



Software for  
Business Intelligence

# BizInt Smart Charts

Patents | Drug Pipelines | Clinical Trials | Sequences

## “Surfing the Pipeline”

*Comparing Drug Pipeline Database  
Coverage and Content*

Pharma-Bio-Med, Rome

November 2014

Diane Webb, President





# BizInt Smart Charts Product Family

Provides **corporate information analysts** with **software tools** to create reports and visualizations integrating information from their key sources.

**BizInt Smart Charts**

*for Drug Pipelines*

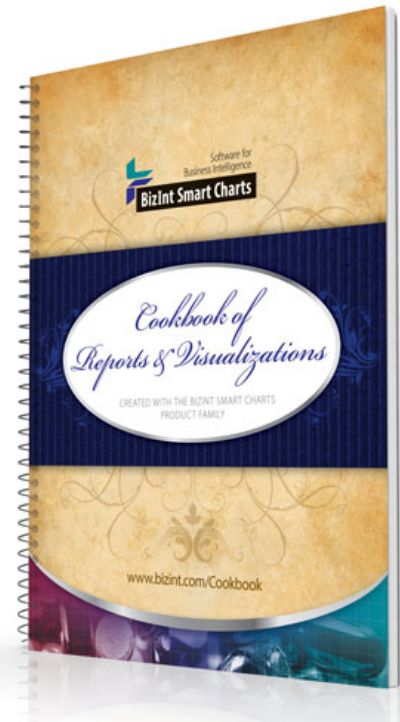
**BizInt Smart Charts**

*Reference Rows™*



# “Cookbook” of techniques

- The **Cookbook** contains a collection of recipes to help you create accurate and appealing products from your raw ingredients.
- **Step-by-step recipes** illustrate how each tool can be used.
- Substitute ingredients as needed to answer *your* business questions.





*for Drug Pipelines*

## Drug Pipeline Databases

Provide data on drugs in development worldwide

- Citeline Pharmaprojects
- IMS R&D Focus
- Adis R&D Insight
- Thomson Reuters Cortellis
- Thomson Reuters Integrity

*Slides at [www.bizint.com/slides](http://www.bizint.com/slides)*

# Case study: Hepatitis C Pipeline

- Query: **indication = Hepatitis C**, all phases (exact query differs by database)

- Records retrieved:

Cortellis: 777

Integrity: 359

Pharmaprojects: 689

R&D Focus: 420

R&D Insight: 474

- Import search results and use **File | Combine** to create a single multi-database chart



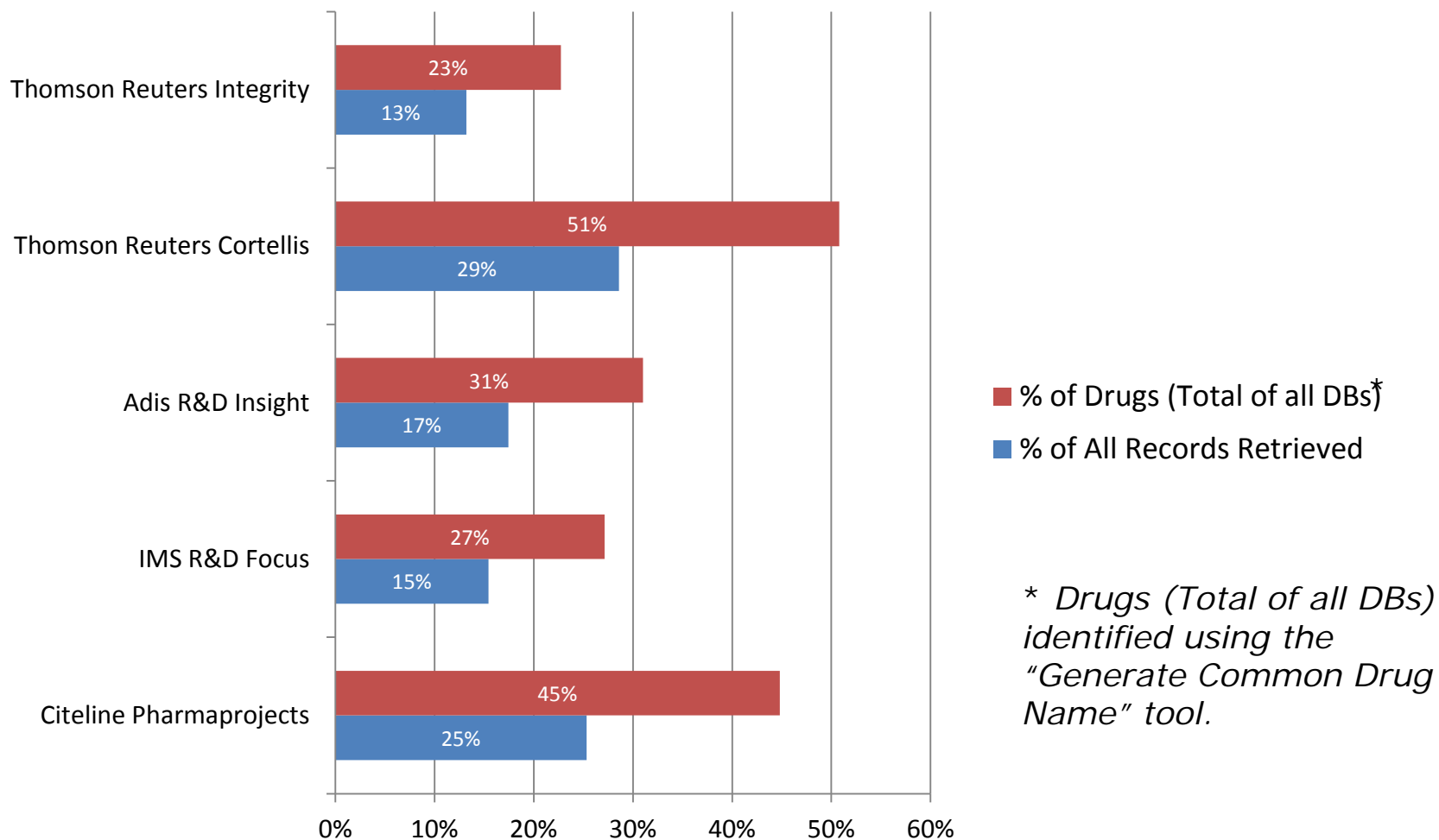
# Identify related records across databases

- **Tools | Generate Common Drug Name** identifies records for the same drug by matching drug names and synonyms.

	Drug Name	Common Drug Name	Database	Synonyms
63	ACH-0141095	ACH-1095	Thomson Reuters Integrity Compounds	ACH-1095 GS-9525
64	ACH-1095	ACH-1095	Citeline Pharmaprojects	GS-9525
65	ACH-1095	ACH-1095	Thomson Reuters Cortellis	ACH-0199 GS-9525 NS4A protease inhibitors (oral, HCV infection), Achillion/Cilead
66	GS 9525	ACH-1095	IMS R&D Focus	ACH 1095 GS 9525
67	Research programme: hepatitis C virus NS4A protein inhibitors - Achillion	ACH-1095	Adis R&D Insight	ACH 1095 ACH-1095 GS 9525 GS-9525 Hepatitis C virus NS4A antagonists - Achillion

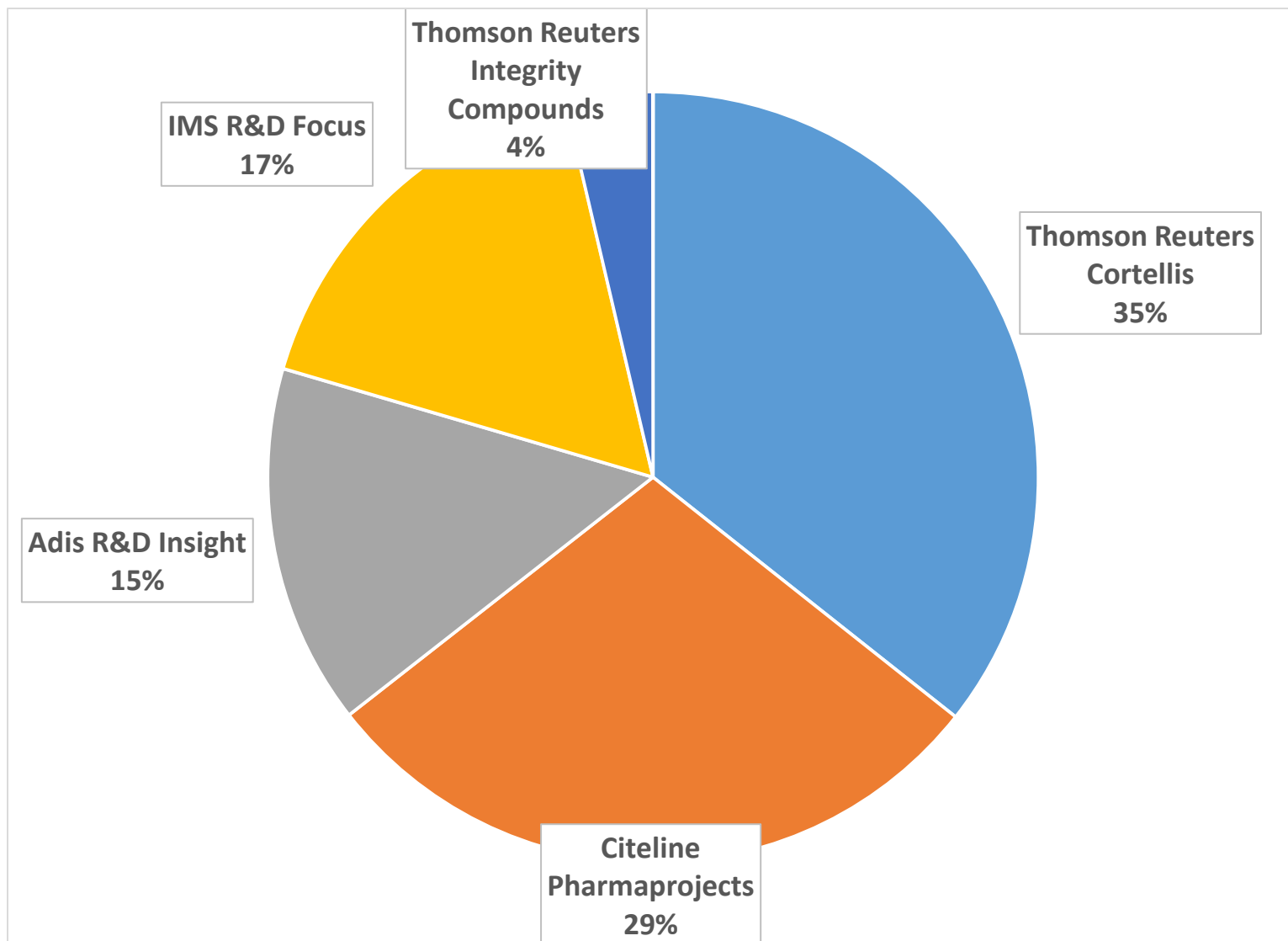
# Database Coverage Analysis

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



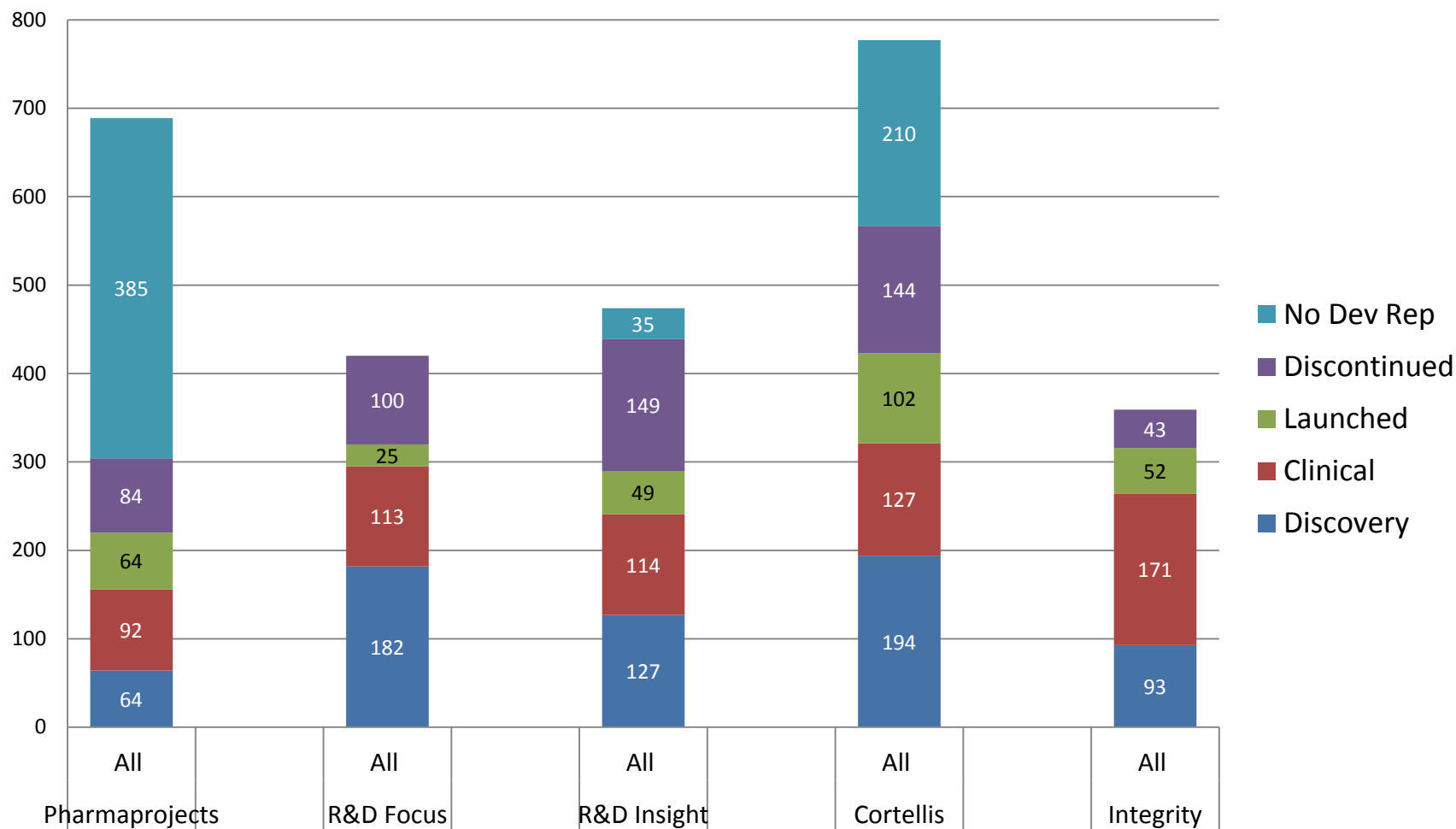


# Distribution of drugs found in a single database



# Database Coverage by Phase (records)

# of Records by Highest Phase (for all indications)

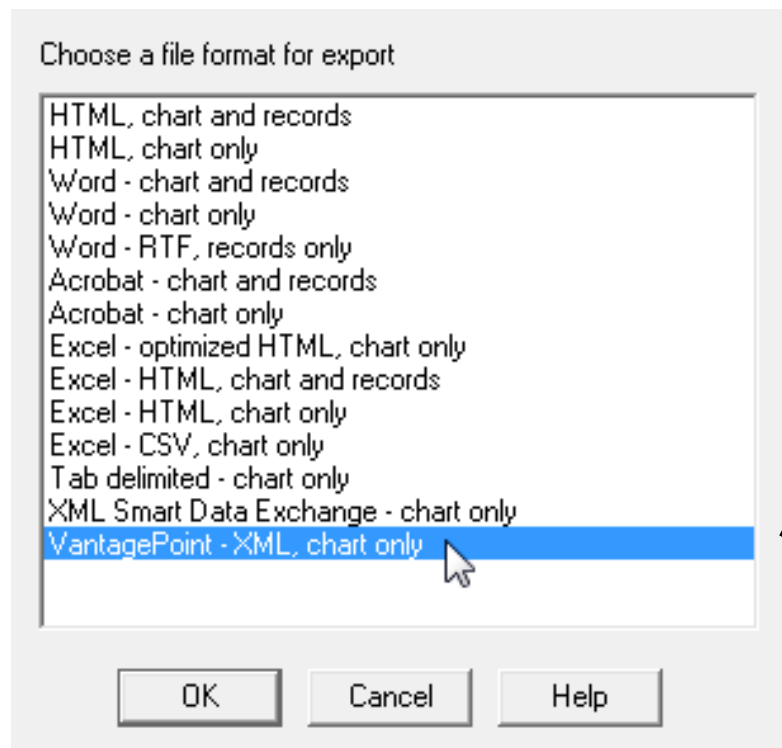


# Highest phase for indication of interest

	Drug	Highest Phase	Drug Development Phase		
			Indication	Phase	Country
1485	interleukin-2, Medusa, Flamel	Phase II	Cancer, renal	Phase II	
			Cancer, melanoma	No Development Reported	
			Infection, HIV/AIDS	No Development Reported	
			Infection, hepatitis-C virus	No Development Reported	

- We know the “Highest Phase” for *all indications*, but the phase for our indication of interest (Hep-C) is buried in the Drug Development Phase table.

# Extracting the highest phase for Hep-C



**Export to VantagePoint-  
Smart Charts Edition**

# Extracting the highest phase for Hep-C

- Need to filter and clean-up indications.

	# Records	# Instances	Drug Development Phase		
			Indication	Phase	Country
22	16	18	Hepatitis C virus infection	Discovery	Canada
23	15	15	hepatitis B	Preclinical	USA
24	15	17	Hepatitis C virus infection	Discontinued	Japan
25	14	15	Hepatitis C virus infection	No Development Rep	South Korea
26	14	14	HIV infection	Discontinued	US
27	14	14	Infection, HIV/AIDS	No Development Rep	
28	13	13	hepatitis C	Preclinical	UK
29	13	13	hepatitis C	Preclinical	Canada
30	13	13	hepatitis C	Phase II	Europe
31	13	17	Hepatitis C virus infection	No Development Rep	Japan
32	13	13	Hepatitis C virus infection	No Development Rep	Canada
33	13	13	Infection, hepatitis-C virus prophylaxis	No Development Rep	
34	12	12	hepatitis C	No development rep	USA

# Extracting highest phase for Hepatitis-C

The screenshot shows a 'Cleanup Confirm' dialog box with a table of items and their record counts. The 'hepatitis C' item is highlighted in blue. A callout box with the text 'Cleanup Hep-C indication' points to the 'Remove All' button.

Item Name	Num Records
hepatitis C	1883
hepatitis C	764
Hepatitis C prevention	1
Hepatitis C virus infection	565
Infection, hepatitis-C virus	554
Infection, hepatitis-C virus prophyl...	23
Hepatitis B virus infection	134
hepatitis B	87
Hepatocellular carcinoma	13
Hepatitis	
Non-alcoholic s	
Hepatic fibrosis	
Infection, hepatitis-B virus prophylaxis	4
Alcoholic hepatitis	3
hepatitis A	3
Hepatitis D	3
Hepatitis D virus infection	3
Cirrhosis, hepatic	2

Display options:  All Items,  Combined Items,  Custom Set of Items

Custom Set of Items: Add Close Matches (50%), Remove All, Invert Set

Regular Expression: Add, Remove

Buttons: Save as Thesaurus, Accept, Cancel

# Extracting highest phase for Hepatitis-C

Drug Development Phase:Hep C					
	# Records	# Instances	Indication: Hep C	Phase (Clean)	Country
73	2	2	Hepatitis C	Phase 1	Japan
74	2	2	Hepatitis C	Phase 1	
75	1	1	Hepatitis C	Phase 1	Puerto Rico, USA
76	1	1	Hepatitis C	Phase 1	USA
77	1	1	Hepatitis C	Phase 1	Canada
78	4	4	Hepatitis C	Phase 1/2	-
79	1	1	Hepatitis C	Phase 1/2	
80	1	1	Hepatitis C	Phase 1/2	
81	4	4	Hepatitis C	Phase 2	
82	4	4	Hepatitis C	Phase 2	
83	4	4	Hepatitis C	Phase 2	
84	3	3	Hepatitis C	Phase 2	
85	3	3	Hepatitis C	Phase 2	
86	3	3	Hepatitis C	Phase 2	USA

Filter the Drug Development Phase table to include only the Hepatitis C entries.

# Extracting highest phase for Hepatitis-C

Drug Development Phase			Drug Development Phase - Hep C		
Indication	Phase	Country	Indication: Hep C	Phase (Cleaned)	Country
Cancer, renal	Phase II		Hepatitis C	No Development Reported	
Cancer, melanoma	No Development Reported				
Infection, HIV/AIDS	No Development Reported				
Infection, hepatitis-C virus	No Development Reported				
Hepatitis C	Preclinical	USA	Hepatitis C	Preclinical	USA
Infection, hepatitis-C virus	No Development Reported		Hepatitis C	No Development Reported	
HIV infection	Clinicals	Bulgaria	Hepatitis C	Preclinical	USA
hepatitis C	Preclinical	USA			

Export to BizInt Smart Charts as a new column.

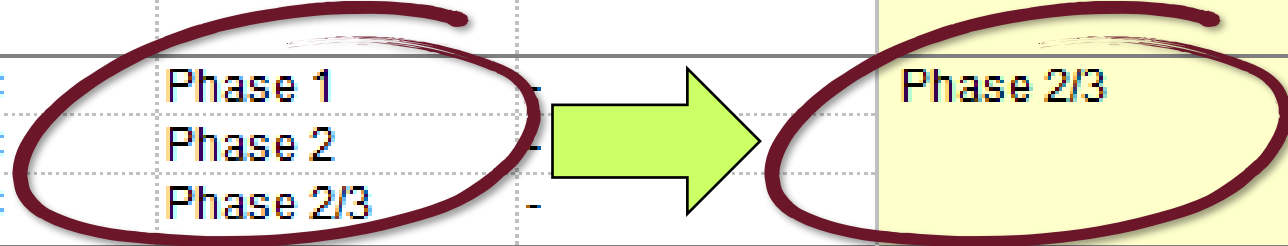


# Extracting highest phase for Hepatitis-C

Tools Options Window Help

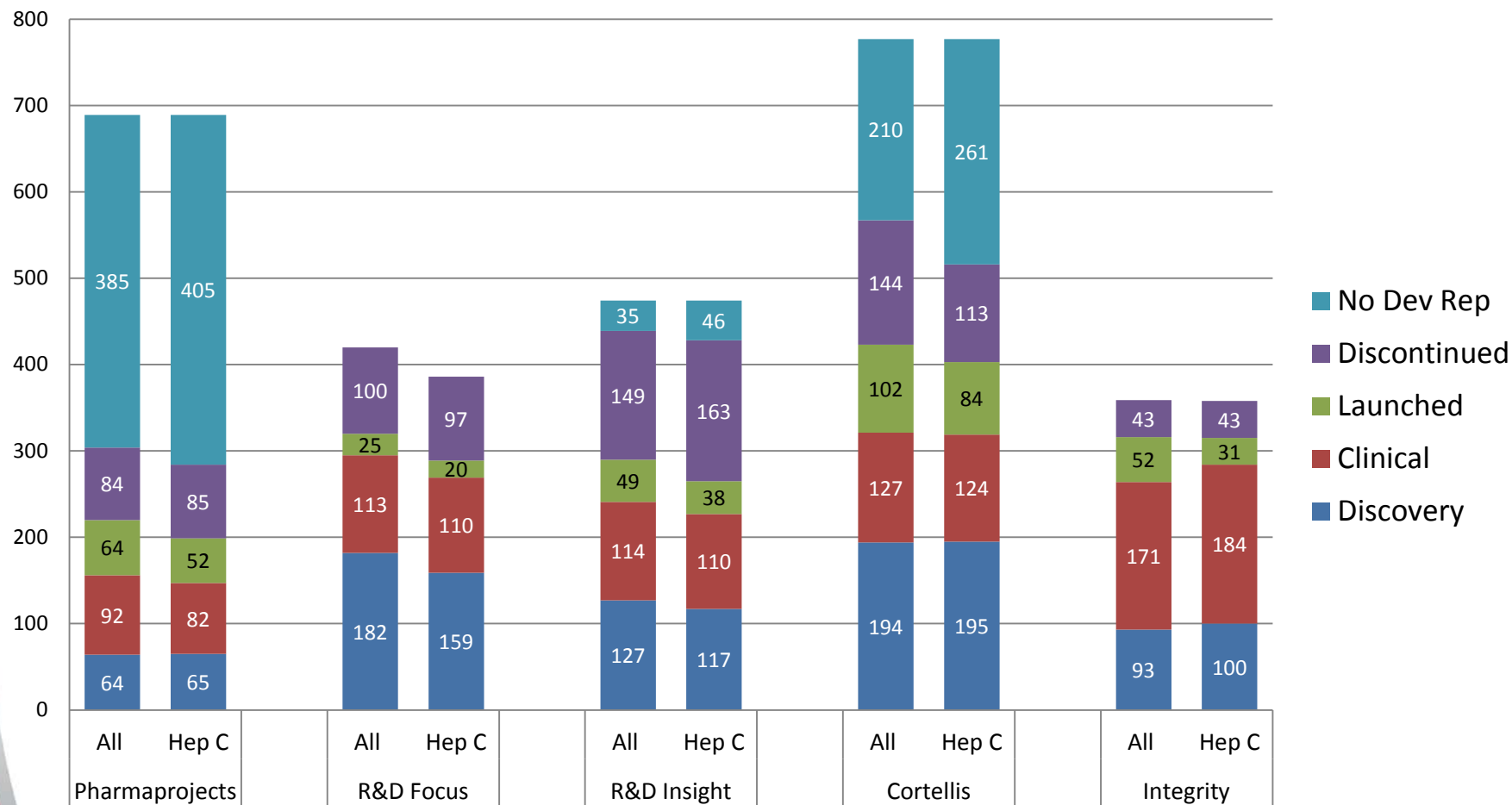
- Statistics...
- Generate Common Drug Names
- Generate Common Trial IDs
- Extract High Phase in Column**

			Hep C Highest Phase
		Country	
		Alia	Phase 2
		a, Canada,	
		any, Italy,	
		celand,	
		Norway, Spain,	
		Sweden, United Kingdom, USA	
Hepatitis C	Phase 1		
Hepatitis C	Phase 2		
Hepatitis C	Phase 2/3		
Hepatitis C	Phase 2	France	Phase 3
Hepatitis C	Phase 3	US	



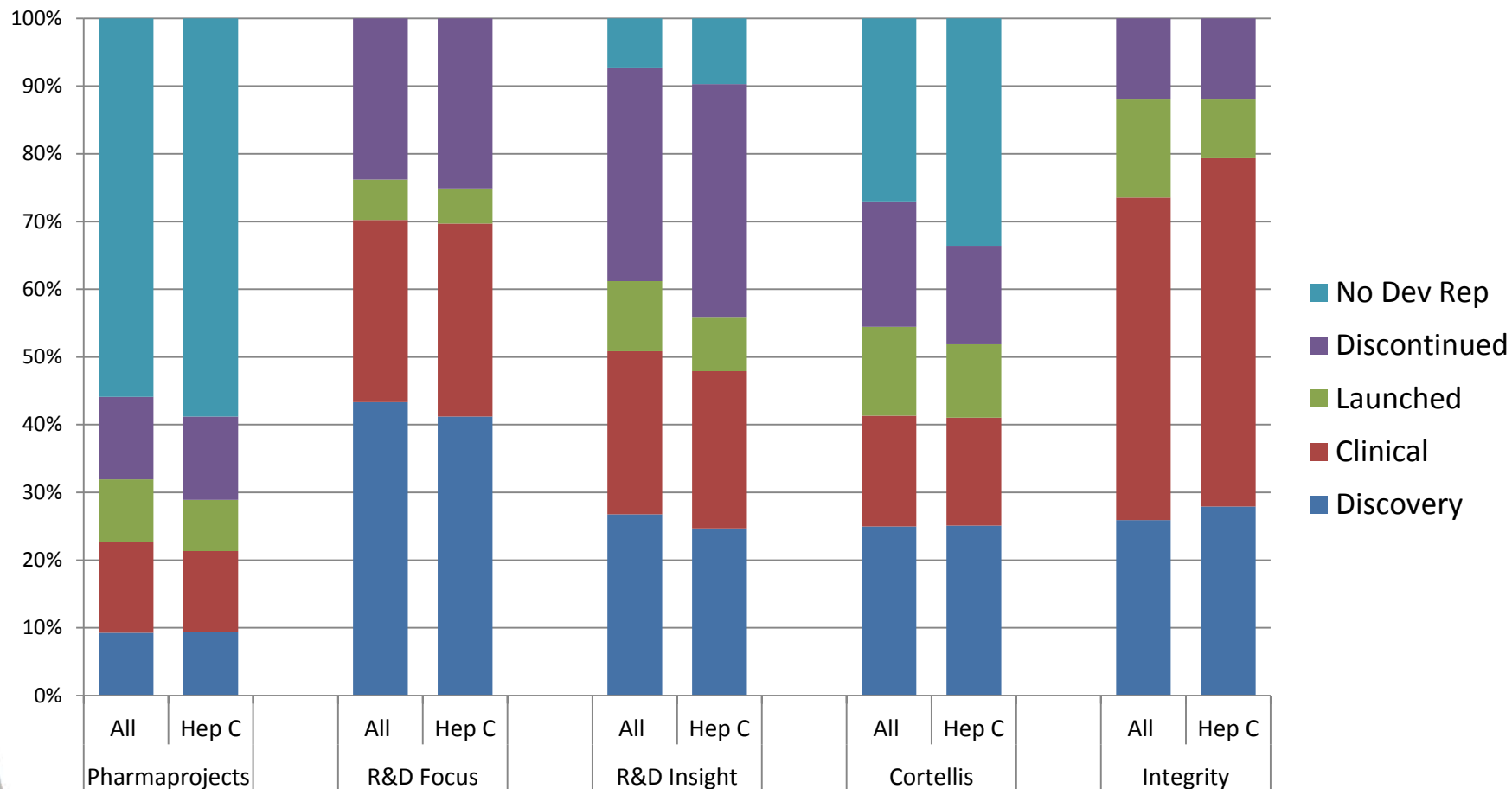
# Database Coverage by Phase (# of records)

# of Records by Phase (for all indications and Hepatitis C)

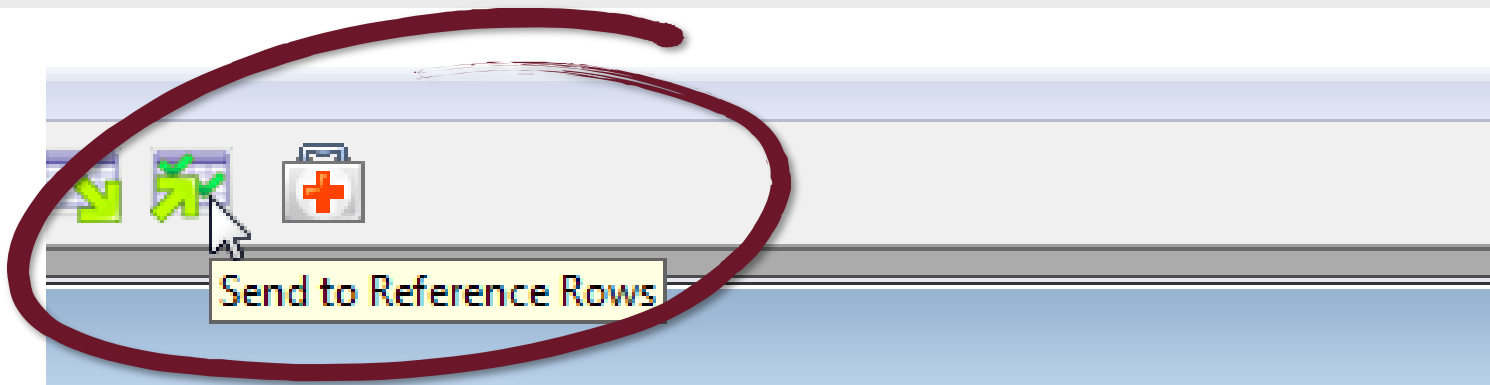


# Database Coverage by Phase (%)

Distribution of Records by Phase (for all indications and Hepatitis C)



# Summarize differences between databases



Drug Development Phase - Hep C			Hep C Highest Phase
Indication: Hep C	Phase (Cleaned)	Country	
Hepatitis C	Phase 1	Australia	Phase 2
Hepatitis C	Phase 2	Austria, Canada, Germany, Italy, New Zealand, Norway, Spain, Sweden, United Kingdom, USA	

# Summarize differences between databases

Create Subtable from Available Columns

Available Columns

RDI	Indications (Extended)
PIPE	Key Clinical Information
RDI	Last Active Status Review
RDI	Last Company Name Change
RDI	Last Licensing Status Review
RDI	Last Regulatory Status Review
RDI	Last Sales Figures Review



Selected Columns

BizInt	Database
User	Highest Phase (Hep C)
	Last Change Date



Create a summary table  
with database, phase and  
update date

# Summarize differences between databases

Column Rule - Summary of Hep C High Phase

**Summary of Hep C High Phase**  
Choose how Reference Rows will select data for this column.

Selection Rule: Use database ranking

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  
**Summarize All Values**  
Summarize Unique Values

Database Ranking for

Adis R&D Insight
Citeline Pharmaproject
Thomson Reuters Cor
Thomson Reuters Inte
IMS R&D Focus

Move Up

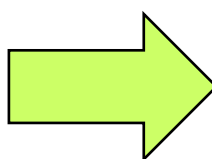
Move Down

...ne which value to

Apply the "Summarize All Values" rule to the new summary table

# Summarize differences between databases

Drug Name	Highest Phase (Hep C)	Summary of Hep C High Phase			
		Database	Highest Phase (Hep C)	Last Change Date	
1. bavituximab	Phase 2	Thomson Reuters Cortellis	Phase 2	2014-04-25	1.1
		IMS R&D Focus	Phase 2	2014-04-24	1.2
		Thomson Reuters Integrity Compounds	Phase 2		1.3
		Adis R&D Insight	Discontinued	2014-05-01	1.4
		Citeline Pharmaprojects	Phase 2	2014-04-11	1.5
		1.1 CORTL	1.1 CORTL		
2. BZF-961	Phase 3	Thomson Reuters Cortellis	Phase 2	2013-04-10	2.1
		Thomson Reuters Integrity Compounds	Phase 3		2.2
		Adis R&D Insight	Phase 3	2013-05-07	2.3
		Citeline Pharmaprojects	Phase 2	2014-04-19	2.4
		2.1 CORTL	2.2 Integr		



# Analyze differences in phases (hep-c vs all)

Compare Columns Wizard

**Step 3 - Specify comparison options:**

**Compare:** Highest Phase (Hep C)  
**To:** Highest Status (All Indic)

**What type of comparison would you like to perform?**

Show unique items in the first column  
 Show unique items in the second column  
 Show unique items in both columns

**Column title for items unique to the first column:**  
Unique in Highest Phase (Hep C)

**Column title for items unique to the second column:**  
Unique in Highest Status (All Indic)

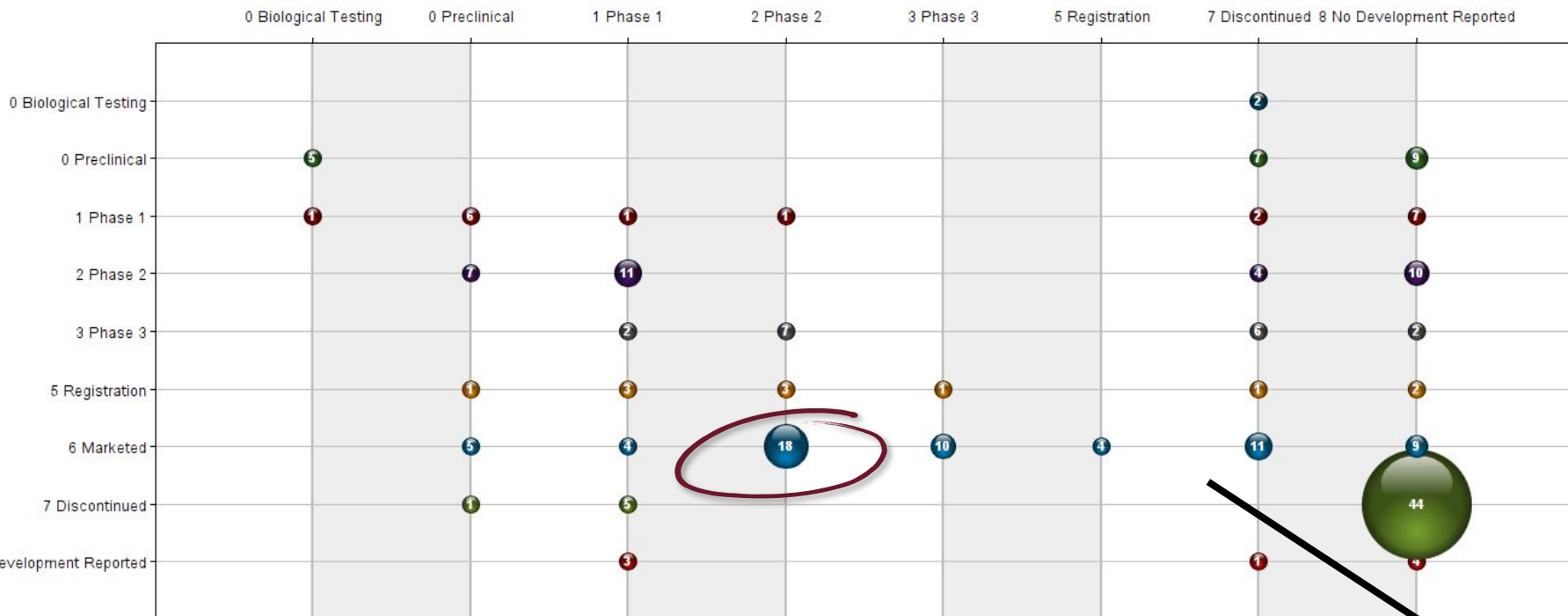
Finish  
< Back  
Cancel  
Help

Use "Compare Columns" to find drugs with different phase for Hep-C than for all indications



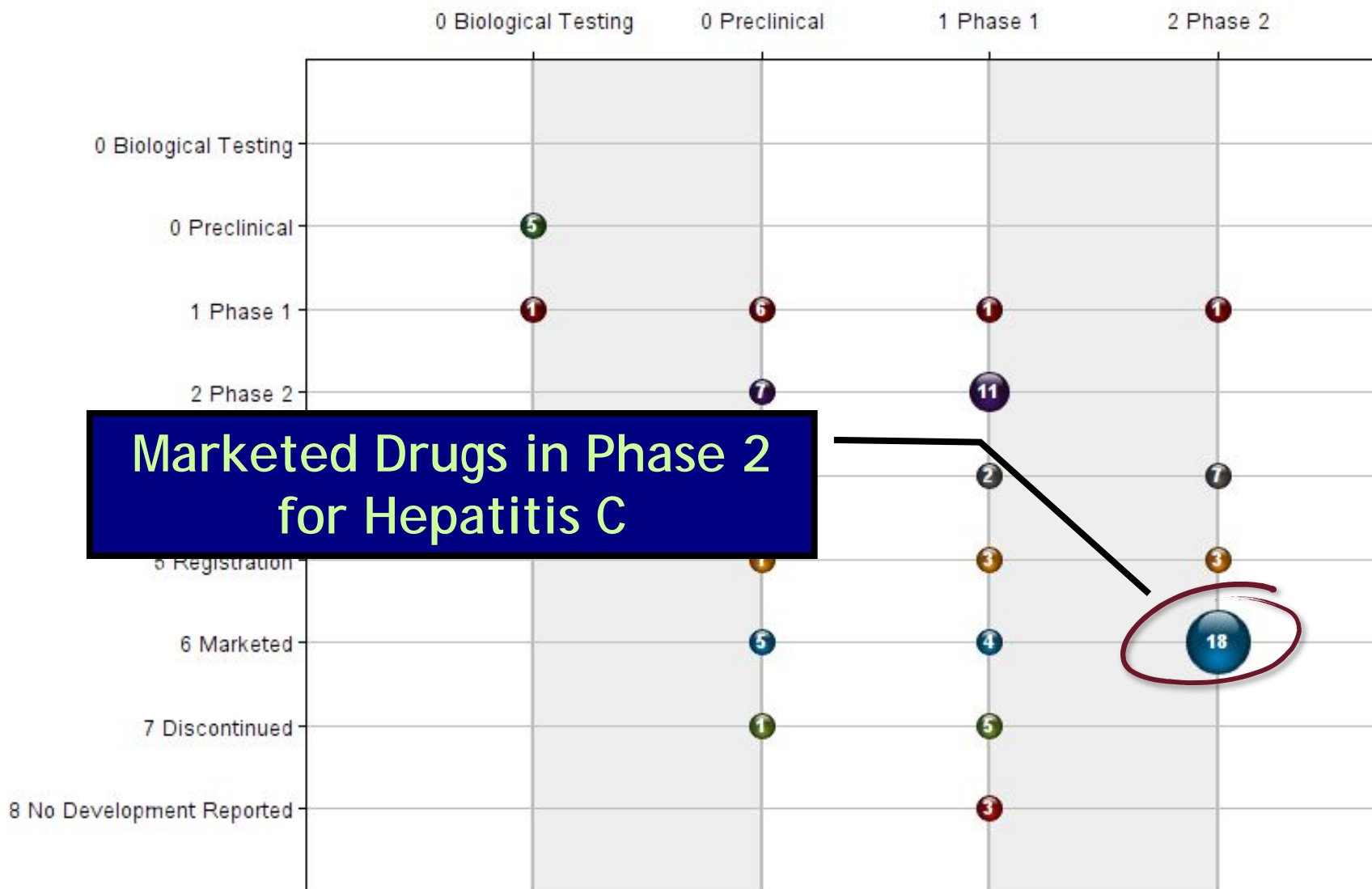
# Analyze differences in phases (hep-c vs all)

Highest Phase (Y-axis) vs Highest Phase for Hep C



Create a Bubble Graph in  
VP-SCE to spot trends

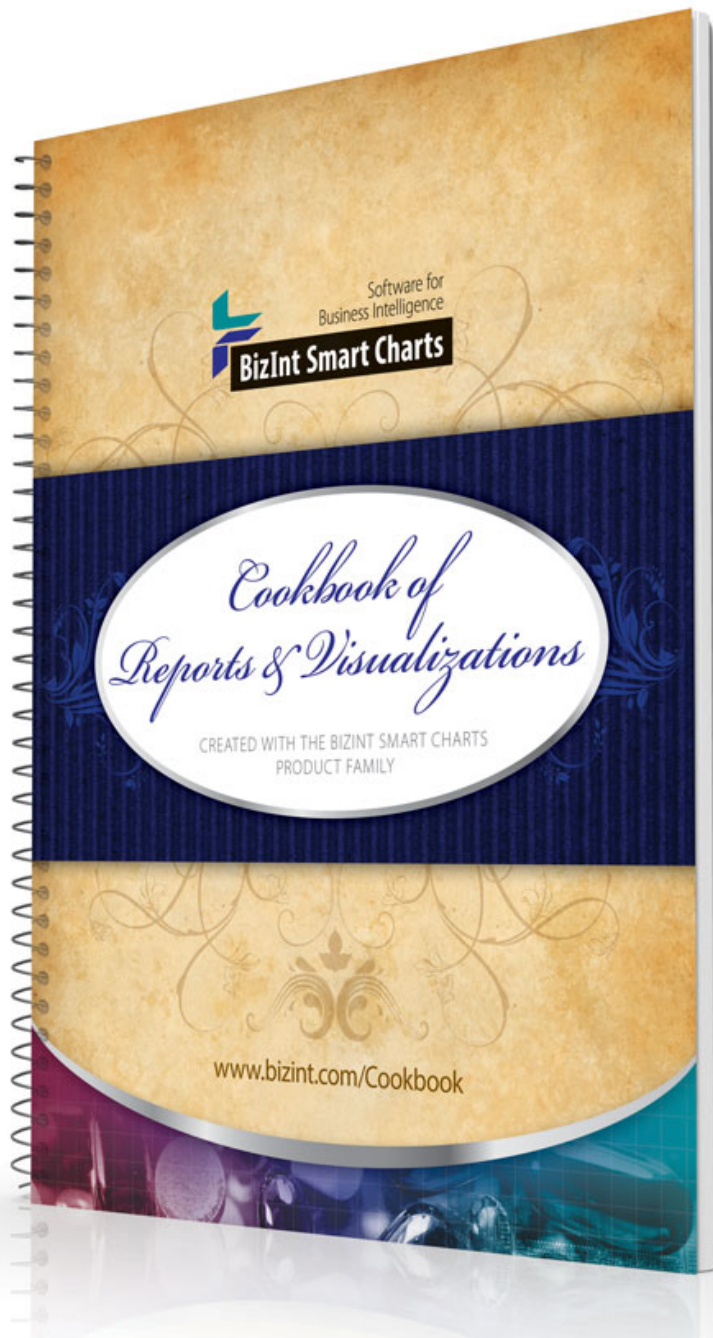
# Analyze differences in phases (hep-c vs all)



# “Surfing the Pipeline” - conclusions

- Pipeline databases continue to **vary in coverage and content**.
- The more pipeline databases you use, the better you can **exploit the strengths of each**.
- BizInt Smart Charts tools can help you **aggregate, summarize and visualize** multi-database pipeline information...
- ...to create more **accurate and effective pipeline intelligence!**





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