

# Mapping of Diagnostic Criteria in Dermatology

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## Objective

To scope the volume and characteristics of studies that have developed and validated diagnostic criteria for skin disease.

## Condition or domain being studied

Skin disease is common and one of the most frequent presenting complaints at a GP practice, with the potential for significant physical and psychological impact. With over two thousand different skin conditions, a critical first step in optimal disease management is ensuring that an accurate diagnosis is made. However, skin diseases can be difficult to differentiate, and diagnosis often relies upon clinical judgement, meaning that misdiagnosis can occur. This issue can be helped by diagnostic criteria; ensuring the correct diagnosis is made and appropriate treatment is given early.

Mapping diagnostic criteria in dermatology will direct clinicians towards published criteria, helping to improve the quality of diagnosis and consequently disease management. Mapping will also provide an insight into the characteristics of studies used to develop the criteria. Thereby providing researchers with a directory of available development and validation studies, which could lead to a focused systematic review or follow-on research.

## Search strategy

The search strategy has been developed with information specialist Dr Douglas Grindlay. For this mapping project one electronic databased (PubMed) will be searched.

PubMed (see Appendix 1)

- Key word search for dermatological terms (designed by DG).
- Title only search for diagnostic criteria terms.

## Eligibility criteria

### Inclusion criteria

- All studies with a primary research aim to develop, validate or critically appraise diagnostic criteria for a skin disease.
- No restrictions on stage of diagnostic criteria development, study type, publication status, age of participants or language (dependant on the availability of a translator).

### Exclusion criteria

- Studies that only show a lack of diagnostic criteria and do not start to develop criteria.

- Non-systematic reviews.
- Animal studies.

#### Definitions of terms used in the mapping project

- Diagnostic criteria are defined as a group of features (which may include clinical, imaging, histopathological, biochemical or genetic items) that collectively are used to diagnose a condition. The study must specify what is required to make a diagnosis. It is not sufficient for a study to only list a number of features observed in that skin disease.
- Skin disease is defined as a disease listed in the British Association of Dermatologists (BAD) index.
- A validation study is defined as a study testing the diagnostic criteria in a separate study/population to that used to develop of the criteria. Validation may include using statistical techniques to create a validation cohort.

#### **Secondary objective**

To describe any observed relationships between the development/validation of diagnostic criteria and disease frequency (incidence/prevalence) and disease morbidity and mortality for that disease using the Global Burden of Disease.

#### **Data management**

- Titles and abstracts identified from the search strategy will be screened.
- Full texts of any citations that meet the eligibility criteria, and for citations where it was not possible to screen from the title and abstract, will be obtained.
- Full texts will be screened for eligibility.
- Data will be extracted for fields as per the protocol.

#### **Data extraction**

- Name of skin disease
- Year of study
- Year of publication
- Study methodology (none, expert opinion, formalised expert opinion, case series, cross-sectional, case-control, cohort, RCT, systematic review)
- Study population – country and age of participants (adults, children or both)
- Study setting – Hospital or population
- Sample size
- Primary outcome (sensitivity, specificity or likelihood ratio).
- Diagnostic criteria categories – clinical, histopathological, biochemical, genetic (all that apply).
- Reference standard if provided (i.e. what were the diagnostic criteria tested against).
- Is this a validation study? (Author confirmed, separate study or population, statistical technique e.g. bootstrapping).

## **Output from the project**

- A table of results per disease and a summary table presenting the main data fields extracted.
- Concise report for possible submission as a letter or conference abstract.
- Infographic of the results
- Aim to keep map updated on an annual basis.

## **Acknowledgements**

We would like to thank Prof Hywel Williams, Dr Joanne Chalmers and Dr Rosalind Simpson for their advice on the protocol.

## **Appendix 1: Search Strategy**

### **PubMed**

#### **Diagnostic criteria (all terms combined with OR)**

"diagnostic criteria"[ti]

"diagnostic criterion"[ti]

"diagnostic criterions"[ti]

"diagnostic definition"[ti]

"diagnostic definitions"[ti]

"diagnostic characterisation"[ti]

"diagnostic characterization"[ti]

"diagnostic characterisations"[ti]

"diagnostic characterizations"[ti]

"diagnostic trait"[ti]

"diagnostic traits"[ti]

"diagnostic classification"[ti]

"diagnostic classifications"[ti]

"diagnostic summary"[ti]

"diagnostic summaries"[ti]

"diagnostic features"[ti]

"diagnostic feature"[ti]

"diagnosis criteria"[ti]

"diagnosis criterion"[ti]

"diagnosis criterions"[ti]

"diagnosis definition"[ti]

"diagnosis definitions"[ti]

"diagnosis characterisation"[ti]

"diagnosis characterization"[ti]

"diagnosis characterisations"[ti]

"diagnosis characterizations"[ti]

"diagnosis trait"[ti]

"diagnosis traits"[ti]

"diagnosis classification"[ti]

"diagnosis classifications"[ti]

"diagnosis summary"[ti]

"diagnosis summaries"[ti]

"diagnosis features"[ti]

"diagnosis feature"[ti]