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Surfing the Pipeline: How Do Editorial Policies Affect Coverage and Content?

Report from the 2019 Pipeline Town Hall

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Diane Webb (with help from Matt Eberle)

www.bizint.com

Surfing the Pipeline case studies



- In 2002, BizInt started doing case studies to answer the question: “Why should we search more than one pipeline database?”
- We ran the same query across all the pipeline databases supported by BizInt Smart Charts
- And used BizInt Smart Charts tools to integrate the search results...
- ...and then compare **coverage** and **content**.

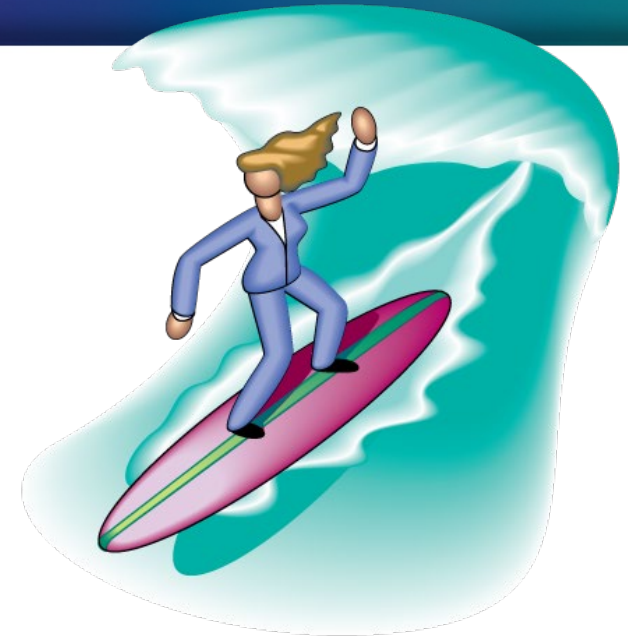
Surfing the Pipeline case studies

- **Company** (originator or licensee) = Amgen (2002)
- **Therapeutic activity/indication** = epilepsy (2003)
- **Mechanism of action** = COX2 inhibitor (2005)
- **Company** = TAP (2005)
- **Mechanism of action** = HER-2 inhibitor (2008)
- **Indication** = Hepatitis C (2014)



See: bizint.com/surfing *for more information*

Surfing the Pipeline case studies - findings



- **Coverage** - running the same query retrieves a different set of drugs from each database
- **Content** - and, the information provided for a compound varies between databases.

This is a natural result of the editorial process and indexing decisions made by pipeline database editors!

Pipeline & Clinical Trials Intelligence Town Hall: *How Do Editorial Policies Affect Content and Coverage?*

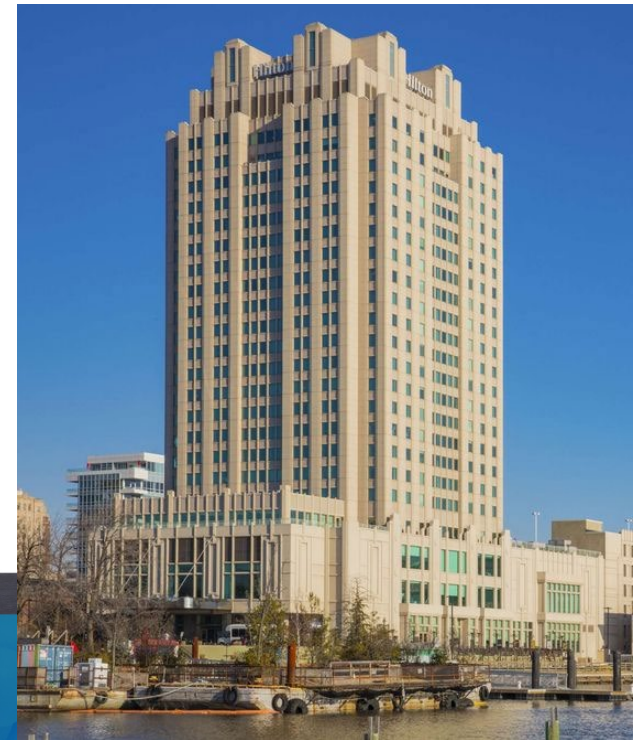
*SLA Pharmaceutical And Health Technology Division (DPHT)
Spring Meeting, April 14-16, 2019
Hilton Penn's Landing, Philadelphia, PA*

- Representatives from the editorial teams of three leading pipeline databases – Cortellis, Pharmaprojects and R&D Insight – offered insight into how their editorial policies affect search results and content.

Pharmaceutical &
Health Technology
Division



SPECIAL LIBRARIES ASSOCIATION



Representing the Pipeline databases:



- **Citeline Pharmaprojects:** **Karen Currie**
Executive Director, Editorial, Citeline
- **Adis R&D Insight:** **Glenn Whiteside**
Editorial Product Specialist
- **Clarivate Cortellis:** **Anne Lecocq**
Director, Business of Science (Cortellis)



Mesothelioma case study - 2019 Pipeline Town Hall

BizInt Smart Charts

Drug Development Suite

- Queries done 4/4/2019
- **Adis R&D Insight:** *Indication is Mesothelioma*
- **Citeline Pharmaprojects:** *Drug Disease is Mesothelioma*
- **Clarivate Cortellis:**
Indications & Therapy (Active Indications (Mesothelioma))
OR Indications & Therapy (Inactive Indications (Mesothelioma))
- Search results were imported into **BizInt Smart Charts Drug Development Suite** and combined into a single chart.

Mesothelioma case study - search results

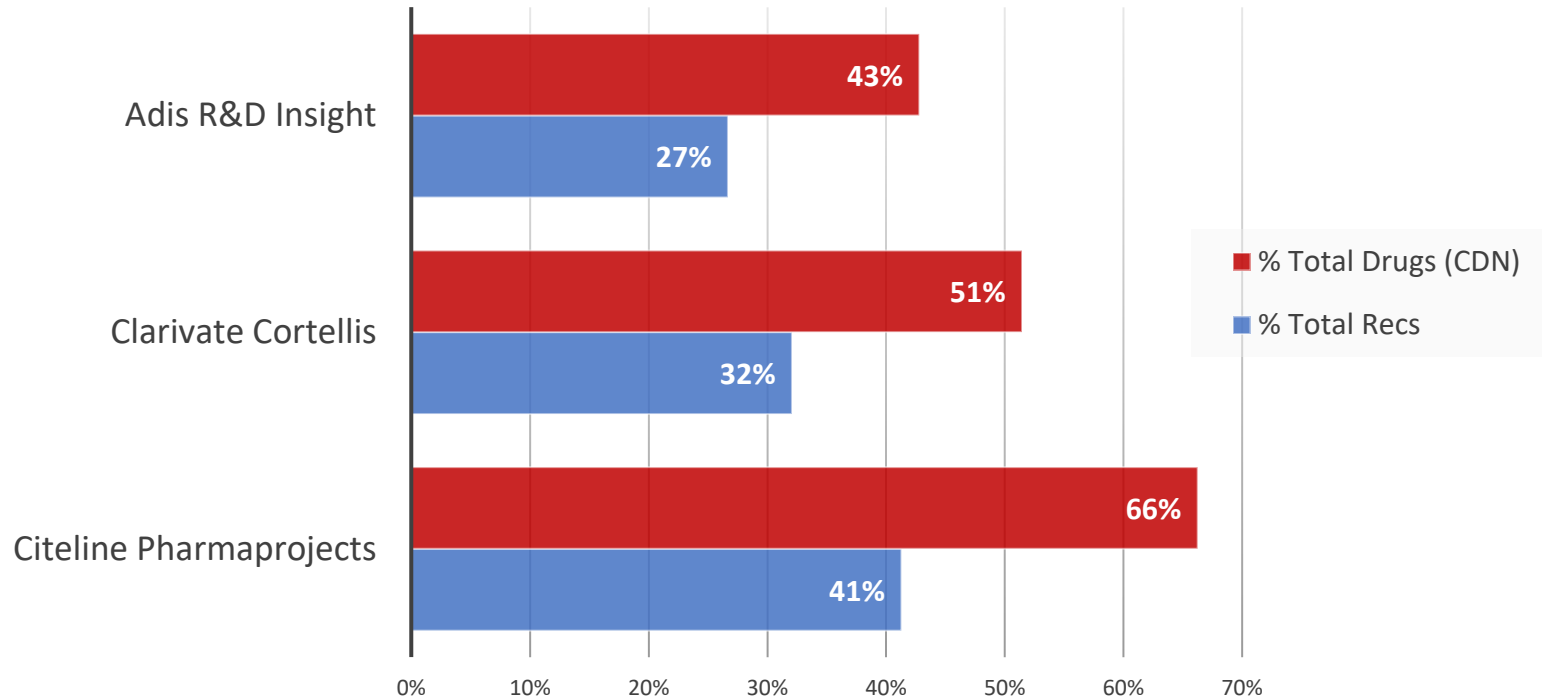
- **Adis R&D Insight:** 104 records
- **Citeline Pharmaprojects:** 161 records
- **Clarivate Cortellis:** 125 records
- Total records = 390, but obviously some of these records are for the same drug.

How many unique mesothelioma drugs did we retrieve?

Mesothelioma case study - coverage

- We ran the **Identify Common Drug Name** tool to match up drugs across the three databases...
- ...and identified **243 unique drugs** from the 390 records in the combined chart.

Mesothelioma case study - coverage



% Total Drugs (CDN) - shown in **red**
-- refers to the % of unique drugs (not records) retrieved from each database.

*If you searched just one database, you would retrieve about **53%** of the drugs retrieved from all 3 databases, and each additional database adds about **25%**.*

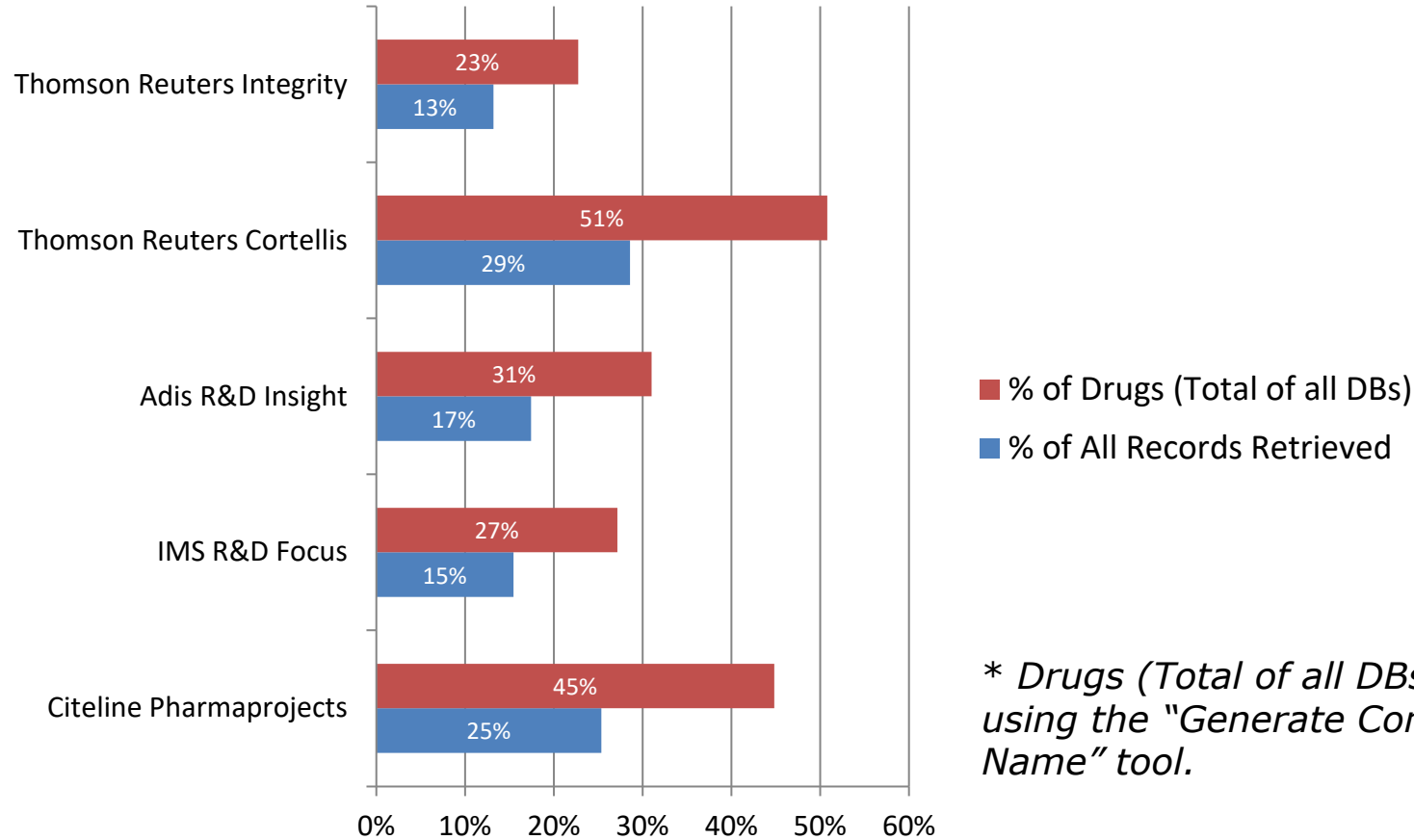
This is consistent with our *Surfing the Pipeline* case study findings:



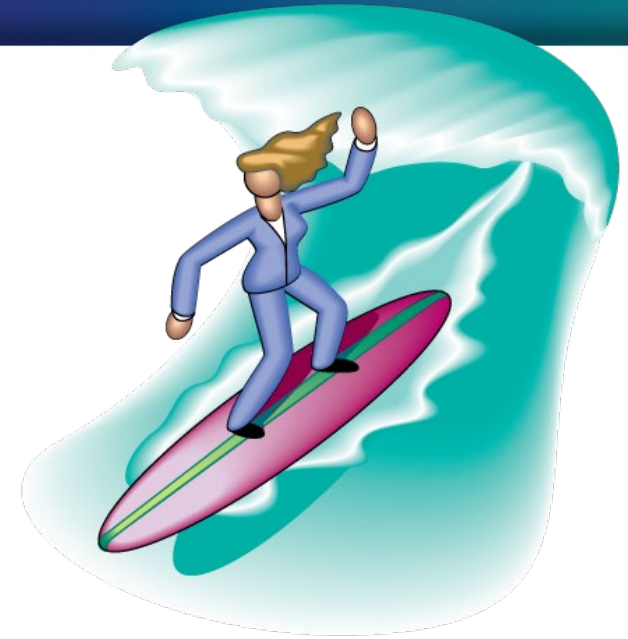
- For simple queries across 5 pipeline databases -
- You retrieve **~40%** of the drugs from any single database,
- and **~20%** of the drugs from each additional database you search.

From the 2014 HEP-C case study:

**% of Drugs vs. Records Retrieved from each Database
(Indication = Hepatitis C)**



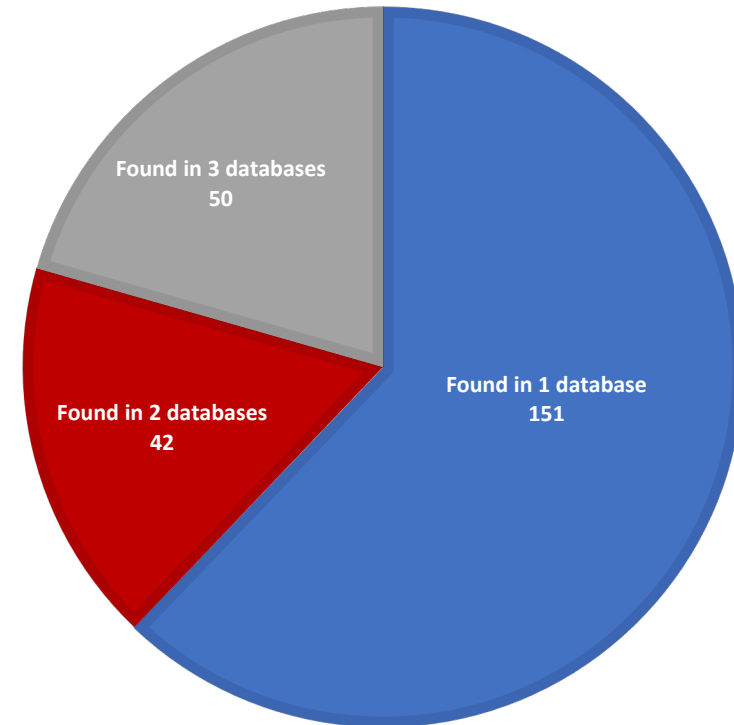
** Drugs (Total of all DBs) identified using the "Generate Common Drug Name" tool.*



Mesothelioma case study - more details on coverage

- Here's the breakdown of how many of the 243 unique drugs were found in:

1 database	151
2 databases	42
3 databases	50



Mesothelioma case study - more details on coverage

- Let's look at the **42 drugs** that were retrieved by two databases, but not by the third.

Cortellis & R&D Insight	13
Pharmaprojects & R&D Insight	12
Cortellis & Pharmaprojects	17

Mesothelioma case study - indication indexing

- For these 42 drugs, two databases indexed the drug as under development for *mesothelioma*, but the third database did not.
- Here's an example:

	Primary Drug Name	Database	Drug Development Phase		
			Disease	Status	Country
1	BAY-2287411	Cortellis from Clarivate Analytics	Mesothelioma	Phase 1 Clinical	Europe, US
			Ovary tumor	Phase 1 Clinical	Europe, US
			Pancreatic ductal adenocarcinoma	Phase 1 Clinical	US, Europe
2	BAY-2287411	Citeline Pharmaprojects	Cancer, ovarian	Phase I Clinical Trial	
			Cancer, mesothelioma	Phase I Clinical Trial	

We asked the panelists to explain why their editorial team did not index selected drugs for mesothelioma.

Mesothelioma case study - Why did Cortellis not index Cediranib for mesothelioma?

- “The mesothelioma indication is covered in trials run by NCI (National Cancer Institute) not by the originator or developing companies (cediranib - NCT00243074)
- If the **company is not involved with a trial** that is investigator-led, the indication should not be listed in the development status if the **company does not list it as an active indication on its pipeline.**”

	Primary Drug Name	Database	Drug Development Phase		
			Disease	Status	Country
1	cediranib	Citeline Pharmaprojects	Cancer, ovarian	Phase III Clinical Trial	
			Cancer, head and neck	Discontinued	
			Cancer, mesothelioma	Discontinued	
			Cancer, gastrointestinal, stomach	Discontinued	
			Cancer, lung, small cell	Discontinued	
			Cancer, prostate	Discontinued	
			Cancer, lung, non-small cell	Discontinued	
2	Cediranib - AstraZeneca	Adis R&D Insight	Ovarian cancer	Phase III	United Kingdom, USA, South Korea, Japan, Australia, Canada
			Cervical cancer	Phase II	United Kingdom
			Prostate cancer	Phase II	USA
			Endometrial cancer	Phase II	USA, United Kingdom
			Mesothelioma	Phase II	USA
			Solid tumours	Phase II	USA
			Non-small cell lung cancer	Discontinued (II)	USA, Latin America, Singapore
			Acute myeloid leukaemia	Discontinued (II)	USA
			Colorectal cancer	Discontinued (III)	Japan
			Gastric cancer	Discontinued (I)	Japan
			Solid tumours	Discontinued (I)	China, USA

Mesothelioma case study - Why did **Citeline** not index **Dovitinib** and **DS-1647** for mesothelioma?

“The organization that has evaluated the drug in this indication is **not an industry/commercial entity** [Dovitinib - Phase II, Ontario Clinical Oncology Group; DS-1647 - Phase I, University of Tokyo]. Both trials are included in **Trialtrove.**”

Note that Cortellis chose to count the DS-1647 trial because they determined that U. Tokyo was acting as the drug developer.

	Primary Drug Name	Database	Drug Development Phase		
			Disease	Status	Country
1	Dovitinib - Novartis	Adis R&D Insight	Colorectal cancer	Discontinued (II)	USA
			Mesothelioma	Discontinued (II)	Canada
			Breast cancer	Discontinued (III)	USA
			Renal cancer	Discontinued (III)	Taiwan
			Gastric cancer	Discontinued (III)	South Korea
			Malignant melanoma	Discontinued (III)	USA
			Acute myeloid leukaemia	Discontinued (I)	USA
			Renal cancer	Discontinued (I)	Australia, New Zealand
2	dovitinib	Cortellis from Clarivate Analytics	Renal cell carcinoma	Phase 3 Clinical	Denmark
			Liver tumor	Phase 3 Clinical	Denmark
			Hepatocellular carcinoma	Phase 2 Clinical	Denmark
			Breast tumor	Discovery	Denmark
			Mesothelioma	Discontinued	Canada
3	DS 1647	Adis R&D Insight	Glioblastoma	Phase II	Japan
			Mesothelioma	Phase I	Japan
			Prostate cancer	No development reported (I)	Japan
4	DS-1647	Cortellis from Clarivate Analytics	Glioma	Phase 2 Clinical	Japan
			Mesothelioma	Phase 1 Clinical	Japan
			Stomach tumor	Discovery	Japan

Mesothelioma case study - Why did R&D Insight not index BAY-2287411 for mesothelioma?

- “BAY 2287411 is in a phase I study in patients with solid tumours expressing mesothelin.
- Trial inclusion criteria includes patients with various tumour types, including mesothelioma.
- Because this is a **Phase I trial** exploring essentially drug toxicity, we have **indexed the broad term solid tumours**. Company pipeline does the same.”
- *Editorial policy is to index the broad indication at Phase I and specific indications from Phase II onwards.*”

	Primary Drug Name	Database	Drug Development Phase		
			Disease	Status	Country
1	BAY-2287411	Cortellis from Clarivate Analytics	Mesothelioma	Phase 1 Clinical	Europe, US
			Ovary tumor	Phase 1 Clinical	Europe, US
			Pancreatic ductal adenocarcinoma	Phase 1 Clinical	US, Europe
2	BAY-2287411	Citeline Pharmaprojects	Cancer, ovarian	Phase I Clinical Trial	
			Cancer, mesothelioma	Phase I Clinical Trial	

Surfing the Pipeline: Indexing affects retrieval!



- You can't retrieve a record if it's not indexed for your search term.
- Editorial policies (and the sources the editor is reviewing) determine how a drug is indexed.
- Searching multiple databases allows you retrieve a broader set of records.

*Now let's look at some more examples of how editorial policies affect the **content** of drug records.*

Mesothelioma case study - Highest Phase indexing

- Here's an example:

	Primary Drug Name	Common Drug Name	Database	Global Status	Latest Change Date
300	Ranpirnase	ranpirnase	Adis R&D Insight	Phase III	2017-08-11
301	ranpirnase	ranpirnase	Cortellis from Clarivate Analytics	Phase 2 Clinical	2018-12-25
302	ranpirnase	ranpirnase	Citeline Pharmaprojects	No Development Reported	2018-08-20

*We asked the panelists to explain how their editorial team determined the **highest phase for Ranpirnase**.*

Mesothelioma case study - Why did Citeline index “No Development Reported” as the highest phase for Ranpirnase?

“In Pharmaprojects, Global Status is the highest status achieved by the drug in any indication that is being pursued by a commercial entity.

Sources reviewed by Pharmaprojects indicate that ranpirnase is no longer in development. The current website indicates the company is ‘seeking partners’ and ‘results expected in 2015’. Pharmaprojects will assign this status to a drug when there appears to be no active development for 2+ years.”

	Primary Drug Name	Common Drug Name	Database	Global Status	Latest Change Date
300	Ranpirnase	ranpirnase	Adis R&D Insight	Phase I/II	2017-08-11
301	ranpirnase	ranpirnase	Cortellis from Clarivate Analytics	Phase 2 Clinical	2018-12-25
302	ranpirnase	ranpirnase	Citeline Pharmaprojects	No Development Reported	2018-08-20

Mesothelioma case study - Why did R&D Insight index “Phase I/II” as the highest phase for Ranpirnase?

“Ranpirnase was assigned a status of Phase I/II based on a trial in genital warts and HPV infections that completed towards the end of 2016. The company announced positive results from the trial in March 2017 hence development is considered to be active. The development line will be marked for review if no new development is found after 24-36 months.”

	Primary Drug Name	Common Drug Name	Database	Global Status	Latest Change Date
300	Ranpirnase	ranpirnase	Adis R&D Insight	Phase I/II	2017-08-11
301	ranpirnase	ranpirnase	Cortellis from Clarivate Analytics	Phase 2 Clinical	2018-12-25
302	ranpirnase	ranpirnase	Citeline Pharmaprojects	No Development Reported	2018-08-20

Mesothelioma case study - Why did Cortellis index “Phase 2” as the highest phase for Ranpirnase?

“Between the time the analysis was done and the panel, the phase was updated for Ranpirnase in Cortellis.”

	Primary Drug Name	Common Drug Name	Database	Global Status	Latest Change Date
300	Ranpirnase	ranpirnase	Adis R&D Insight	Phase I/II	2017-08-11
301	ranpirnase	ranpirnase	Cortellis from Clarivate Analytics	Phase 2 Clinical	2018-12-25
302	ranpirnase	ranpirnase	Citeline Pharmaprojects	No Development Reported	2018-08-20

BizInt Smart Charts Reference Rows helps you select a single phase for each drug

Column Rule - Global Status

Global Status
Choose how Reference Rows will select data for this column.

Selection Rule: Most Recently Updated

Match column: most recently updated

Database Ranking for:

- Citeline Pharmaproject
- Cortellis from Clarivate
- Adis R&D Insight

Match Column:

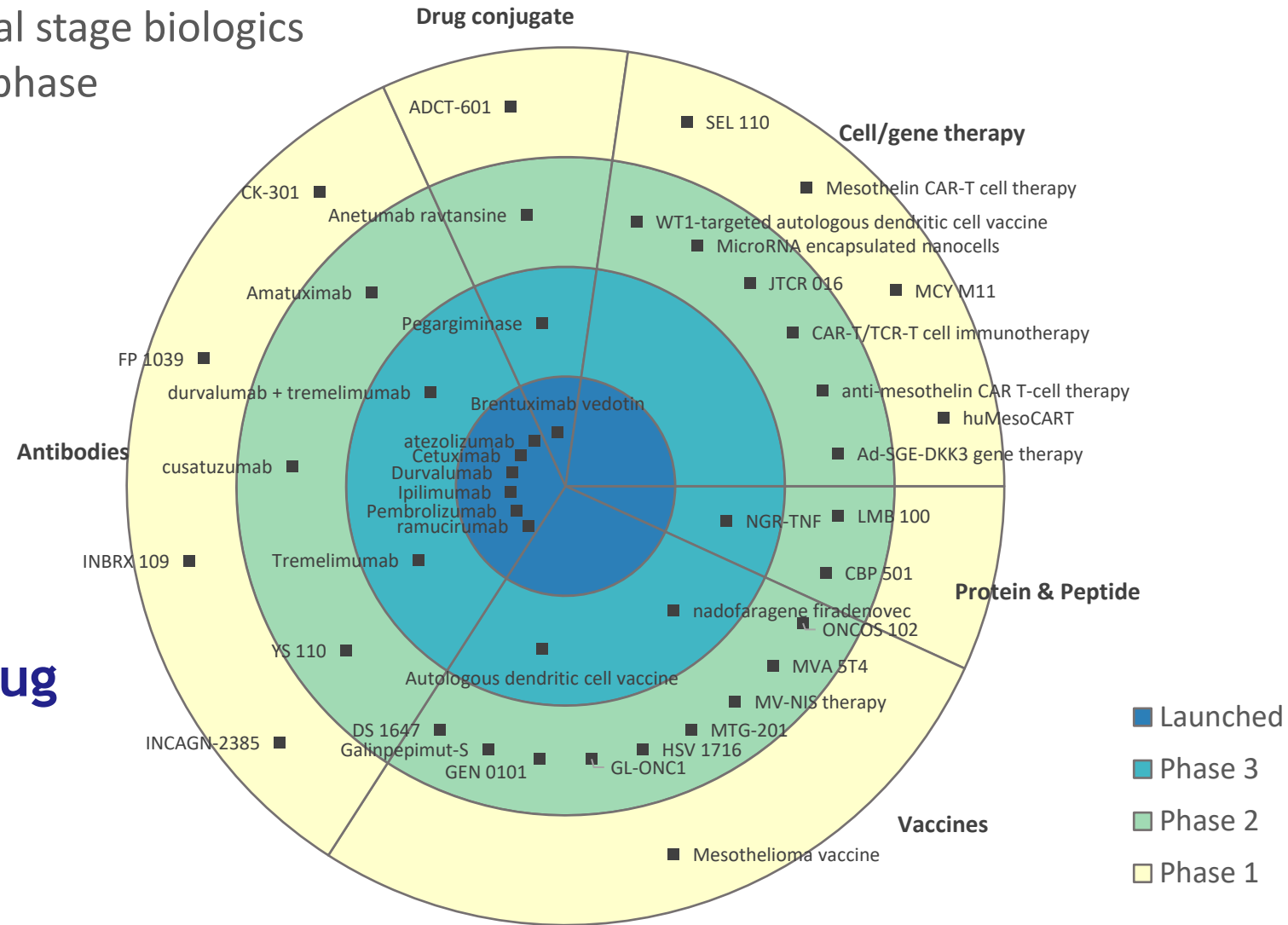
- Use database ranking
- Earliest Date
- Latest Date
- Most Content (characters)
- Least Content (characters)
- Most Content (lines)
- Highest Development Phase
- Most Recently Updated**
- Match Column
- Highest Number
- Lowest Number
- Closest to Zero
- Row Status
- Summarize All Values
- Summarize Unique Values
- Select New Publications

Buttons: Move Up, Move Down, OK, Cancel

	Primary Drug Name	Database	Global Status	Latest Change Date
6	ranpirnase	Citeline Pharmaprojects	No Development Reported	2018-08-20
.1				
6	ranpirnase	Cortellis from Clarivate Analytics	Phase 2 Clinical	2018-12-25
.2				
6	Ranpirnase	Adis R&D Insight	Phase III	2017-08-11
.3				
7	sorafenib	Citeline Pharmaprojects	Launched	2019-03-04
.1				
7	Sorafenib - Bayer	Adis R&D Insight	Marketed	2019-04-01
.2				

	Primary Drug Name	Database	Global Status	Latest Change Date
1.	ranpirnase	1.1 Pipeln link 1.2 CORTL link 1.3 Adis link	Phase 2 Clinical	2018-12-25
		1.1 Pipeln 1.2 CORTL 1.2 CORTL		
2.	rebastinib	2.1 Pipeln link 2.2 CORTL link	Phase 2 Clinical	2019-03-18
		2.1 Pipeln 2.2 CORTL 2.2 CORTL		
3.	tazemetostat	3.1 Pipeln link 3.2 CORTL link 3.3 Adis link	Phase II	2019-03-15
		3.1 Pipeln 3.3 Adis 3.3 Adis		

Mesothelioma – Clinical stage biologics by highest phase



You need a single phase for each drug for visualizations like the bullseye!

Mesothelioma case study - Company indexing

- Here's an example of the different ways the databases treat companies associated with a drug:

	Primary Drug Name	Common Drug Name	Database	Originator	Licensee	Companies	Other Companies
23	Amatuximab - Eisai	amatuximab	Adis R&D Insight	National Cancer Institute (USA) (Originator)	Morphotek (Licensee)	National Cancer Institute (USA) (Originator) Morphotek (Licensee)	Eisai Co Ltd (Owner)
24	amatuximab	amatuximab	Cortellis from Clarivate Analytics	National Cancer Institute	Morphotek Inc	National Cancer Institute Morphotek Inc	
25	amatuximab	amatuximab	Citeline Pharmaprojects	Eisai		Eisai	

We asked the panelists to explain how their editorial team chose **company indexing for Amatuximab**.

Mesothelioma case study - How did R&D Insight index company information for *Amatuximab*?

“In R&D Insight, the generic name of the drug is associated with the drug’s owner and/or the key developer(s) of the programme. This is reflected in the drug name which is displayed at the top of the drug profile.

In the case of amatuximab, the drug originated from a development programme at the **NCI** and the IP was bought by **Morphotek**, which was acquired by **Eisai** as a subsidiary company. Hence the parent company Eisai owns both Morphotek and the IP for the drug.”

	Primary Drug Name	Common Drug Name	Database	Originator	Licensee	Companies	Other Companies
23	Amatuximab - Eisai	amatuximab	Adis R&D Insight	National Cancer Institute (USA) (Originator)	Morphotek (Licensee)	National Cancer Institute (USA) (Originator) Morphotek (Licensee)	Eisai Co Ltd (Owner)
24	amatuximab	amatuximab	Cortellis from Clarivate Analytics	National Cancer Institute	Morphotek Inc	National Cancer Institute Morphotek Inc	
25	amatuximab	amatuximab	Citeline Pharmaprojects	Eisai		Eisai	

Mesothelioma case study - How did Cortellis index company information for Amatuximab?

“Cortellis has the originator for Amatuximab as **NCI** and development by **Morphotek** (a subsidiary of Eisai). The drug is ultimately owned by **Eisai**, but Eisai is not specifically listed in the development history table. However, the link from Morphotek to Eisai is made in Cortellis in the company hierarchy.

A company may not necessarily appear in the drug record if not playing any role in the development.”

	Primary Drug Name	Common Drug Name	Database	Originator	Licensee	Companies	Other Companies
23	Amatuximab - Eisai	amatuximab	Adis R&D Insight	National Cancer Institute (USA) (Originator)	Morphotek (Licensee)	National Cancer Institute (USA) (Originator) Morphotek (Licensee)	Eisai Co Ltd (Owner)
24	amatuximab	amatuximab	Cortellis from Clarivate Analytics	National Cancer Institute	Morphotek Inc	National Cancer Institute Morphotek Inc	
25	amatuximab	amatuximab	Citeline Pharmaprojects	Eisai		Eisai	

Mesothelioma case study - How did Citeline index company information for Amatuximab?

“Pharmaprojects’ coverage includes pipeline drugs which are being developed by **commercial organizations** -- academic and/or government development work is not in scope.

Eisai acquired amatuximab from **Morphotek** in 2004 and the drug is currently listed on Eisai’s pipeline page and is in development for mesothelioma. Of note, the work undertaken by the **NCI** will be included in Trialtrove.

	Primary Drug Name	Common Drug Name	Database	Originator	Licensee	Companies	Other Companies
23	Amatuximab - Eisai	amatuximab	Adis R&D Insight	National Cancer Institute (USA) (Originator)	Morphotek (Licensee)	National Cancer Institute (USA) (Originator) Morphotek (Licensee)	Eisai Co Ltd (Owner)
24	amatuximab	amatuximab	Cortellis from Clarivate Analytics	National Cancer Institute	Morphotek Inc	National Cancer Institute Morphotek Inc	
25	amatuximab	amatuximab	Citeline Pharmaprojects	Eisai		Eisai	

So whose drug is it?

- For reports and visualizations, you often want to determine a single “key company” for a drug.
- Which **key company** would you pick for **amatuximab**?

	Primary Drug Name	Common Drug Name	Database	Originator	Licensee	Companies	Other Companies
23	Amatuximab - Eisai	amatuximab	Adis R&D Insight	National Cancer Institute (USA) (Originator)	Morphotek (Licensee)	National Cancer Institute (USA) (Originator) Morphotek (Licensee)	Eisai Co Ltd (Owner)
24	amatuximab	amatuximab	Cortellis from Clarivate Analytics	National Cancer Institute	Morphotek Inc	National Cancer Institute Morphotek Inc	
25	amatuximab	amatuximab	Citeline Pharmaprojects	Eisai		Eisai	

Mesothelioma – Clinical stage biologics by indication phase

Phase I	Phase II	Phase II	Phase III
ADCT-601 BerGenBio AS	Amatuximab National Cancer Institute	CBP 501 CanBas	Ipilimumab Medarex
CK-301 TG Therapeutics	Anetumab ravtansine Bayer HealthCare	Galinpepimut-S Memorial Sloan-Kettering Cancer Center	Pembrolizumab Merck & Co, The Leukemia & Lymphoma Society
FP 1039 Five Prime Therapeutics	atezolizumab Roche	GEN 0101 Genomidea	Tremelimumab Pfizer
INBRX 109 Inhibrx	Brentuximab vedotin Seattle Genetics, Stanford University	HSV 1716 Crusade Laboratories	Autologous dendritic cell vaccine Amphera
INCAGN-2385 4-Antibody AG	Cetuximab University of California System	JTCR 016 Juno Therapeutics	NGR-TNF Scientific Institute San Raffaele
DS 1647 Daiichi Sankyo Company, University of Tokyo	cusatuzumab argenx	MTG-201 Okayama University	Pegargiminase Phoenix Pharmacologics
huMesoCART University of Pennsylvania	durvalumab + tremelimumab MedImmune LLC	MVA 5T4 Oxford BioMedica	
LMB 100 Roche	Durvalumab MedImmune	nadofaragene firadenovec Schering-Plough Corp	
MCY M11 MaxCyte, Washington University	ramucirumab Imclone LLC	ONCOS 102 Oncos Therapeutics	
Mesothelin CAR-T cell therapy University of Pennsylvania	YS 110 Ys Therapeutics	WT1-targeted autologous dendritic cell vaccine University of Antwerp	
MV-NIS therapy Mayo Clinic Foundation	Ad-SGE-DKK3 gene therapy Kyorin Pharmaceutical	MicroRNA encapsulated nanocells EnGeneIC	
SEL 110 Selecta Biosciences	anti-mesothelin CAR T-cell therapy National Cancer Institute		
GL-ONC1 Genelux Corp	CAR-T/TCR-T cell immunotherapy Shenzhen BinDeBio		
Mesothelioma vaccine Vyriad			

Asset Type

- Antibodies
- Biological, other
- Cell therapy
- Vaccines

Surfing the Pipeline: conclusions

- Editorial policies result in different indexing for the same drug...
- ...which affects both retrieval and content.
- The more pipeline databases you use, the better you can exploit the strengths of each.
- You need to be a “pipeline editor” too...
- ...and the BizInt Smart Charts tools can help!



Surfing the pipeline is a challenge!

In these stormy times...



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support@bizint.com

Questions?

