

## Eligibility criteria

### Inclusion

1. Studies referring to both BCMA and human factors.
2. Studies referring to usability and/or systems design and enabling and inhibiting factors to adoption of BCMA.
3. Studies after April 2000.
4. Primary studies which have been peer reviewed.

### Exclusion

1. Studies not linking human factors to BCMA.
2. Studies researching BCMA and medication errors without human factors.
3. Literature published before April 2000.

## Information sources

CINAHL, PubMed, Medline, google scholar.

## Search strategy and information sources

Initial google scholar search of systematic reviews to refine key words using search terms: medication administration, BCMA, human factors, systematic reviews, resulted in limited reviews conducted using human factors to examine BCMA. Therefore, keywords were expanded to include the following.

### Keywords:

1. Human factors, systems design, usability, usability testing, human computer interaction, HCI, unintended consequences, workarounds.
2. BCMA, EHRs, electronic health record system, barcode medication administration, eMAR, electronic medication administration record, EPMA, electronic prescribing and medication administration, EPA, electronic prescribing and administration.
3. Medication administration, medicines administration, drug administration.

## Search database

Google scholar search to be conducting using keywords above and manually reviewing the findings, chaining citation lists from appropriate papers.

CINAHL and PubMed searches also to be conducted in the following format:

	<b>CINAHL</b>	<b>PubMed</b>	<b>Medline</b>	<b>Google scholar</b>
<b>1.</b>	Human factors OR usability OR usability testing OR human computer interaction OR HCI OR unintended consequences OR workarounds OR system design	"Human factors" OR "usability" OR "usability testing" OR "human computer interaction" OR "HCI" OR "unintended consequences" OR "workarounds" OR "system design"	Human factors OR usability OR usability testing OR human computer interaction OR HCI OR unintended consequences OR workarounds OR system design	Human factors OR usability OR usability testing OR human computer interaction OR HCI OR unintended consequences OR workarounds OR system design
<b>2.</b>	BCMA OR EHRS OR electronic health records OR barcode medication administration OR eMAR OR electronic medication administration record OR EPA OR electronic prescribing and administration OR EPMA OR electronic prescribing and medication administration	"BCMA" OR "EHRS" OR "electronic health records" OR "barcode medication administration" OR "eMAR" OR "electronic medication administration record" OR "EPA" OR "electronic prescribing and administration" OR "EPMA" OR "electronic prescribing and medication administration"	BCMA OR EHRS OR electronic health records OR barcode medication administration OR eMAR OR electronic medication administration record OR EPA OR electronic prescribing and administration OR EPMA OR electronic prescribing and medication administration	BCMA, EHRS, electronic health records, barcode medication administration, eMAR, electronic medication administration record, EPA, electronic prescribing and administration, EPMA, electronic prescribing and medication administration
<b>3.</b>	Medication administration OR medicines administration OR drug administration	"Medication administration" OR "medicines administration" OR "Drug administration"	Medication administration OR medicines administration OR drug administration	medication administration, medicines administration, drug administration
	<b>1 and 2 and 3</b>	<b>1 and 2 and 3</b>	<b>1 and 2 and 3</b>	<b>One search</b>

## Screenshot of CINAHL search

Select / deselect all   
    
    
    

Search ID#	Search Terms	Search Options	Actions
<input type="checkbox"/> S6	S1 AND S2 AND S3	<b>Limiters</b> - Published Date: 20000401-20200431; Language: English <b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Find all my search terms	<a href="#">View Results (864)</a> <a href="#">View Details</a> <a href="#">Edit</a>
<input type="checkbox"/> S5	S1 AND S2 AND S3	<b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Boolean/Phrase	<a href="#">View Results (872)</a> <a href="#">View Details</a> <a href="#">Edit</a>
<input type="checkbox"/> S4	S1 AND S2 AND S3	<b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Find all my search terms	<a href="#">View Results (872)</a> <a href="#">View Details</a> <a href="#">Edit</a>
<input type="checkbox"/> S3	medication administration OR medicine administration OR drug administration	<b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Find all my search terms	<a href="#">View Results (326,113)</a> <a href="#">View Details</a> <a href="#">Edit</a>
<input type="checkbox"/> S2	bcma OR barcode medication administration OR ehra OR electronic health records OR emar OR electronic medication administration record OR epma OR epa OR ( electronic prescribing and medicines administration system )	<b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Find all my search terms	<a href="#">View Results (43,375)</a> <a href="#">View Details</a> <a href="#">Edit</a>
<input type="checkbox"/> S1	human factors OR system design OR usability OR usability testing OR unintended consequences OR hci OR human computer interaction OR workarounds	<b>Expanders</b> - Apply equivalent subjects <b>Search modes</b> - Find all my search terms	<a href="#">View Results (1,090,341)</a> <a href="#">View Details</a> <a href="#">Edit</a>

  
 Search Results: 1 - 50 of 864   
 Relevance ▾   
 Page Options ▾   
  ▾