



Clinical trials registers

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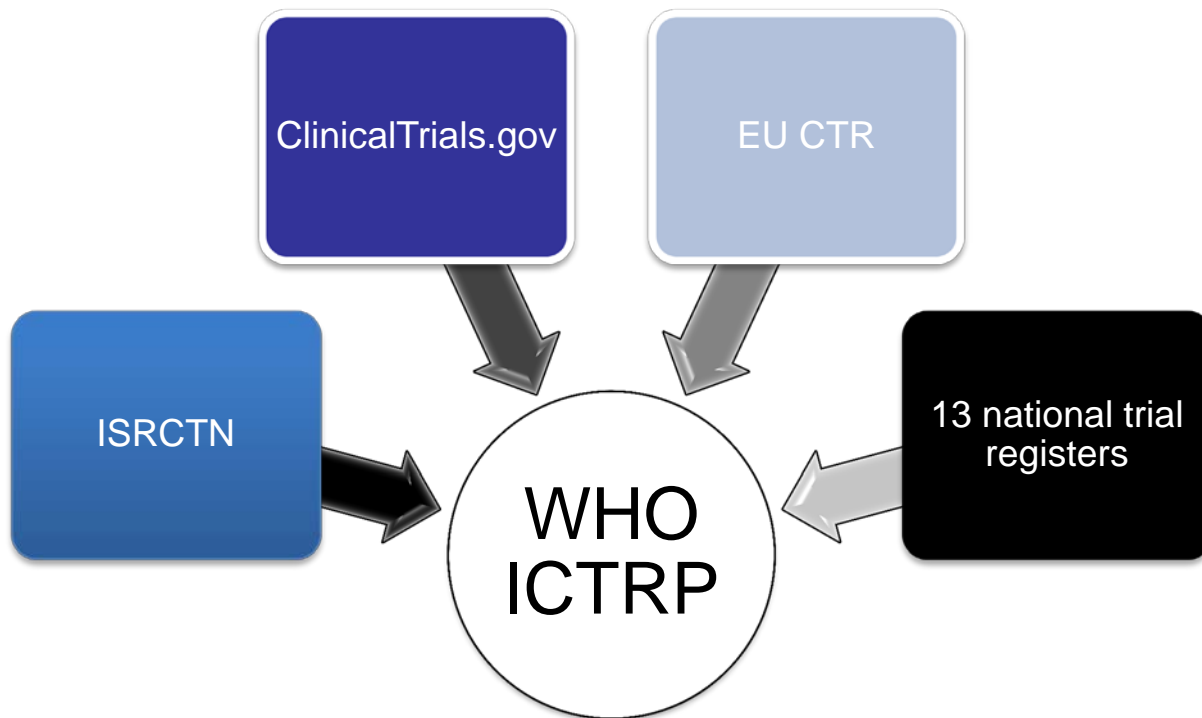
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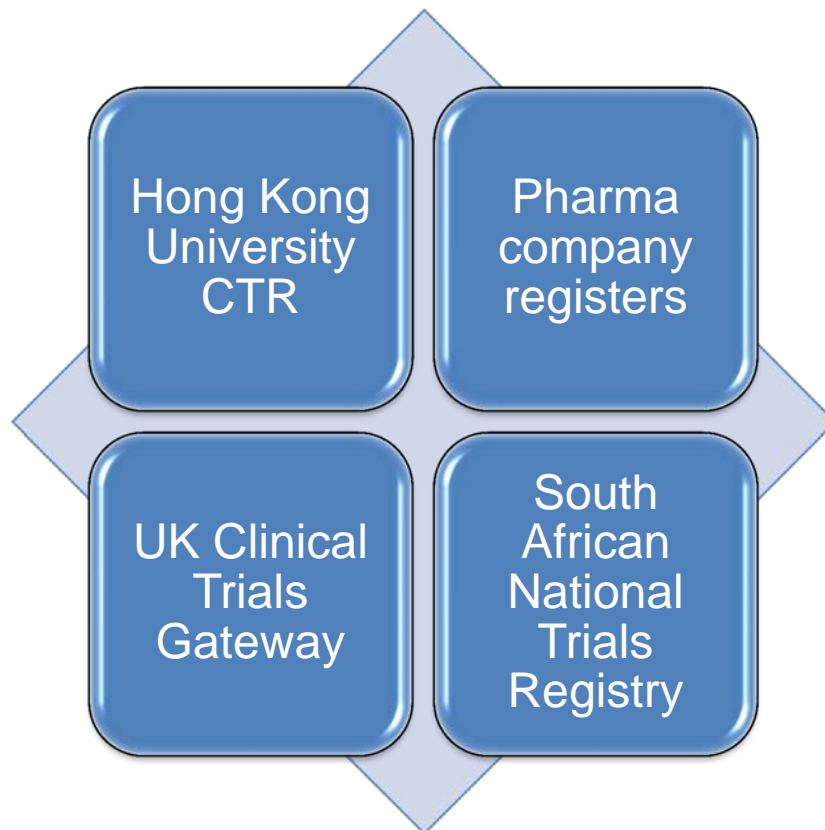
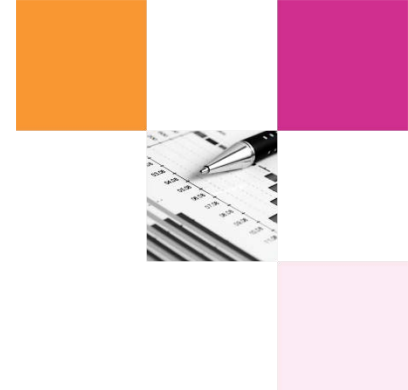


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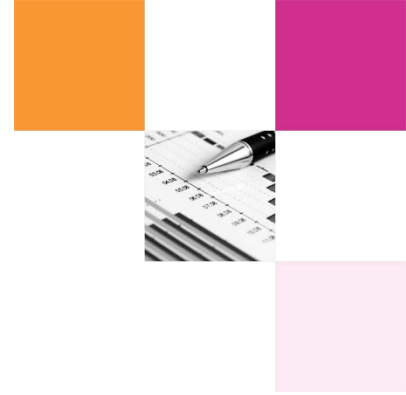
Key Register Resources



Some Registers Are Not in ICTRP

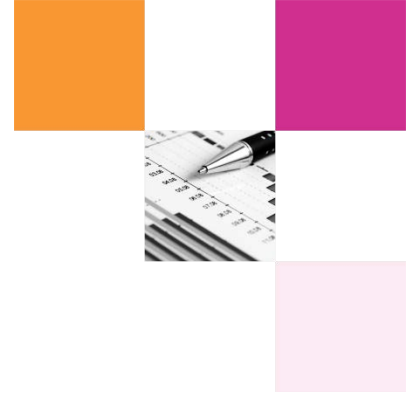


Which should we search?



- Pragmatic decisions may be required:
 - Which resources to search in time available?
- Likely to choose the resources which have:
 - Highest volume of records
 - Most relevance to specific HTA question
 - Value added features such as results
- One key question is:
 - Since ICTRP is included in ClinicalTrials.gov, do we need to search both ICTRP and ClinicalTrials.gov?

YHEC Research: Objectives



- To explore two aspects of retrieval from ICTRP and ClinicalTrials.gov
- Does varying the **sensitivity** of the strategy assist with identifying relevant studies?
- Does using the **basic** or **advanced** search options assist with improving sensitivity or precision of searches?

YHEC Research: Methods



Identify Gold standard

- Identified eight recently updated Cochrane Reviews
- Identified included studies in those reviews which had matching trials records in ICTRP and/or ClinicalTrials.gov

Test strategies

- Reran or adapted the systematic review search strategies to find the identified studies in each register
- Tested different search approaches

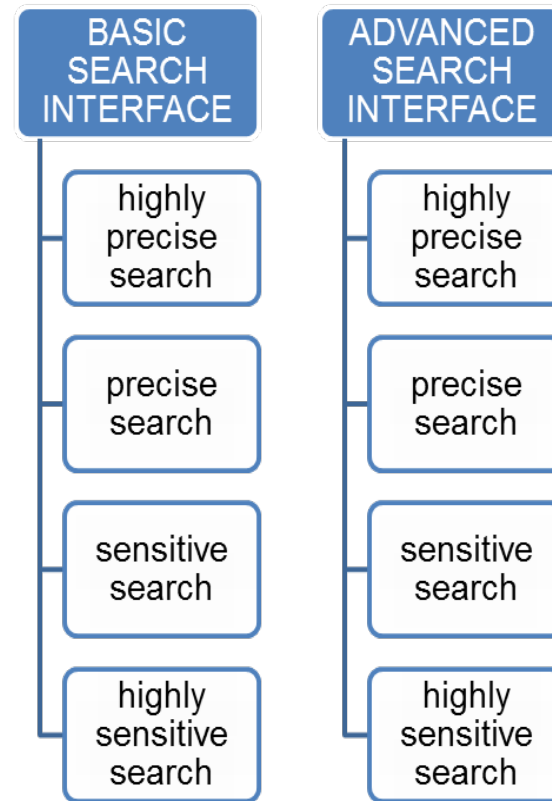
Assess strategy yield

- Identified yield of search approaches in ICTRP and/or ClinicalTrials.gov
- Explored the value of using basic and advanced search options in those registers

YHEC testing strategies



- A highly (specific) precise strategy (busy searcher):
 - Using specific condition terms AND specific intervention terms
- A precise strategy:
 - Using just one specific term (usually for the named intervention)
- A sensitive strategy to maximise identification of relevant studies:
 - Condition terms (specific and generic) AND intervention terms (specific and generic)
- A highly sensitive strategy:
 - Usually intervention terms (specific and generic)



Basic Interfaces



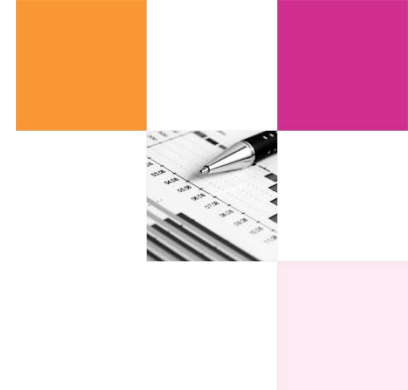
The screenshot shows the ClinicalTrials.gov website. At the top, there is a navigation bar with 'Home', 'Search', 'Study Topics', and 'Glossary'. Below this is a search bar with a 'Search' button. The main content area features a 'Basic Search' section with a text input field containing the example 'Heart Attack AND Los Angeles' and a 'Search' button. There are also links for 'Advanced Search' and 'Help'. Below the search section, there are 'Search Tips' and a list of partner organizations including the National Center for Biomedical Communications, the National Library of Medicine (NLM), and the U.S. Department of Health & Human Services.

The screenshot shows the WHO International Clinical Trials Registry Platform Search Portal. The header includes the WHO logo and the text 'World Health Organization' and 'International Clinical Trials Registry Platform Search Portal'. Below the header is a search bar with a 'Search' button. The main content area is divided into two columns: 'Welcome' and 'Data Providers'. The 'Welcome' section contains a list of bullet points providing information about the portal's database and search capabilities. The 'Data Providers' section lists various national and regional registries, such as the Australian New Zealand Clinical Trials Registry, the Chinese Clinical Trial Registry, and the Japanese Primary Registries Network, along with their last update dates.

Advanced Search Interfaces



Example Strategy: Duan Review, Sensitive Strategy



	ClinicalTrials.gov	ICTRP
Basic interface	(tibia OR tibial) AND (pin OR nail OR screw OR plate OR fixator OR prostheses OR reamed OR unreamed)	<u>tibia*</u> AND <u>nail*</u> OR <u>tibia*</u> AND <u>pin*</u> OR <u>tibia*</u> AND <u>screw*</u> OR <u>tibia*</u> AND <u>plate*</u> OR <u>tibia*</u> AND <u>fix*</u> OR <u>tibia*</u> AND <u>prothes*</u> OR <u>tibia*</u> AND <u>ream*</u> OR <u>tibia*</u> AND <u>unreamed</u>
Advanced interface	<u>Conditions:</u> tibia OR tibial <u>Interventions:</u> pin OR nail OR screw OR plate OR fixator OR prostheses OR reamed OR unreamed	<u>Condition:</u> tibia OR tibial <u>Intervention:</u> pin OR nail OR screw OR plate OR fixator OR prostheses OR reamed OR unreamed

YHEC: Results



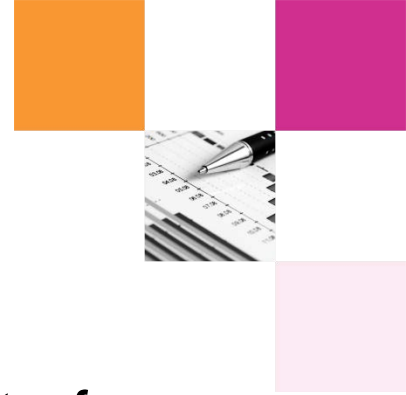
Number of Included Studies Identified in the Trials Registers

	Number of included studies	included studies identified in ClinicalTrials.gov	included studies identified in ICTRP	Number of identified studies not found in either resource	Overlap between CT and ICTRP
Henry 1	252	4	8	244	4
Henry 2	14	1	1	13	1
Albaramki	28	5	6	22	5
Derry	7	0	0	7	0
Duan	11	1	1	10	1
Gluud	7	0	0	7	0
Jones	6	2	2	4	2
Langendam	22	8	12	10	8

YHEC: Identified Studies

- 2/8 reviews had **no** matching trial records in either ClinicalTrials.gov or ICTRP
- Between 0% and 54.5% of studies included in reviews had matching trial records
- Of 6 reviews with trial records, more unique trials were identified in ICTRP than ClinicalTrials.gov in 3/6 reviews
- However, the presence of records within databases does not mean strategies can find those records....
- How do different search strategies perform in finding the identified studies in the 6 reviews in the two resources?

Basic vs Advanced Search Interfaces



- Clinicaltrials.gov: using the advanced search interface tends to improve precision, without losing sensitivity
- ICTRP: Worrying trend for decreases in sensitivity when using the Advanced Search interface.
 - In those searches where sensitivity was maintained there was often no improvement in precision
- Ideally searches should be structured to search for
 - one concept
 - use a range of synonyms and related terms, to ensure sensitivity.

Which approach is best, 2?



- ICTRP
 - Searches of more than one concept should be constructed carefully with attention to the order of processing of the Boolean operators
 - Advanced interface offered no advantages
 - Has added value in form of unique trials
- ClinicalTrials.gov
 - Improve precision by using Advanced interface
 - Has added value in form of results
- Degree of variation in best approach suggests we should search **both** resources

Publication



- Our study is **in press** in Journal of the Medical Library Association
 - Glanville J, Duffy S, McCool R, Varley D
 - Searching ClinicalTrials.gov and the International Clinical Trials Registry Platform to inform systematic reviews: what are the optimal search approaches?

Tai, Willson and Gherzi

- Presented at the 2013 Cochrane Colloquium, Auckland
- Implications of searching multiple trial registries: how should we search ClinicalTrials.gov and WHO ICTRP?
- <http://2012.colloquium.cochrane.org/posters?title=trial+registries&tid=All>

Objectives and Methods

- To quantify any differences in CT.gov records retrieved using basic and advanced searches in CT.gov and WHO ICTRP
- Searched for trial records on "breast cancer" or "breast neoplasm" on the 2 registries
- Compared the number and record identification number of CT.gov trials using basic and advanced search functions
- Narrowed the search to a specific Cochrane review topic ("taxanes for early breast cancer") and repeated the analysis

Results, 1

- “breast cancer” basic search:
 - CT.gov retrieved 4687 CT.gov records
 - WHO ICTRP retrieved 3960 CT.gov records
 - WHO ICTRP detected an extra 50 CT.gov records not retrieved by CT.gov while CT.gov retrieved an extra 777 records
- Advanced "breast cancer" searches:
 - Different total number of CT.gov records were picked-up both registries retrieving different CT.gov records as well
 - CT.gov = extra 469 records
 - WHO ICTRP = extra 48 records

Results, 2



- Specific "taxanes" search:
 - Basic and advanced searches on CT.gov retrieved 11 and 10 records (respectively)
 - WHO ICTRP picked-up 5 and 2 CT.gov records (respectively)
 - WHO ICTRP found an extra 2 CT.gov records and CT.gov an extra 6 CT.gov records (post de-duplication)
- Conclusions:
 - Multiple basic and advanced searches in both CT.gov and WHO ICTRP registries are necessary to detect all potential CT records
 - WHO ICTRP detected an additional 6-10% of CT.gov records

Conclusions of Tai et al

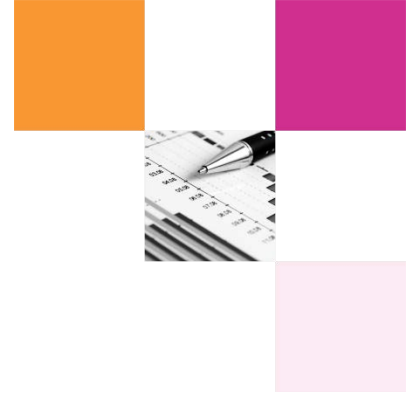
- Searchers should search both registers using “multiple basic and advanced searches” to detect all potential ClinicalTrials.gov records since searching ICTRP identified additional ClinicalTrials.gov records
- See also the poster by Chi also presented at the Colloquium
 - No single trial register encompasses all relevant trials

Zarin D et al NEJM 2011: 852-860



- Over 12,000 studies in ClinicalTrials.gov have results
- Results are highly structured and promote standardised reporting
- Results may differ from those in published papers
 - Different granularity
 - More information e.g. means across arms
 - Percentages in papers may be presented as numbers in CT.gov
 - SAEs and AEs where occur in >5% of patients
- 50% of results in CT.gov are not initially available elsewhere

Summary, 1



- Clinicaltrials.gov and ICTRP
 - There are valuable major resources available to identify clinical trials
 - Current evidence suggests we need to search both
 - The interfaces operate in different ways
 - There will be overlap but also unique results
 - Different registers offer different added values e.g.
 - Results

Thank you

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