for use in OvidSP Medline. [3] A Clinical Advisory Group guided the project.

Cited references from four major international HF clinical practice guidelines were used as a 'gold standard' set. This set was split into three subsets:

### Term Identification Set (n = 88)

- for identifying relevant subject terms (MeSH) and textwords through frequency analysis

### Development Set (n = 394)

- for testing the retrieval of terms, both individually and in combination

### Validation Set (n = 394)

- for testing the retrieval of the final search strategy, i.e. the Heart Failure Filter

## The Final Heart Failure Filter

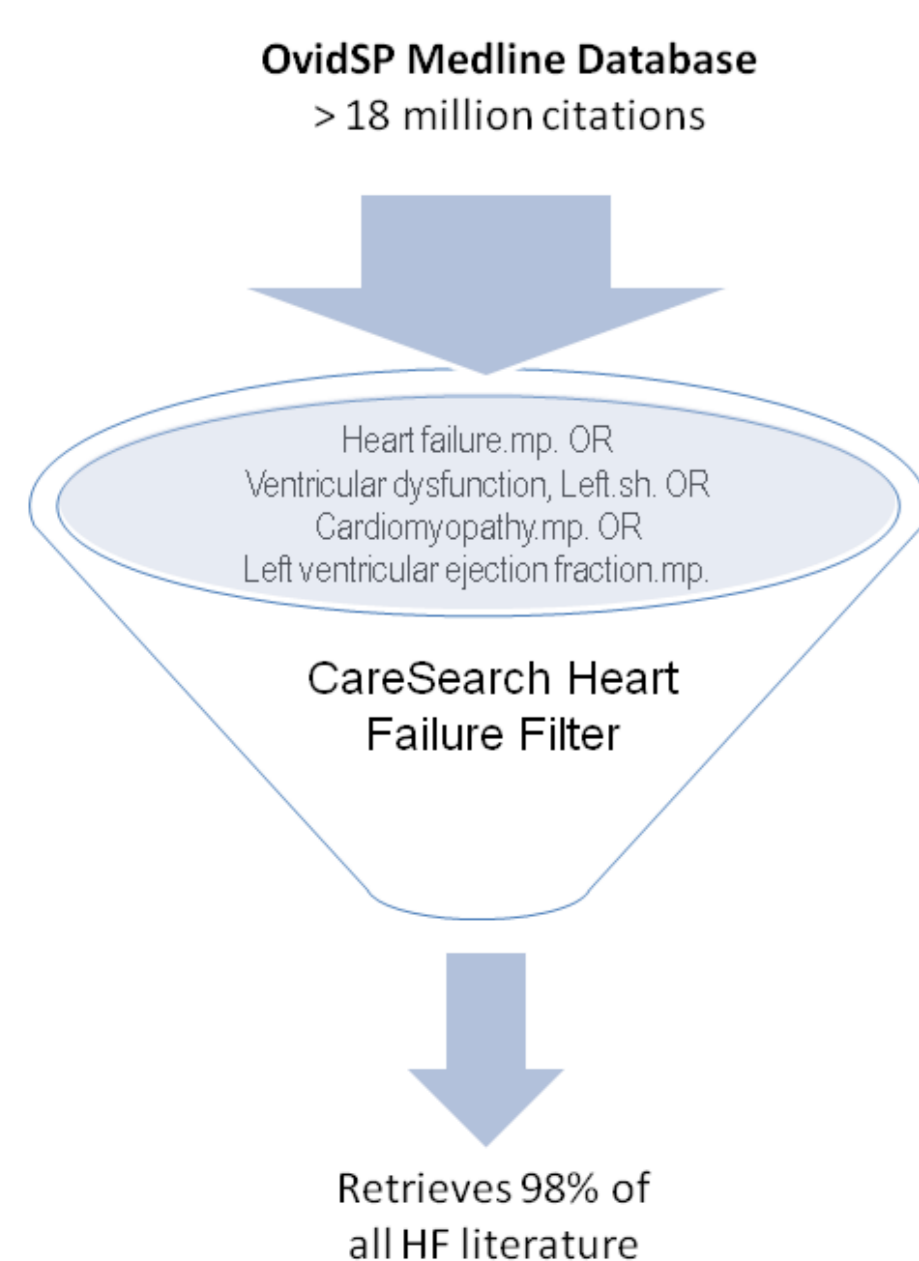
The final HF Filter comprises four terms:

Heart failure.mp. OR Ventricular dysfunction, Left.sh. OR Cardiomyopathy.mp. OR Left ventricular ejection fraction.mp.

Note: Terms with the OvidSP Medline .mp. suffix are searched for in the title, abstract and subject heading (MeSH) fields. The term with the .sh. suffix is searched for as a subject heading only.

## Filter Performance

The OvidSP Medline Heart Failure Filter has a high rate of recall (or sensitivity), retrieving approximately 98% of relevant citations in two validation sets. When the filter was run across all of Medline, 150 of the first 200 citations retrieved (75%) were deemed relevant by a clinician reviewer.



## PubMed Heart Failure Filter Translation

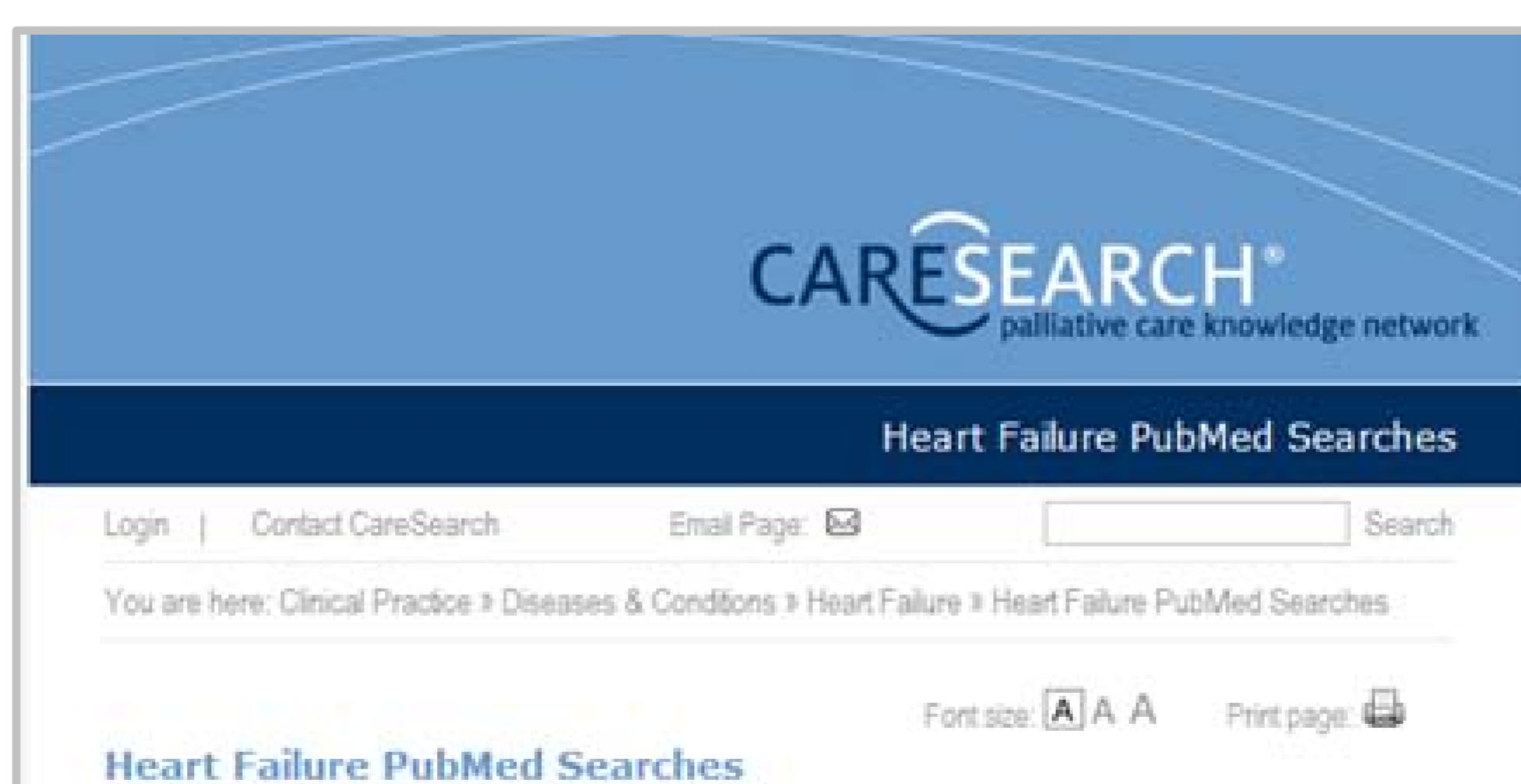
A PubMed version of the filter has also been developed. PubMed is a free interface for searching Medline, as well as some additional, non-Medline content. PubMed search filters can be saved as a hyperlink in any web environment for instantaneous single-click searching.

The PubMed HF Filter is now freely available as a hyperlink in the Clinical Practice section of the CareSearch website (<http://www.caresearch.com.au>). Clicking on the filter link launches a real-time search for English language HF literature.

## The Heart Failure PubMed Searches

The HF Filter can be used alone or combined with the searcher's own topic of interest. It has also been combined with 40 'expert' searches on specific topics at the intersection between HF and palliative care.

Each topic search (e.g. dyspnoea AND HF Filter) provides options for limiting the search further. These are: free full text, highest level evidence (randomised controlled trials or systematic reviews), or citations added to PubMed in the last three months only.



Heart Failure PubMed Searches

The links on this page provide an easy and reliable way to find the relevant heart failure literature in English. Each link runs an immediate search of PubMed and all searches are automatically updated as new articles are added to the database.

**CareSearch search filters**

**Heart failure:**  
This search uses a heart failure filter developed by CareSearch. It retrieves all English language articles of relevance to heart failure within PubMed.

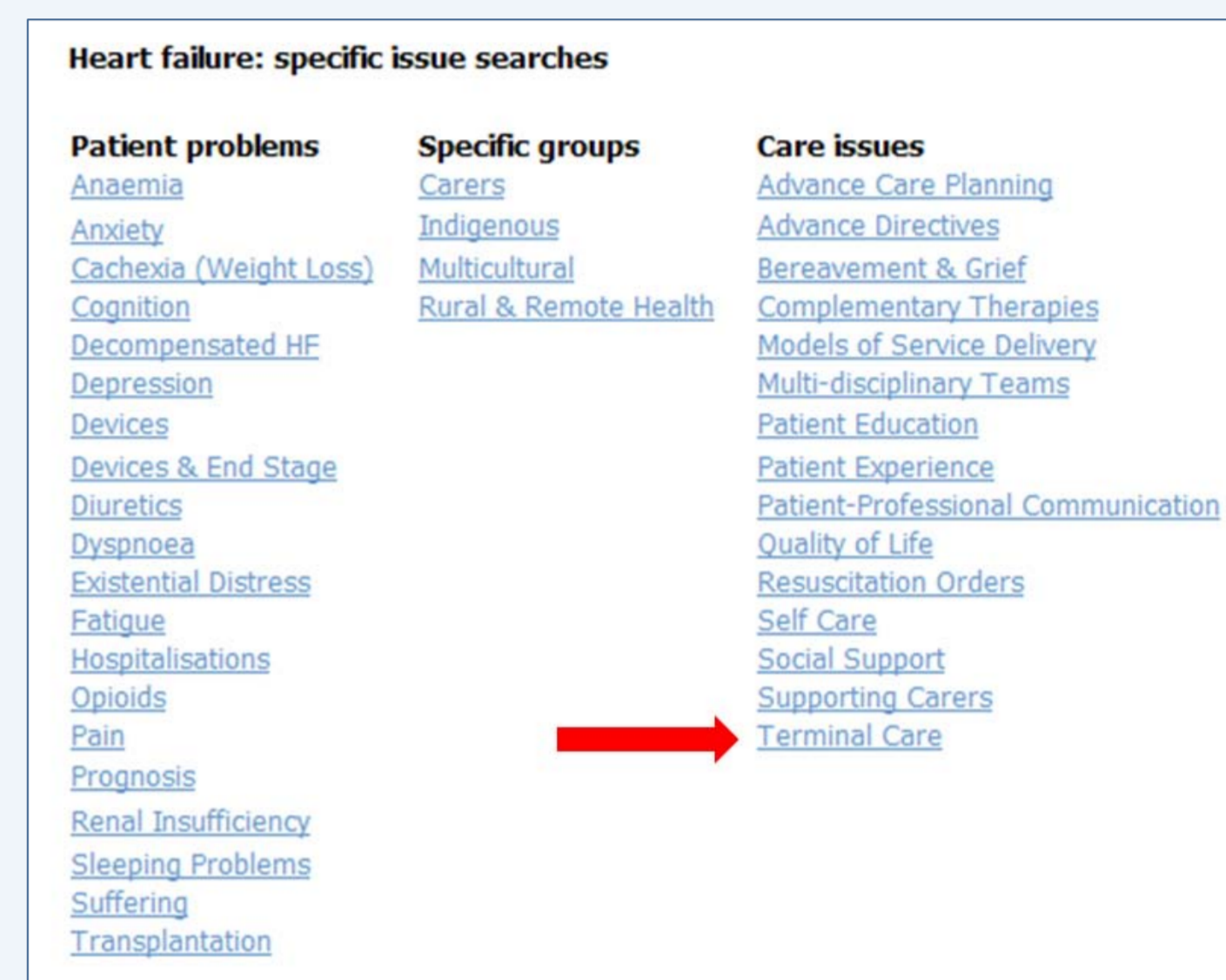
**Palliative care and heart failure:**  
This search combines the heart failure filter with the CareSearch palliative care filter to retrieve all English language heart failure articles of relevance to palliative care.

**Heart failure: specific issue searches**

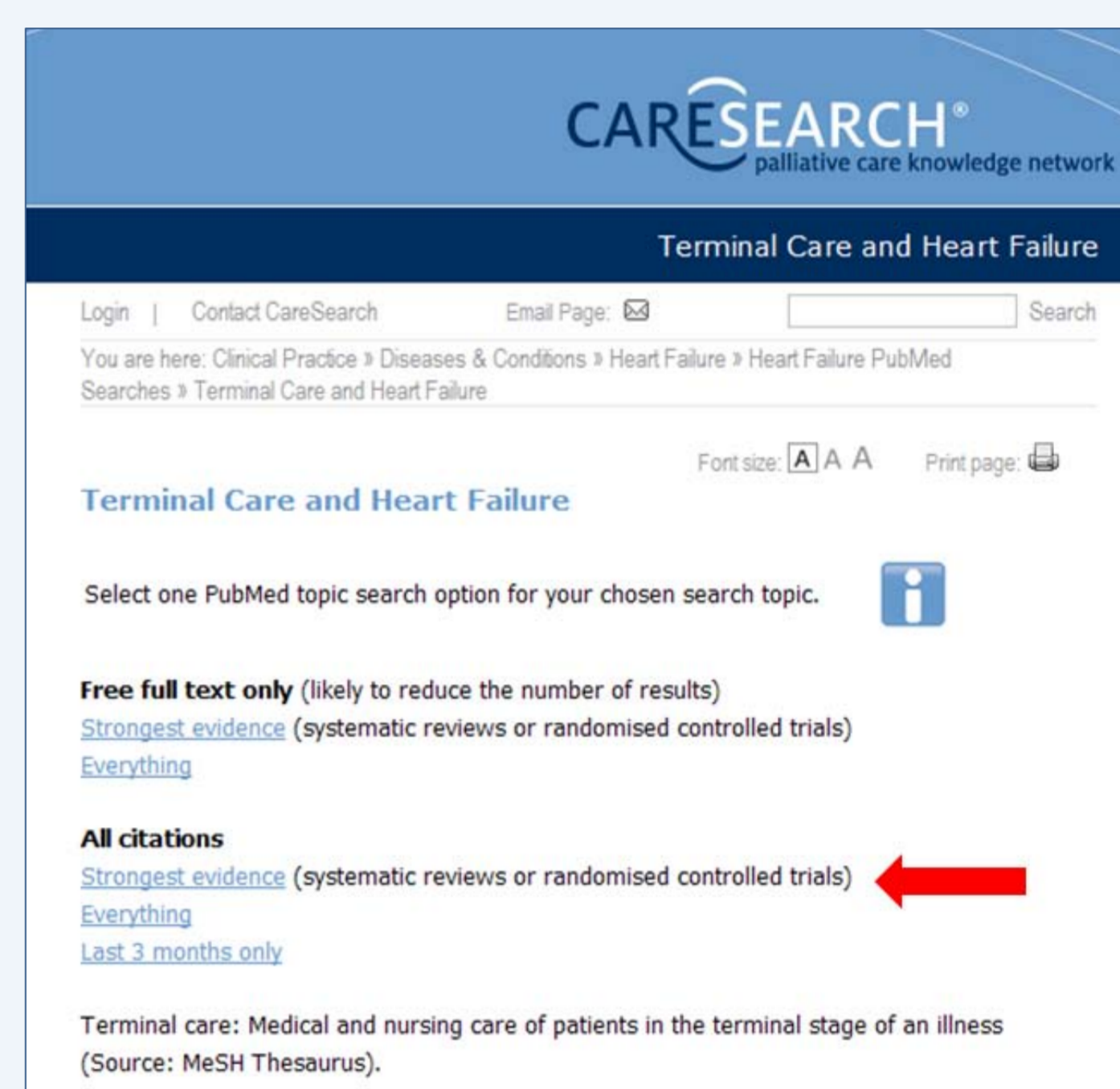
Patient problems	Specific groups	Care issues
Anaemia	Carers	Advance Care Planning
Anxiety	Indigenous	Advance Directives
Cachexia (Weight Loss)	Multicultural	Bereavement & Grief
Cognition	Rural & Remote Health	Complementary Therapies
Decompensated HF		Models of Service Delivery
Depression		Multi-disciplinary Teams
Devices		Patient Education
Devices & End Stage		Patient Experience
Diuretics		Patient-Professional Communication
Dyspnoea		Quality of Life
Existential Distress		Resuscitation Orders
Fatigue		Self Care
Hospitalisations		Social Support
Opioids		Supporting Carers
Pain		Terminal Care
Prognosis		
Renal Insufficiency		
Sleeping Problems		
Suffering		
Transplantation		

## As easy as 1-2-3

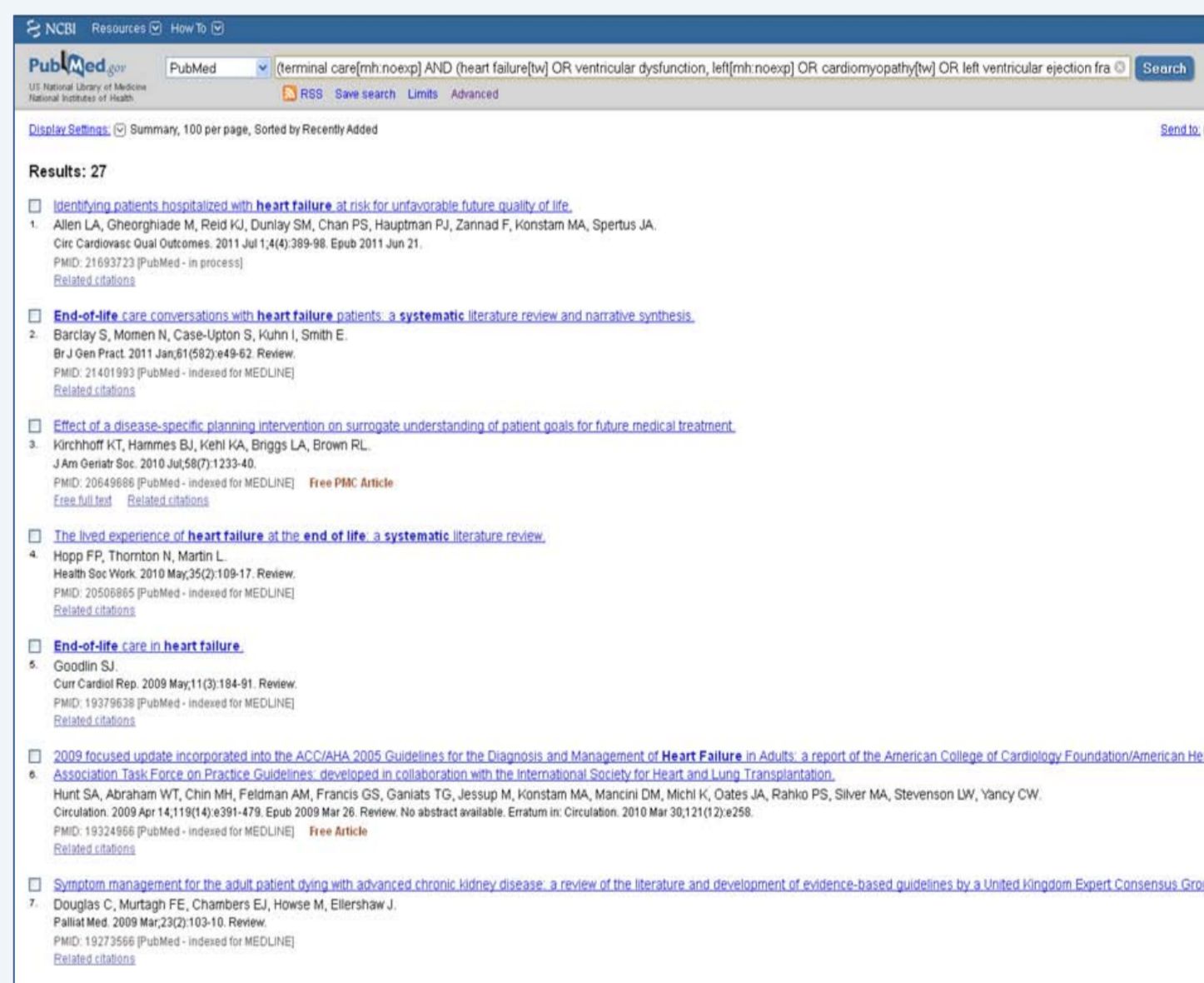
1. Click on a HF topic of interest (e.g. Terminal Care)



2. Click on a limit option (e.g. Strongest evidence)



3. View the search results in PubMed



## Conclusion

A Heart Failure Filter was developed and validated in OvidSP Medline and then translated for the PubMed search interface. The PubMed version is available as a single-click mechanism on the CareSearch website where it has been combined with 40 topic searches of relevance to the palliative care of HF.

For further information on the CareSearch Heart Failure Filter please email [jennifer.tieman@flinders.edu.au](mailto:jennifer.tieman@flinders.edu.au)

## References

[1] Jaarsma, T., Beattie, J.M., Ryder, M., et al. Palliative care in heart failure: a position statement from the palliative care workshop of the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2009;11:433-443.  
[2] Glanville J. Searching shortcuts: finding and appraising search filters. *Health Information on the Internet* 2008(63):6-8.  
[3] Damarell RA, Tieman J, Sladek RM, Davidson PM. Development of a heart failure filter for Medline: an objective approach using evidence-based clinical practice guidelines as an alternative to hand searching. *BMC Med Res Methodol*. 2011;11:12.

