BEME review title: A systematic review of the relationship between casemix and learning in work-based clinical settings.

Names and Affiliations of Key Topic review Group (TRG) Members:

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Rationale for BEME review Protocol

Many clinical teachers agree that in a work-based curriculum trainees should encounter a casemix that is adequate both quantitatively and qualitatively to ensure that they gain the necessary experience for developing the required clinical competence. Theoretical underpinnings for the role of experience in expertise development are, among others, offered by the concept of deliberate practice described by Ericsson. Based on empirical findings Ericsson concludes that medical competence (or performance) improves with experience, especially when experience is evaluated and pursued in a deliberate manner. Supervision is one of the prerequisites for effective deliberate practice.

Medical professionals carry out many different tasks and therefore must be competent in a variety of skills. Competence in one skill is not necessarily generalisable to other or more complex skills. Achieving competence in a variety of skills therefore demands variety in training. This means that a casemix with an appropriate variety of diagnoses (quality) and a sufficient number of diagnoses (quantity) is an important condition for effective work-based training.

Some studies have provided evidence of a relationship between supervision and learning in work-based curricula, but the relationship between casemix and learning in these curricula still remains unclear.

The aim of the proposed review is to ascertain the current state of knowledge about the relationship between casemix and learning in work-based clinical settings. A better understanding of the relationship between casemix, (supervision) and learning is important for teachers in designing and developing work-based medical curricula. To our knowledge no systematic review has been done on this topic.

Review question:
What is known about the relationship between casemix and learning in work-based clinical settings?

**Definition of casemix:**

Different authors use different definitions. In 1994 Eccles gave the following definition: “casemix is all the characteristics by which the consultation can be categorized, meaning gender, age, race, and reason for consultation.” Other authors, such as Markham and Dolmans, focus on disease variety. Since demographic characteristics of patients can be relevant to diagnosis and treatment and consequently to learning, we will use a broad definition of casemix, referring to both diagnostic and demographic characteristics.

**Population:**

Work-based learning in undergraduate, postgraduate and continuing medical education

**Outcomes**

1. A best-evidence in medical education review of current research into the relationship between casemix and work-based learning.
2. Suggestions for areas for further research

**Search strategy**

Searches will be conducted by our clinical librarian together with the first reviewer. Our search strategy will target several databases: ERIC, PubMed, Web of Science, Cochrane Library and EMBASE.

Synonyms of casemix (such as clinical encounters and clinical experiences) and of work-based learning will be included in the search strategy.

**Data extraction**

Two reviewers (first two authors) will independently evaluate the retrieved articles to determine their suitability for inclusion in the review. The two authors will make decisions about inclusion based on consensus. If consensus cannot be established a third author will be consulted.

**Data handling**

We will use Reference Manager 11 to build the database.
Inclusion:

- Empirical, quantitative studies will be included
- Studies will not be excluded on the grounds of language of publication

Exclusion:

- At this stage we will not include studies relating to:
  - theoretical medical curricula (not work based)
  - other health professions curricula
  - veterinary curricula
  - dental curricula
  - qualitative studies

Project timetable

- Literature search: 0-2 months from protocol
- Draft report: 6 months from protocol
- Final report: 24 months from protocol

Conflict of interest: none

Update of the review: Within three years from publication.

Reference List


