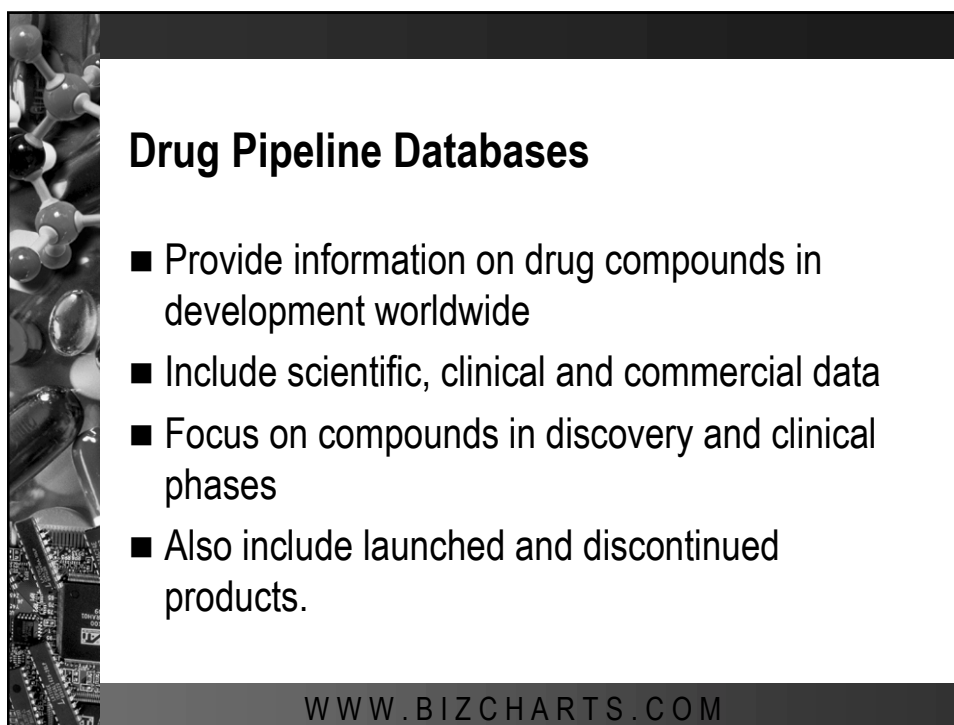


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SOLUTIONS

Surfing the Pipeline:
Comparing the coverage and content
of drugs-in-development databases

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October 2002

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Drug Pipeline Databases

- Provide information on drug compounds in development worldwide
- Include scientific, clinical and commercial data
- Focus on compounds in discovery and clinical phases
- Also include launched and discontinued products.

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Drug Pipeline Databases -- sample record

FP-21399
PJB Pharmprojects Accession Number: 22916
Last Update: 1999-03-23

Originator: Merck KGaA (Germany)
Company Status

Company	Status
Merck KGaA	Phase II Clinical Trial

World Status: Phase II Clinical Trial
Origin of Material: Chemical synthesis, synthetic (CH-SY)

Summary
FP-21399 is the lead candidate in a series of antiviral organic compounds, under development by Lexigen Pharmaceuticals (Merck KGaA). It does not enter the cell and is therefore thought to be less toxic than reverse transcriptase inhibitors.

Clinical
It is in Phase II trials (Press release, Merck KGaA, 16 Dec 1998). In a Phase I trial in 34 HIV-infected patients, 9/13 patients on a repeated-dose regimen of FP-21399 1-3mg/kg iv infusion once weekly q 4wks showed an increase in CD4+ cell counts to 15% over their baseline value. It was well tolerated (J Infect Dis, 2000, 182, 607).

Preclinical
Preclinical studies showed it prevented HIV entry at the cell membrane by interacting with the V3 loop of gp120 on the viral envelope (Scrip, 1995, 2033, 25). Updated by PN on 13/11/2000.

Therapeutic Activity
Antiviral, anti-HIV (J5A)

Pharmacological Activity
GP120env antagonist (GP-120-AN)

Therapy Status


Therapy	Pharmacology	Status
J5A	GP-120-AN	Phase II Clinical Trial

Drug Pipeline Databases

The leading players

- **Pharmprojects** -- PJB Publications
- **R&D Focus** -- IMS Health (IMS Global Services)
- **R&D Insight** -- Adis International
- **IDdb** -- Current Drugs
- plus others: Prous, F-D-C Reports, Derwent Drug File,...

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Drug Pipeline Databases

Compare the differences in...

- **Coverage** -- number of records retrieved from a particular search.
- **Content** -- information provided for a compound by each database.

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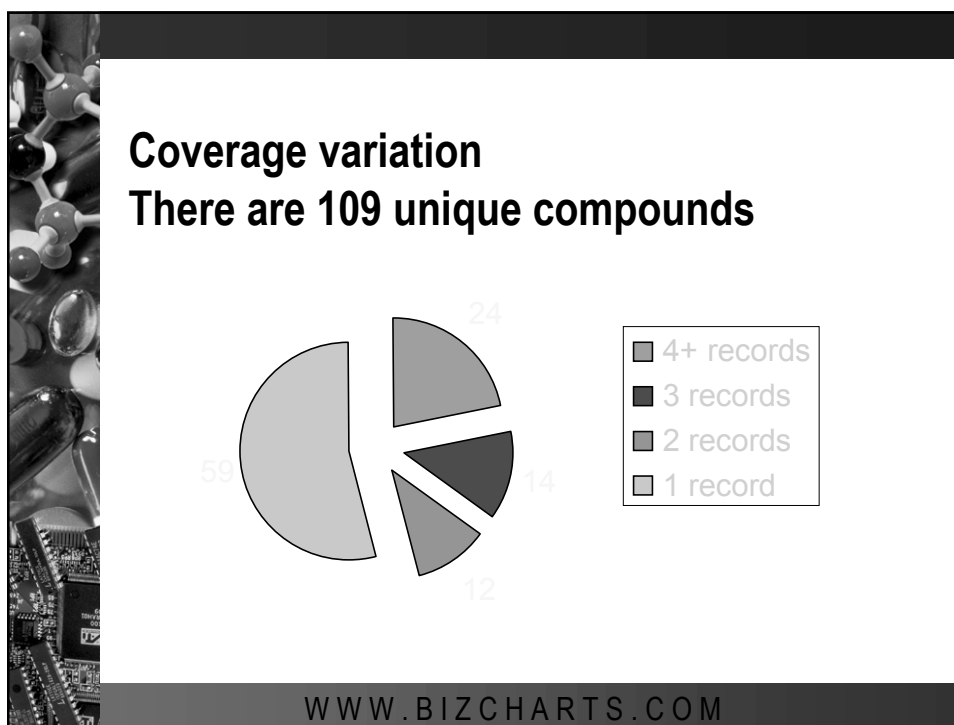
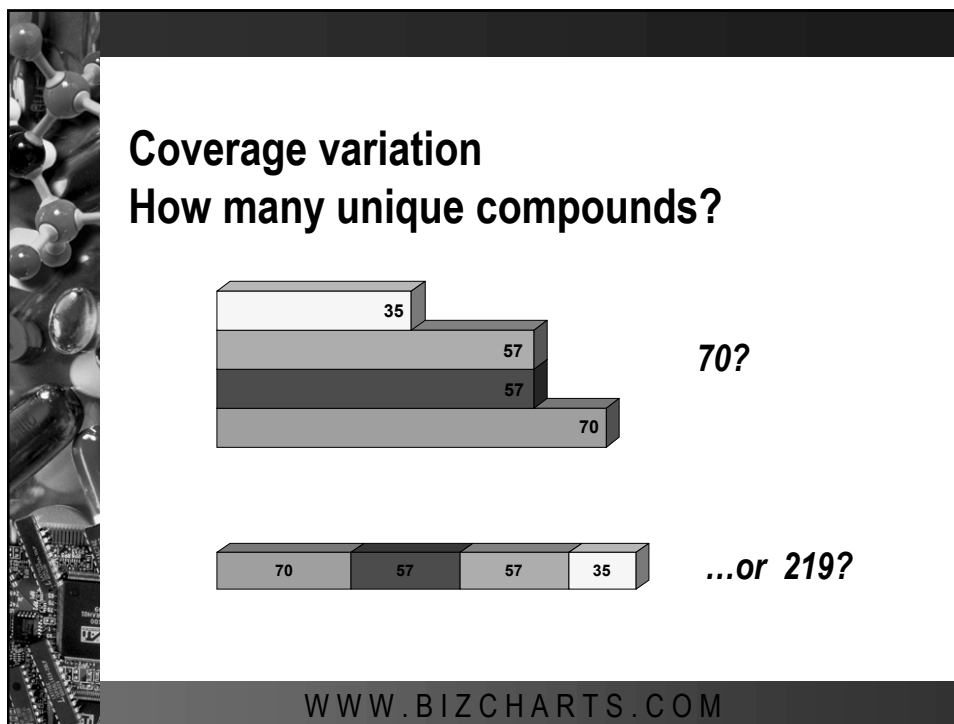



Coverage Variation

Case study 1: Amgen compounds

- **Search = "originator or licensee is Amgen"**
- Pharmaprojects 70 records
- R&D Focus 57 records
- R&D Insight 35 records
- IDdb 57 records

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Coverage Variation

Case study 2: Epilepsy compounds

- **Search strategy:** “Therapeutic activity code =N3A” (PP, RDF, RDI)
- “Indication = epilepsy” (IDdb)

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Coverage Variation

Case study 2: Epilepsy compounds

- Pharmaprojects 407 records
- R&D Focus 202 records
- R&D Insight 201 records
- IDdb 250 records
- *Also searched Prous Drug Data Report --
2880 records retrieved*

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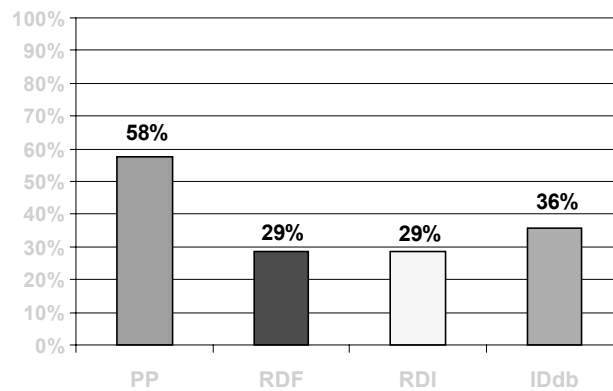
Coverage variation Identifying unique compounds

	Product	Common Drug Name	Synonyms	Database
294	Diastat	Diastat		Current Drugs IDdb
295	Diazepam rectal gel	Diastat	Diastat	Adis R&D Insight
296	diazepam, Elan	Diastat	Diastat diazepam rectal gel, Elan diazepam rectal gel, Draxis	PJB Pharmaprojects

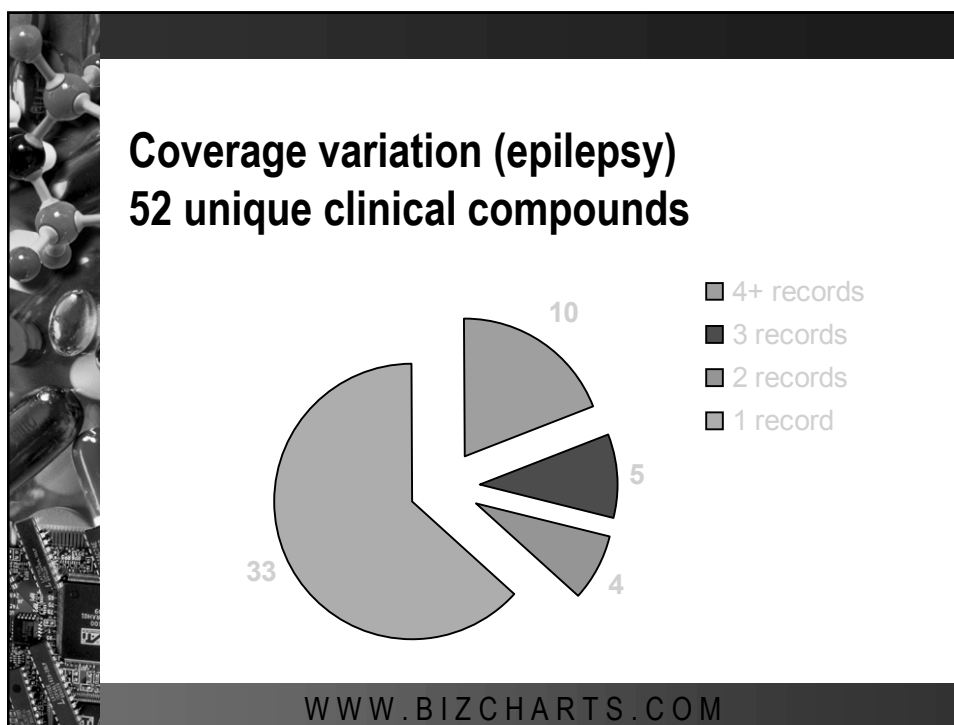
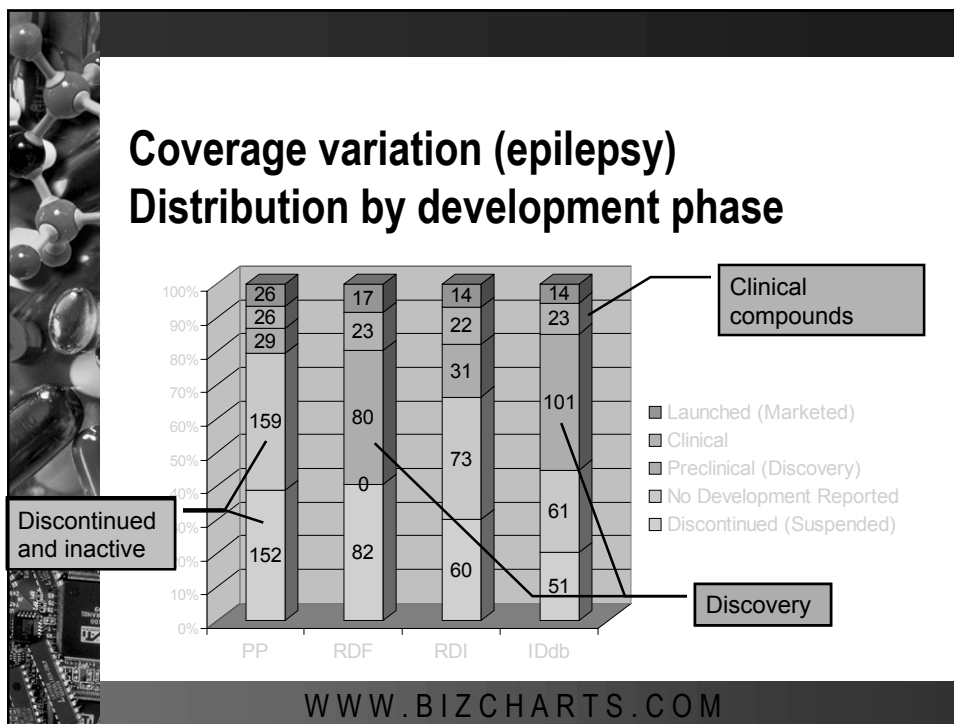
"Generate Common Drug Names" tool automatically matches product names and synonyms


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Coverage variation (epilepsy) 703 unique products from 1060 records



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Coverage variation - conclusions
Only a fraction of total compounds will be retrieved from any one database

- A search of any one database will retrieve about 40% of the unique compounds.
- The number of unique compounds will be roughly half the total number of records retrieved.


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Coverage variation - conclusions
Over half the compounds will be found in only one database

- Compounds (esp. in discovery) can be assigned **very** different names.
- Possible that similar compounds were not matched.
- Search missed compounds because of different indexing.

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Coverage variation - conclusions

Variations in indexing result in much of the coverage variation

- Alfimeprase: doesn't appear in R&D Insight
- CNTF: RDI record doesn't mention Amgen
- Abelcet (ABLC): IDdb record mentions Amgen, but not indexed by Amgen
- KRN-568: Indexed as Kirin & NPS in Pharmaprojects

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Coverage variation - conclusions

A database may contain multiple records for the same compound

	Drug	sc name	Database	Synonyms	Status	CAS Number
1	ersofermin	ersofermin	Current Drugs IDdb		No Development Reported	
2	fibroblast growth factor, Amgen	ersofermin	Current Drugs IDdb		No Development Reported	
3	ersofermin (INN)	ersofermin	IMS R&D Focus	fibroblast growth factor, basic basic fibroblast growth factor bFGF	Suspended	111212-85-2
4	fibroblast growth factor, basic	ersofermin	IMS R&D Focus	TROFAK bFGF	Suspended	
5	ersofermin	ersofermin	PJB Pharmaprojects	angiogenesis factor, Synergen bFGF, Synergen bFGF, Syntex FGF, Synergen FGF, Syntex fibroblast growth factor, Syn Trofak	Discontinued	111212-85-2
6	fibroblast growth factor, Amg	ersofermin	PJB Pharmaprojects	FGF, Amgen	No Development Reported	62031-54-3

Two records from each of three databases

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Content Variation Case study 3: Lexigen compounds

	Drug	Database	Originator	Highest Phase	Therapeutic Class (EphMRA)	Mechanism Of Action	Last Update
1	FP-21399	PJB Pharmaprojects	Merck KGaA (Germany)	Phase II Clinical Trial	Antiviral, anti-HIV (J5A)	GP120env antagonist (GP-120-AN)	1999-03-23
2	FP 21399	IMS R&D Focus	Fuji Photo Film (Japan)	Phase I	Other HIV Antivirals (J5C9)		2001-07-01
3	FP 21399	Adis R&D Insight	Lexigen Pharmaceuticals (USA)	Phase II	HIV antivirals (J5C)	HIV fusion inhibitors	2001-07-11
4	FP-21399	Current Drugs IDdb	Lexigen Pharmaceuticals Corp	Phase 2 Clinical		V3 loop cleavage inhibitor	

Different Originators

Different Phases

Update Dates

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Content Variation Phase of development

	Product	Common Drug Name	Database	Synonyms	Highest Phase	Last Update
	AMP 397A	AMP-397	Adis R&D Insight		Phase I	2000-04-14
4	AMP-397	AMP-397	PJB Pharmaprojects	AMP-397A	Phase II Clinical Trial	2002-02-07
5	AMP 397	AMP-397	IMS R&D Focus		Phase I	2001-10-08
6	AMP-397A	AMP-397	Current Drugs IDdb		Phase 2 Clinical	2002-01-01

RDI and RDF list compound in Phase I, PP and IDdb list in Phase II

Update Dates range from April 2000 to February 2002

Content Variation Originator indexing

Product	Common Drug Name	Database	Originator	Last Update	Commercial Intro
81	talampanel	PJB Pharmaprojects	IVAX (US)	2001-06-14	Talampanel (LY-300164) is a non-competitive antagonist of the AMPA- subtype of glutamate receptors, under development by the Institute for Drug Research (IDR) (IVAX) as an antiparkinsonian, anticonvulsant, anxiolytic and neuroprotective. It is licensed to Lilly (Company communication, IDR, Feb 1998) and Lilly has entered into an exclusive agreement with IVAX, whereby IVAX will acquire worldwide development and marketing rights (Press release, IVAX, 7 Feb 2001).
	talampanel	Current Drugs IDdb	Eli Lilly & Co	2001-12-12	IVAX is developing talampanel (LY-300164), an analog of GYKI-52466 (qv), and a non-competitive AMPA receptor antagonist, as a potential treatment for epilepsy and cerebrovascular ischemia. In February 2001, IVAX entered into an exclusive agreement with Eli Lilly to develop and market talampanel worldwide [398172]
83	talampanel	IMS R&D Focus	Institute for Drug Research (Hungary)	2002-07-29	Talampanel originated from research conducted at the Institute for Drug Research (IDR, Hungary), a wholly owned subsidiary of IVAX. It was licensed out to Lilly, however, following the acquisition by IVAX of IDR, IVAX signed an agreement to acquire worldwide rights from Lilly (IVAX, FEB 2001). [CONT.]

Original research by IDR (subsidiary of IVAX)


Licensed to Lilly

Rights re-acquired by IVAX

Coverage and content Why is there so much variation?

- Drug pipeline records are not abstracted from a reference document (as with patents)
- Each record is an **editorial view** of the compound based on a range of sources.

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Coverage and content

Why is there so much variation?


- Focus on different information sources.
- Editors assigned by therapy or company -- vary in experience and skill.
- Different update schedules
- Different index vocabularies
- Unique content (e.g. Lehman data in RDI).

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Surfing the drug pipeline

Keep in mind...




- Significant variations in coverage and content.
- Differences are a natural result of editorial process.
- Data from any one database will likely be incomplete and inaccurate.
- **Search as many databases as you can!**

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Surfing the drug pipeline

Keep in mind...



- **The good news:** can leverage of work of dozens of researchers and editors.
- **The bad news:** must resolve the differences between these experts.
- **Develop your own editorial policy for drug pipeline data!**

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