Poster presented at DIA 2016

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Comparative Strengths of Public and Commercial Clinical Trials Databases: A Case Study

Objective: In this case study, commercial and public clinical trials databases were searched for three chosen diseases in order to evaluate differences in trial coverage and content.

Introduction

If you are looking for information on ongoing and completed clinical trials, which databases should you use? What value do you get from working with more than one source of published clinical trial data? Given the wealth of clinical trials available in ClinicalTrials.gov, is there additional insight to be gained by including data from other public and commercial trial databases?

Method

We searched six trial databases (three commercial and three public) using database-specific terminology where available, for two smaller oncology indications (mesothelioma and macroglobulinemia) and pertussis. The following clinical trial databases were searched: NIH ClinicalTrials.gov, European Union EudraCT, World Health Organization ICTRP, Citeline TrialTrove, Adis Clinical Trials Insight, and Cortellis Competitive Intelligence.

The records retrieved were combined into a single report for each indication and the "Identify Common Trial ID" tool was used to match related trials across databases. Statistics were calculated for the percentages of total *records* and total *trials* retrieved from each database. We then created trial timelines for a selection of mesothelioma checkpoint trials to evaluate coverage and content variation.

Conclusions

Our experience with clinical trial (and drug pipeline) data over two decades confirms that "duplicate" data is a misnomer. Databases covering the same topic display differing—sometimes surprisingly so—strengths and weaknesses by region covered, therapeutic area, vocabulary standardization, update frequency and more.

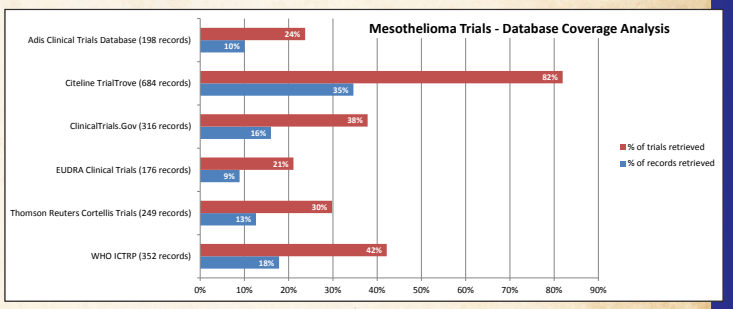
Each of the commercial and public clinical trials databases have certain strengths in coverage and content. Some databases provide excellent information for a specific country or region, while others provide global coverage. Commercial databases tend to focus on key therapeutic areas. Public databases can provide better coverage for rare diseases or public health concerns. Finally, database indexing policies and update frequency can result in content differences between data for the same trials.

Results

For the two oncology searches, the Citeline TrialTrove search retrieved 70-80% of the trials retrieved from all six databases. For the pertussis search, the public databases, especially ClinicalTrials.gov and WHO ICTRP, retrieved 70-80% trials. Adis CTI also retrieved a large number of trials (61%.) Pertussis is not a disease area covered by Citeline TrialTrove, which retrieved only 13% of trials.

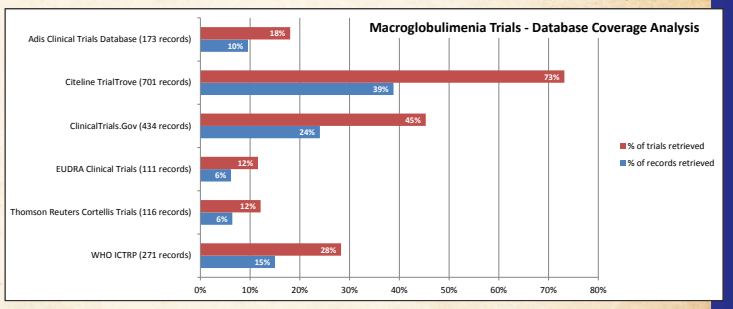
Mesothelioma: 1975 total records were retrieved, representing 835 trials.

Search results June 1, 2016



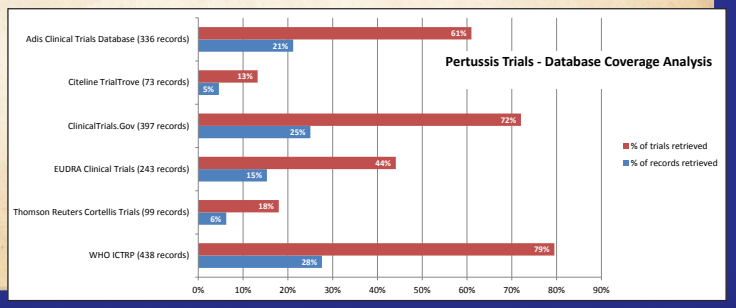
Macroglobulimenia: 1806 total records were retrieved, representing 958 trials.

Search results June 1, 2016



Pertussis: 1586 total records were retrieved, representing 551 trials.

Search results October 2, 2015



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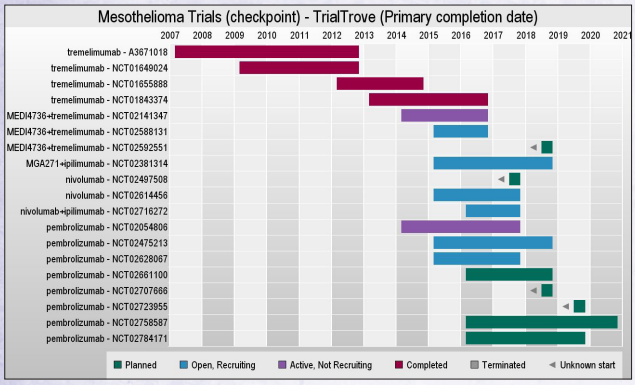
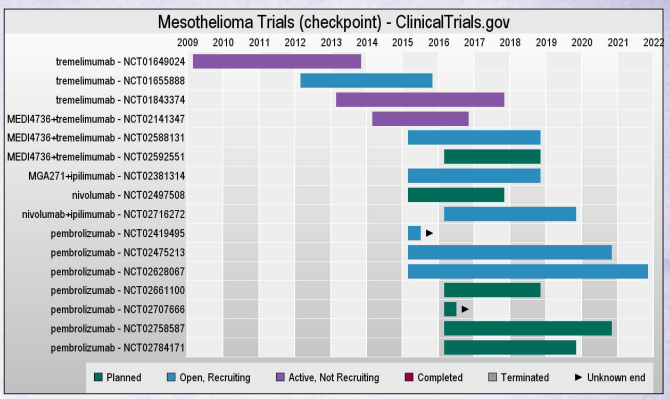
Comparing TrialTrove and ClinicalTrials.gov: Mesothelioma Checkpoint Inhibitors Trials

In order to create the mesothelioma checkpoint trial timeline, we needed to supplement Citeline TrialTrove coverage and content with data from other trial databases, especially for trial completion dates.



Four trials (A3671018, NCT02614456 , NCT02054806, NCT02723955), were retrieved from TrialTrove but not from ClinicalTrials.gov. A3671018 was retrieved only from TrialTrove (out of all 6 database searches).



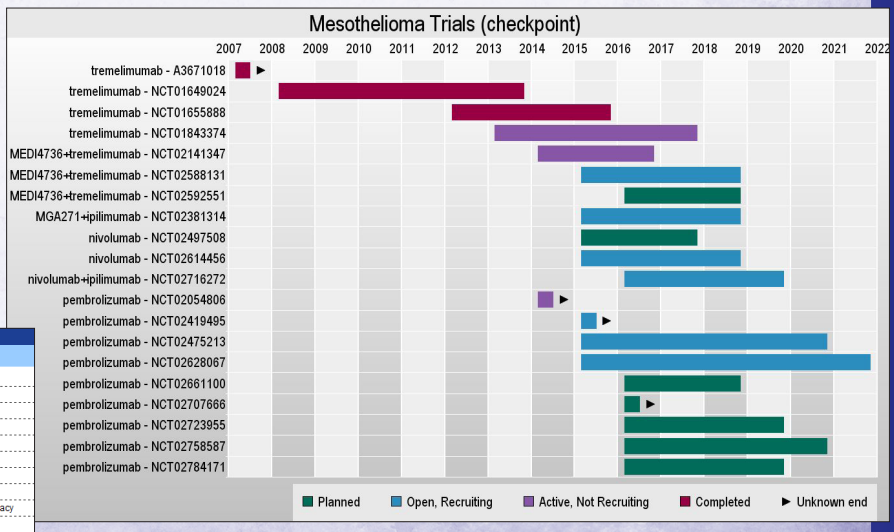
One trial (NCT02419495) was retrieved from ClinicalTrials.gov that was not retrieved from TrialTrove. Two trials not retrieved from ClinicalTrials. gov (NCT02614456 and NCT02723955) were retrieved from Cortellis, providing completion dates missing in TrialTrove. These trials (and the completion dates) could also be retrieved from ClinicalTrials.gov by searching the NCT numbers.

For pembrolizumab, CT.gov picks up an early trial (NCT02419495) that TrialTrove does not. Other sources gives us completion dates for the next two pembrolizumab trials that extend beyond the primary endpoints given by TrialTrove. TrialTrove picks up NCT02723955 which wasn't retrieved in the CT.gov search. But, TrialTrove had neither start nor completion dates for these trials.

Mesothelioma Checkpoint Inhibitors Trials: Leveraging data from all trial databases

This trial timeline leverages data from all six trial databases by selectively integrating each trial and each timeline element (e.g. trial status, start date, end date.) For example, for each trial we display the earliest start date from any source and completion dates from CT.gov. The trial status was selected from the most recently updated trial record.

The latest starting trial for tremelimumab, NCT01843374 is shown as Active, Not Recruiting. CT.gov, Adis CTI and Cortellis all show this status and have the most recently updated records; TrialTrove shows the trial as complete.
Looking at the EudraCT data, we see that only the trial record for Spain shows the trial as completed.



Common Trial ID	Trial Status		
	Database	Trial Status	EU State
NCT01843374	ClinicalTrials.Gov	Active, not recruiting	
	Citeline TrialTrove	Completed	
	EUDRA Clinical Trials	Ongoing	UK - MHRA
	EUDRA Clinical Trials	Ongoing	France - ANSM
	EUDRA Clinical Trials	Ongoing	Netherlands - Competent Authority
	EUDRA Clinical Trials	Ongoing	Italy - Italian Medicines Agency
	EUDRA Clinical Trials	Ongoing	Denmark - DHMA
	EUDRA Clinical Trials	Ongoing	Germany - PEI
	EUDRA Clinical Trials	Ongoing	Hungary - National Institute of Pharmacy
→	EUDRA Clinical Trials	Completed	Spain - AEMPS
	EUDRA Clinical Trials	Ongoing	Poland - Office for Medicinal Products
	Adis Clinical Trials Database	Active, no longer recruiting	
	Thomson Reuters Cortellis Trials	No longer recruiting	
	WHO ICTRP	Recruiting	
	WHO ICTRP	Not recruiting	