

*February 2018*



Software for  
Business Intelligence

**BizInt Smart Charts**

CREATED WITH THE BIZINT SMART CHARTS PRODUCT FAMILY

*Cookbook of  
Reports & Visualizations*

[www.bizint.com/Cookbook](http://www.bizint.com/Cookbook)



## Using this Cookbook

### APPLYING THESE RECIPES TO YOUR DATA

We believe the methods in the recipes included here are applicable to other data sets and sources. However, because each recipe was built using a particular example dataset, you should take some caveats into consideration when applying recipe steps to your own data:

**Caveat One:** When you combine charts from different sources, the source selected first (the “Key Chart”) will determine the names for common columns. For example, depending on the source, the column could be called Condition, Disease or Indications. While you may see different column names than those indicated in the recipe, the same steps should still apply.

**Caveat Two:** Some recipes contain steps and guidance based on the content of the example dataset. For example, we provide suggestions for changing Common Trial ID assignment in cases where the automatically generated Common ID combines trials we want to be treated separately. How much this step is necessary depends on the dataset.

**Caveat Three:** We revise these recipes based on user feedback, so check the latest edition of the Cookbook on our website to see if we have revised the recipe you're interested in.

*Note: Recipes in this Cookbook have been updated for VantagePoint - Smart Charts Edition Version 10.*

*If you are using an earlier version of VP-SCE, you may need to refer to the October 2015 and December 2016 versions of the Cookbook, as some VP-SCE commands have changed.*



### STYLE CONVENTIONS USED

**Commands** are shown in **colored sans-serif type** with the pipe(|) symbol used to divide sequential menu selections. For example, **File | Combine** indicates that you should first click on the File menu and then select Combine.

*Italics* indicate a note, generally indicating steps that may be different depending on the dataset.

“Text in quotation marks” indicates something you should type in to a text box or text that appears in the software outside of the menus.

**Note: as of December 2017, support for drug pipeline and clinical trials data is in the BizInt Smart Charts Drug Development Suite.**

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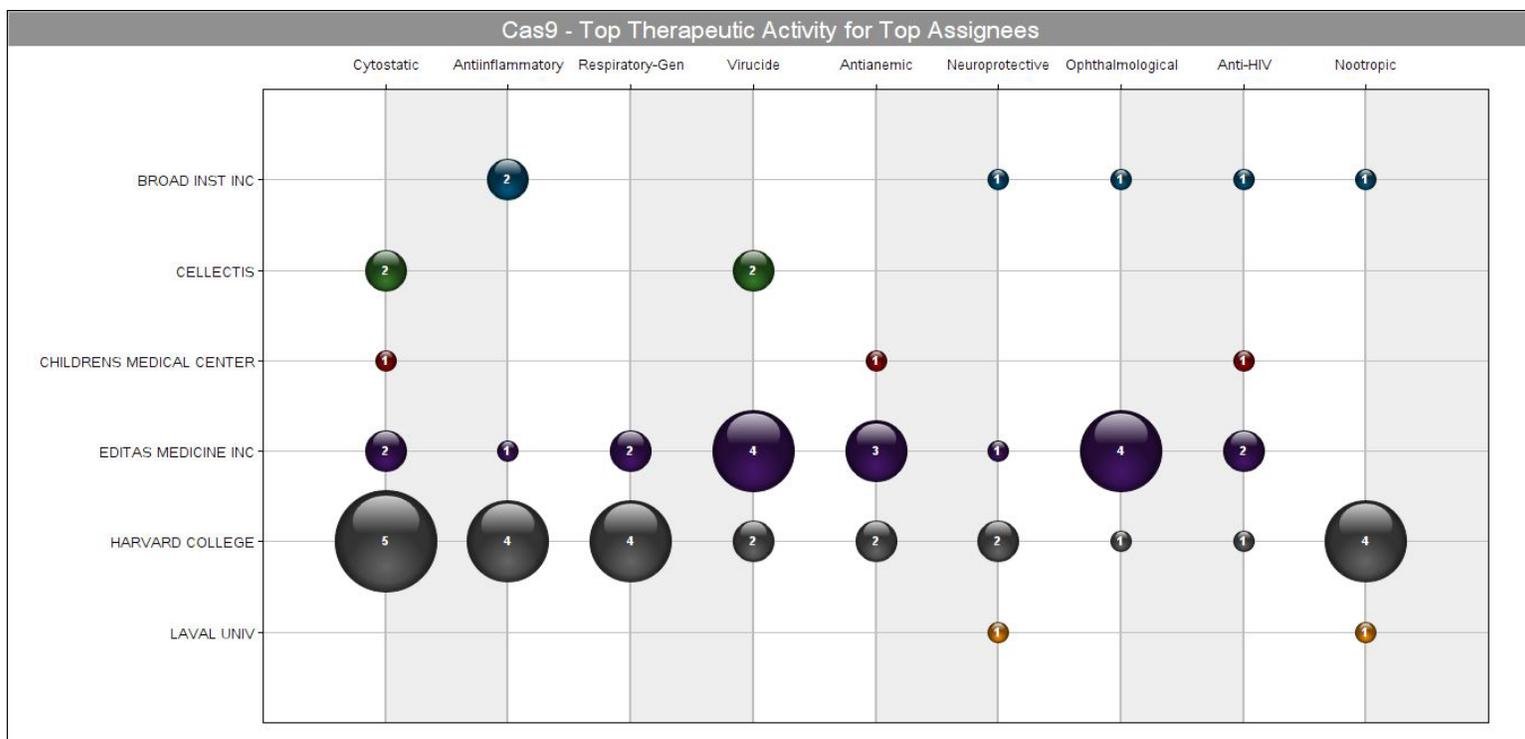
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# Analyzing Companies by Therapeutic Activity with a Bubble Chart [Patents PT-12]

This is one example of a bubble chart created with VantagePoint – Smart Charts Edition (VP-SCE) using data exported from BizInt Smart Charts for Patents (see other recipes in this Cookbook for bubble charts with pipeline and clinical trial data.) Here the bubble chart shows companies by therapeutic activity based on records from Derwent WPI, and PatBase. A single record for each patent family was created with BizInt Smart Charts Reference Rows and then exported to VP-SCE. We linked Probable Assignee from PatBase with Therapeutic Activity from DWPI to build the bubble chart in VP-SCE.



## Analyzing Companies by Therapeutic Activity with a Bubble Chart [Patents PT-12]

### How did we create this?

#### SEARCHES:

- GenomeQuest: Identify sequences in GenomeQuest for CRISPR/CAS9.
- PatBase & Derwent World Patents Index: Search using the patents numbers from the GenomeQuest sequence results.

#### BIZINT SMART CHARTS FOR PATENTS

1. Import each set of search results into BizInt Smart Charts and use the **File | Combine** feature to create a combined chart.
2. Run the **Identify Common Patent Families** tool and sort by the Common Family field.
3. Display the Probable Assignee and Therapeutic Activity columns.
4. Save the chart. Select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS

5. Use **File | Export** to export the visible columns to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

6. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using **File | Import**. Save your .vpt file.
7. **Cleanup Assignees:** Right-click on Probable Assignee and select **List Cleanup...** and select the Organization Names (Pharma). fuz file, and click Use.
8. Use the Cleanup Confirm panel to further cleanup company names and then click Accept.
9. Select the top assignees, then right click to select Add Selection to Group.... In the New Group panel, type the word "top" and click OK. *To focus on industry, you can uncheck individuals and academic institutions.*
10. **Cleanup Therapeutic Activity:** Use **Sheets | Summary** to return to the Summary Sheet. Right-click on Therapeutic Activity and choose **Further Processing | Divide at | Semicolon**. Then use **Fields | Further Processing | Read Until - First | Period**.
11. Select the top therapeutic activities, then right click to select Add Selection to Group.... In the New Group panel, type the word "top" and click OK.
12. **Create the Bubble Chart:** Save the file. From the **Scripts** menu, select **Bubble Chart** and a Browser window will open with options for the script.
13. For step 1, select the cleaned assignees field - Probable Assignee (Cleaned) and change the radio button to Select a group.
14. For step 2, change the radio button to Select Any, and select your cleaned therapeutic activity field - Therapeutic Activity: Divide at/Semicolon: Read Until - First/Period from the drop-down and change the radio button to Select a group.
15. For step 3, you can check the box to show record count in the bubbles and then scroll to the bottom of the window and click OK. A bubble chart showing assignees by filing status will be created.

# Summarizing Sequence Locations in a Patent Family [Patents PT-8]

In this example, we've used two new features in BizInt Smart Charts Reference Rows -- the "Create Subtable from Columns" tool and "Summarize All Values" rule -- to create a subtable summarizing key columns for sequences grouped by the Common Patent Family tool.

## SUBTABLE SUMMARIZING RELATED SEQUENCES



Title	Database	Patent Assignee	Sequence Summary				
			Sequence ID	% Identity	Length	Location	
<b>1.</b> New diagnostic and therapeutic polynucleotides and polypeptides, useful in diagnosing a condition, disease or disorder associated with human molecules, e.g. autoimmune or inflammatory disorders, in gene therapy or in gene mapping.	1.1 <a href="#">GENESEQ</a>   <a href="#">link</a>	INCYTE CORP.	WO20040023973-5059	91.59	642	Claim 27; Page; 190pp; English.	1.1
	1.2 <a href="#">GPATPRT</a>   <a href="#">link</a>		WO2004023973-5059	91.59	642	claim: 27; 28	1.2
1.1 GENESEQ		1.1 GENESEQ					
<b>2.</b> New isolated PRO nucleic acid, useful for diagnosing, treating, or preventing, e.g. systemic lupus erythematosus, rheumatoid arthritis, osteoarthritis, systemic sclerosis, psoriasis, allergic disease, or asthma.	2.1 <a href="#">GENESEQ</a>   <a href="#">link</a>	GENENTECH INC.	WO20050019258-1490	100.00	642	Claim 8; SEQ ID NO 1490; 158pp; English.	2.1
	2.2 <a href="#">GENESEQ</a>   <a href="#">link</a>		WO20050016962-1490	100.00	642	Claim 8; SEQ ID NO 1490; 158pp; English.	2.2
	2.3 <a href="#">GPATPRT</a>   <a href="#">link</a>		EP2014675-1490	100.00	642	probable disclosure (not found by automated parsing)	2.3
	2.4 <a href="#">GPATPRT</a>   <a href="#">link</a>		US20070184444-1490	100.00	642	claim: 1; 2; 8; 19; 20; 21; 22; 23; 25; 26; 27	2.4
	2.5 <a href="#">GPATPRT</a>   <a href="#">link</a>		US20110245090-1490	100.00	642	claim: 20; 23; 28; 31; 36; 38; 40	2.5
	2.6 <a href="#">GPATPRT</a>   <a href="#">link</a>		WO2005016962-1490	100.00	642	claim: 2; 8; 19; 20; 21; 22; 23; 25; 26	2.6
	2.7 <a href="#">GPATPRT</a>   <a href="#">link</a>		WO2005019258-1490	100.00	642	claim: 1; 2; 7; 19; 20; 21; 22; 23; 25; 26; 27	2.7
	2.8 <a href="#">GPATPRT</a>   <a href="#">link</a>		EP2182006-1490	100.00	642	claim: 1; 3; 4; 5; 6; 7; 9; 10; 11	2.8
2.1 GENESEQ		2.1 GENESEQ					
<b>3.</b> Improved yeast cellular assay system for detecting e.g. polycyclic aromatic hydrocarbons, dioxins, PCBs comprising additional cellular proteins from the AHR signaling pathway which improve the sensitivity and maximal	3.1 <a href="#">GENESEQ</a>   <a href="#">link</a>	WISCONSIN ALUMNI RES FOUND.		97.04	642	Example; Fig 6C; 26pp; English.	3.1
	3.2 <a href="#">GENESEQ</a>   <a href="#">link</a>			99.84	642	Example; Fig 6C; 26pp; English.	3.2

## Summarizing Sequence Locations in a Patent Family [Patents PT-8]

### How did we create this?

#### SEARCHES:

- GenomeQuest – sequence search from GQPAT and/or GENESEQ.

#### BIZINT SMART CHARTS FOR PATENTS

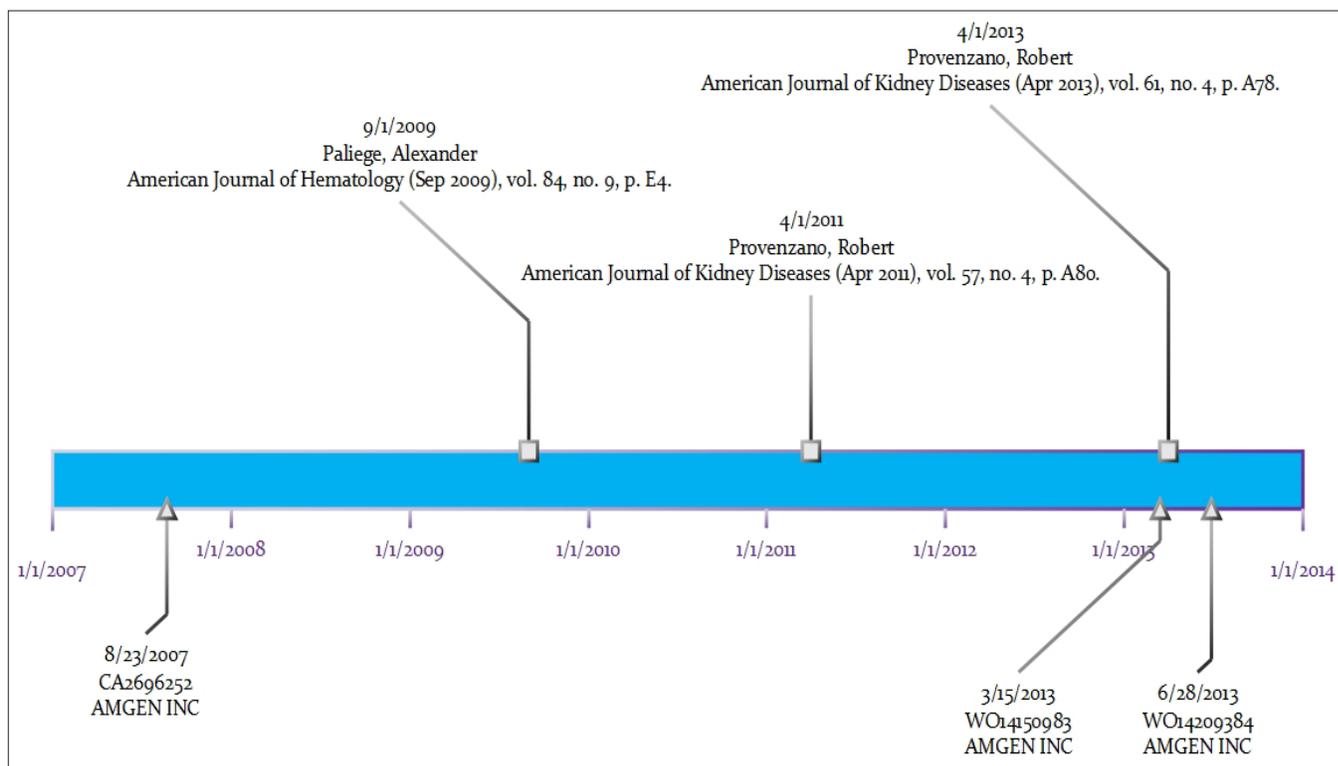
1. Import each set of results into BizInt Smart Charts for Patents to create .chp files.
2. Use the **File | Combine** feature to create a single combined chart. Run the Identify Common Patent Families tool.
3. Display the Seq. ID Number, Percentage Identity, Subject Length, and Patent Sequence Location columns (**View | Columns**).
4. Change the title on the Patent Sequence Location column to “Location” (by double-clicking on the column header). Repeat to rename the Seq. ID Number column to “Sequence ID”, Percentage Identity to “% Identity”, and Subject Length to “Length”. *You need to give columns short names now, because you can't change them after creating the subtable in step 8, below.*
5. Save the .chp file.
6. Send the chart to Reference Rows using the toolbar icon (or **File | Send to Reference Rows**).

#### BIZINT SMART CHARTS REFERENCE ROWS

7. During the Create Reference Rows wizard, make GENESEQ the top-ranked database (if present). *This will cause the Derwent enhanced titles and normalized assignee to be preferred in the final report. This is faster than changing the database ranking in the columns one at a time*
8. When the wizard finishes, run **Tools | Create Subtable from Columns**.
9. Select the Sequence ID, % Identity, Length, and Location columns in that order and press Apply. A new column will be created.
10. Double click on the column header to rename the new column from Untitled Subtable to “Sequence Summary”.
11. Use **View | Columns** to hide the original Sequence ID, % Identity, Length, and Location columns.
12. Use **Reference Rows | Column Rules...** to set the rule for the new column to Summarize All Values.
13. Use **File | Export** to export the report to HTML and see the subtable column summarizing the sequence data.

# Creating Timelines with BizInt Smart Charts and Visio [Patents PT-13]

Timelines provide a foundation for the patent attorneys doing FTO analysis. With a combination of BizInt Smart Charts and Visio we can use the same data provided in the search report to generate this key visualization. Manually created timelines require handling each item individually. With BizInt Smart Charts we can import, combine and integrate relevant data and export a report that can be easily imported into Visio to create a presentation-quality timeline.



## Creating Timelines with BizInt Smart Charts and Visio [Patents PT-13]

### How did we create this?

#### SEARCHES:

- PatBase - Search for selected patent publications related to PCSK9
- ProQuest Dialog - Search for selected literature related to PCSK9

#### BIZINT SMART CHARTS FOR PATENTS

1. **Patent data:** Import and create a chart with the patent records you wish to include.
2. **Create milestone labels:** Go to [Tools | Create Subtable from Columns](#) and choose the columns you want to include in your timeline labels. Here we chose patent number and assignee. Rename column "Task Name". *In order for your timeline to be labelled automatically, you must use this exact column name.*
3. Apply template or manually rename priority date to "Start" and, if using, expected expiry date to "End".
4. Use [View | Columns](#) to add a column with a URL if you want your timeline to include hyperlinks.
5. Export to Excel - compact HTML, chart only.
6. **Literature:** If you want to include literature, import and create a new chart with the references you wish to include.
7. **Create milestone labels:** Go to the [Tools | Create Custom Subtable from Columns](#) and choose the columns you want to include in your timeline labels for literature references. Here we chose author and source. Rename column "Task Name".
8. Export to Excel - compact HTML, chart only.

#### MICROSOFT EXCEL

9. Make any additional edits to the Task Name column. The contents of the Task Name column will be imported as labels on your timeline so you may wish to edit the text now before you import.
10. **Format URLs:** If you want to include hyperlinks, edit the column with URLs to include just the full URL complete with http:// or https://. *Visio will create the hyperlinks automatically if the full URL and only the full URL is in the column.*
11. Save as .xls
12. Repeat steps 9-12 with your second Excel file if you have literature references to include.

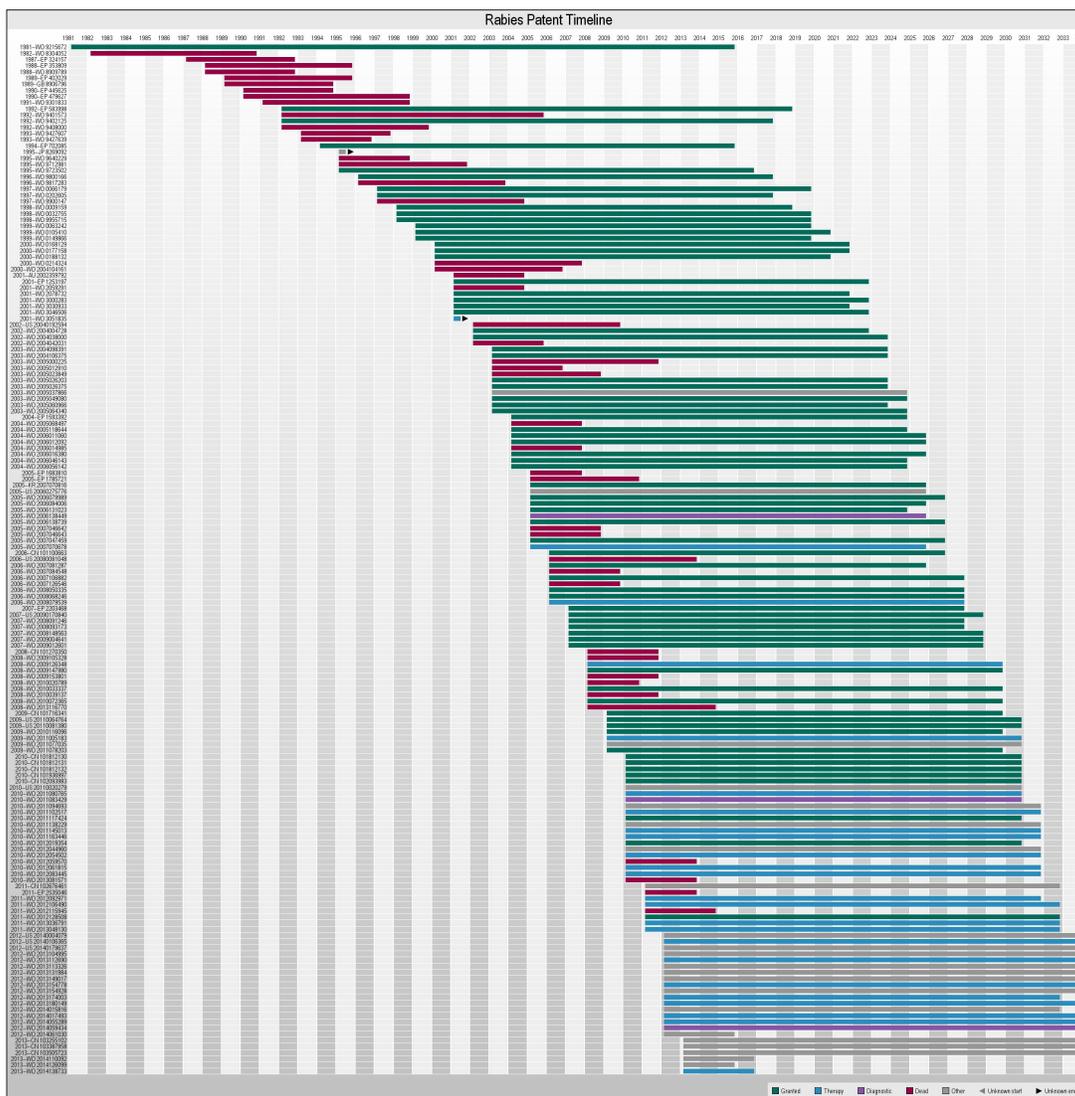
#### MICROSOFT VISIO PRO

13. Open Visio and create a new timeline.
14. Add a Block timeline (or other main timeline shape). Set start and end dates to fit dates of the items in your chart.
15. Go to the [Data](#) tab and select [Quick Import](#). Browse and select the .xls file you saved previously.
16. **Import milestones:** Select the milestone shape you want to use, such as "triangle milestone".
17. Select all rows in the [External Data](#) panel that you want to import as milestones. Drag and drop onto an empty area of the page.
18. **Import intervals:** Select the interval shape you want to use, such as Curly bracket interval. Select all items from the [External Data](#) panel that you want to import with start (priority) and end (expiry) dates. Drag and drop onto an empty area of the page.
19. If you have literature references, repeat steps 15-18 with the second Excel file.
20. You now have a timeline with patents and literature automatically positioned and labelled. You can further customize it, such as changing colors or repositioning labels for ease of reading.

# Creating a Timeline Showing Patent Lifetimes [Patents PT-5]

Based on a recipe first presented at the 2014 PIUG Annual Meeting

This recipe helps you show patents over time, classified by a mix of status and patent type. The color of each bar can represent status, taken from Orbit (green bars are GRANTED and in effect, the red bars are DEAD). Pending applications are further classified by patent type from Cortellis: therapeutic (blue); diagnostic (purple); or all other types (grey).



## Creating a Timeline Showing Patent Lifetimes [Patents PT-5]

### How did we create this?

#### SEARCHES:

- Cortellis Patents: search for patents for indication Rabies Infection: 170 records
- Orbit.com: transfer all basic publication numbers from the Cortellis result: 168 records

#### BIZINT SMART CHARTS FOR PATENTS - *create your combined chart*

1. Import each set of search results into BizInt Smart Charts and use the [File | Combine](#) feature to create a combined chart.
2. Make the columns Calculated Expiry Date, Priority Date, State, Status, and Patent Type visible using [View | Columns](#).
3. Save the chart and select [File | Send to Reference Rows](#) to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS - *select dates and stitch together unique fields for each family*

4. In the wizard, you can simply press [Generate](#) to identify the patents in the same family (as opposed to running this tool in BizInt Smart Charts for Patents) and then Finish on the next panel. We're going to set the rules up next.
5. Right click in the Priority Date and choose [Edit Column Rule](#). Change the rule for Priority Date to Earliest Date and repeat to change the rule for Calculated Expiry Date to Earliest Date as well.
6. You don't need to set a rule for State, Status, or Patent Type, as the standard behavior of Reference Rows is to "fill in the blanks". This will automatically link the State and Status from Orbit with the Patent Type from Cortellis in each family.
7. Make sure that the Common Family column is visible, as this will be used to label the timeline.
8. Use [File | Export](#) to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION - *create a key for color coding the families in the timeline*

9. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using [File | Import](#).
10. **Extract the year for the priority date and expiry date:** right-click on Priority Date, and choose [Further Processing | Dates | Extract Years](#). Use [Sheets | Summary](#) to return to the summary and repeat this step for the Calculated Expiry Date field.
11. **Combine the State, Status, and Patent Type fields:** We want to color code our timeline by a combination of the Status and the Patent Type, so we want to start by creating a field that combines the three values. Using [Scripts | Concatenate Fields](#), choose State as the first field and Status as the second field. Type "-" as the field separator. Then concatenate the new field with Patent Type in the same way. We refer to the resulting field as the "category" field below.
12. **Combine Priority Year and Common Family:** *Optional* To sort the publications in year order, concatenate Priority Date: Dates/Extract Years with Common Family. Call the field "Year+Family". This will be the label on each row in the table.
13. **Assign States and Patent Types to groups:** The timeline script uses groups to color the bars. Open the category field you created above. You can group the rows any way you want (up to five groups), but only assign one group to each item.
14. For the example on the left, the first group we created was for all families with State DEAD. In the category field, use [Edit | Find](#) to find "dead", Select All, and Add To Group using the group name Dead. Do the same for Granted (but press Clear Selection between groups).
15. Next we want to find create a group with therapeutic and product types. Once again select [Edit | Find](#), make sure the Use Regular Expression box is checked, and enter "therap|product" in the search area (the vertical bar means OR). At the same time, we don't want to match the Granted or Dead items. Click Advanced to expose additional search terms. Type "granted|dead" in the first search term, and choose And Not as the operator. Select All and Add to Group with the name "Therapy". Repeat this process for our Diagnostic types, using the search "diagnost|screen".
16. Finally we want to group the items that weren't assigned to any of the other groups. Right click in the category list and choose [Sort Ungrouped](#). This will move the items without any group to the top of the list. Select all of the ungrouped items, right click, and [Add Selection to Group...](#) using the name "Other".
17. **Rearrange group items:** If you would like the colors to be assigned differently to the groups you created, you can use [Groups | Edit Groups...](#) to rearrange the order of the groups.
18. **Create the trial timeline:** Select [Scripts | Timeline Gantt](#). Select Year+Family as the field to chart (this will be the label on the left side). Select the fields for the priority year and calculated expiry year, and select the category field as the Category field. Enter a title for the timeline graphic, such as "Patent Timeline", and press OK.
19. You can save the timeline as a .jpg file by clicking the camera icon: .

# Filtering the Patent Family by Authorities

## [Patents PT-3]

In this example, we've used VantagePoint - Smart Charts Edition to filter the Patent Family subtable to include only US, EP, and WO patents. We've also filtered the patent numbers in the Patent Family to create a new column with only Chinese patents.

**PATENT FAMILY  
 FILTERED BY AUTHORITIES  
 (US/EP/WO)**

**PATENT NUMBERS  
 FILTERED BY  
 AUTHORITIES (CN)**



	Database	Patent Family			Patent Family:US/EP/WO			Chinese Patents
		Patent	Kind	Date	Patent	Kind	Date	
20	FAMPAT	WO 2006127537	A2	20061130	EP 1888785	A2	20080220	CN 101501214
		CA2609214	A1	20061130	EP 1888785	A4	20100203	
		US 20070037186	A1	20070215	US 20070037186	A1	20070215	
		EP 1888785	A2	20080220	WO 2006127537	A2	20061130	
		MX 2007014618	A	20080422	WO 2006127537	A3	20090416	
		JP 2008545400	A	20081218				
		WO 2006127537	A3	20090416				
		CN 101501214	A	20090805				
21	GQPAT Nucleotides	US20070037186		20070215	EP1888785			CN101501214
		BRPI0610012			US20070037186		20070215	
		CA2609214			WO2006127537			
		CN101501214						
		EP1888785						
		JP2008545400						
		MX2007014618						
		WO2006127537						
22	GQPAT Nucleotides	JP2008545400		20081218	EP1888785			CN101501214
		BRPI0610012			US20070037186			
		CA2609214			WO2006127537			
		CN101501214						
		EP1888785						
		MX2007014618						
		US20070037186						
		WO2006127537						
23	GQPAT Nucleotides	EP1888785		20080220	EP1888785		20080220	CN101501214
		BRPI0610012			US20070037186			
		CA2609214			WO2006127537			
		CN101501214						
		JP2008545400						
		MX2007014618						
		US20070037186						
		WO2006127537						

## Filtering the Patent Family by Authorities [Patents PT-3]

### How did we create this?

#### SEARCHES:

- Sequence and patent data from GenomeQuest (GeneSeq and GQPAT) and FAMPAT on Orbit.com

#### BIZINT SMART CHARTS FOR PATENTS (VERSION 3.5.6 OR HIGHER)

1. Import your results into BizInt Smart Charts to create a .chp file.
2. Use the **File | Combine** feature to create a single combined chart. Run the Identify Common Patent Families tool and sort by the Common Patent Family field. Display the Patent Family column.
3. Use **File | Export** to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION

4. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**.
5. **Filter the Patent Family by Authorities:** On the Summary panel, double-click on Patent Family.
6. Select **Edit | Find** to bring up the Find panel. Click the Clear Selection button to clear any existing selections.
7. In the Find panel, check the Use regular expression box. Type the regular expression “^(US|EP|WO)” into the Find what: box and click the Select All button. All of the US, EP, and WO patent numbers should be selected in the Patent Family window.
8. Click the Add to Group button and type “BizInt” in the group field. A new column with check marks next to the selected subrows will be created. Click Close to close the Find panel.
9. Select **Fields | Create Field from Group Items**. Select the BizInt item under Patent Family, and click OK.
10. **Filter Patent Numbers by Authorities:** If you want a column in your report with patent numbers from selected authorities, return to the Summary view and right-click on the Patent sub-field under the Patent Family field. Choose **Copy Field...** and enter a new field name (such as “All Patent Numbers”). Press OK, and select this new field from the Summary.
11. Select **Edit | Find** to bring up the Find panel. Click the Clear Selection button to clear any existing selections.
12. In the Find panel, check the Use regular expression box. Type the regular expression “^CN” into the Find what: box and click the Select All button. All of the CN patent numbers should be selected in the All Patent Numbers window.
13. Click the Add to Group button and type “Chinese” in the group field. A new column with check marks next to the selected subrows will be created. Click Close to close the Find panel.
14. Select **Fields | Create Field from Group Items**. Select the Chinese item under All Patent Numbers, and click OK.
15. **Export new fields to BizInt Smart Charts:** Export back to BizInt Smart Charts using **File | Export Fielded Records**. In the Export Wizard, click Deselect All and then click the checkboxes to select your new filtered fields. Click OK to export.



#### BIZINT SMART CHARTS FOR PATENTS

16. When BizInt Smart Charts for Patents comes to the foreground, select the original chart. It will redisplay with your new filtered patent family and patents numbers as new columns.

# Creating a Co-Occurrence Matrix to Evaluate Patent Assignees [Patents PT-4]

We can use patent data to find organizations who haven't yet started clinical trials in a particular market. We searched for our target in the claims text, and limited the results to those publications with a Chinese document in the family. We then use VantagePoint – Smart Charts Edition (VP-SCE) to create a co-occurrence matrix from the patent data (in this case, mapping assignee organizations and priority application years) to try to identify possible partners (or competitors) in the field. We use this selection to choose a subset of rows in our original data set in BizInt Smart Charts for Patents, and export that subset with links to WIPO Patentscope, a good source for finding complete addresses.

Reset		Patent Assignee (Cleaned)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		# Records	5	20	27	31	27	39	54	93	96	12	10	10	12	16	14	26	12
Dates	# Record		1994	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	167	BAYER AG			2	1					2	2	4	7	19	37	37	54	2
2	77	ABBOTT LAB			5	4						3	9	5	9	21	18	3	
3	44	ABBVIE INC			1							1	4	1	4	12	18	3	
4	28	NOVARTIS AG					2			10	5	6	3	1		1			
5	24	GENENTECH INC									5	9	2	1	3	2	2		
6	23	BASF AG		1	5	5	1		3			2		2	1	3			
7	21	KUDOS PHARM LTD					2			6	3	1	6	3					
8	19	JANSSEN PHARM NV								9	8				2				
9	18	MERCK SHARP&DOHME										4	6	1	1	3	3		
10	17	BIPAR										3	5	7	1	1			
11	17	SANOFI-AVENTIS	1		1		1			1	6				4	1	1	2	
12	16	PFIZER INC				1		1	2	2	2		2	4	1		1		
13	14	SCHERING AG							1		3		6	3		1			
14	12	AGOURON PHARMA				3	2	2		2	2				1				
15	11	CEPHALON INC		1			4				2		3			1			
16	11	CHIRON CORP								7	3	1							
17	10	INOTEK PHARM CORP						2		4	2	1		1					
18	9	NEREUS PHARM INC							2	1	5	1							
19	8	ASTRAZENECA AB											2	3	2		1		
20	8	CYCLACEL LTD							1	1		1	1	2	2				
21	8	IST RICERCHE BIOL MOLECOLARE ANGEL											4	4					
22	8	XOMA TECHNOLOGY LTD								6		1		1					
23	7	ACUCELA INC												5	2				
24	7	AEGERA THERAPEUTICS INC							2	1		1	3						
25	7	PFIZER PROD INC					1	1					1	4					
26	7	XENCOR INC									4			2				1	
27	6	AGENSYS INC									4	2							
28	6	ALLERGAN INC														6			
29	6	BIOMARIN PHARM INC													3		3		
30	6	HOFFMANN LA ROCHE INC								1			1	1		1	2		
31	6	IDERA PHARM INC								1		3		1		1			
32	6	JIANGSU HENGRUI MEDICINE CO LTD															6		
33	6	JIANGSU SIMCERE PHARM CO LTD																	6
34	6	SHANGHAI HENGRUI PHARM CO LTD															6		
35	6	SIRTRIS PHARM INC										6							
36	6	SUGEN					2	4											
37	5	BERG PHARMA LLC														5			
38	5	CELL SIGNALING TECHNOLOGY INC											1	2	2				

## Creating a Co-Occurrence Matrix to Evaluate Patent Assignees [Patents PT-4]

### How did we create this?

#### SEARCHES:

- Derwent Innovation: Claims contains "PARP" and Country = "CN" - 1203 records

#### BIZINT SMART CHARTS FOR PATENTS

1. Import the search results into BizInt Smart Charts. Since Derwent Innovation generates a ZIP file of the results, you can drag the file and drop it into BizInt Smart Charts for Patents.
2. Run [Tools | Identify Common Patent Families](#).
3. Display the Patent Assignee and Priority Date columns.
4. Use [File | Export](#) to export the visible columns to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

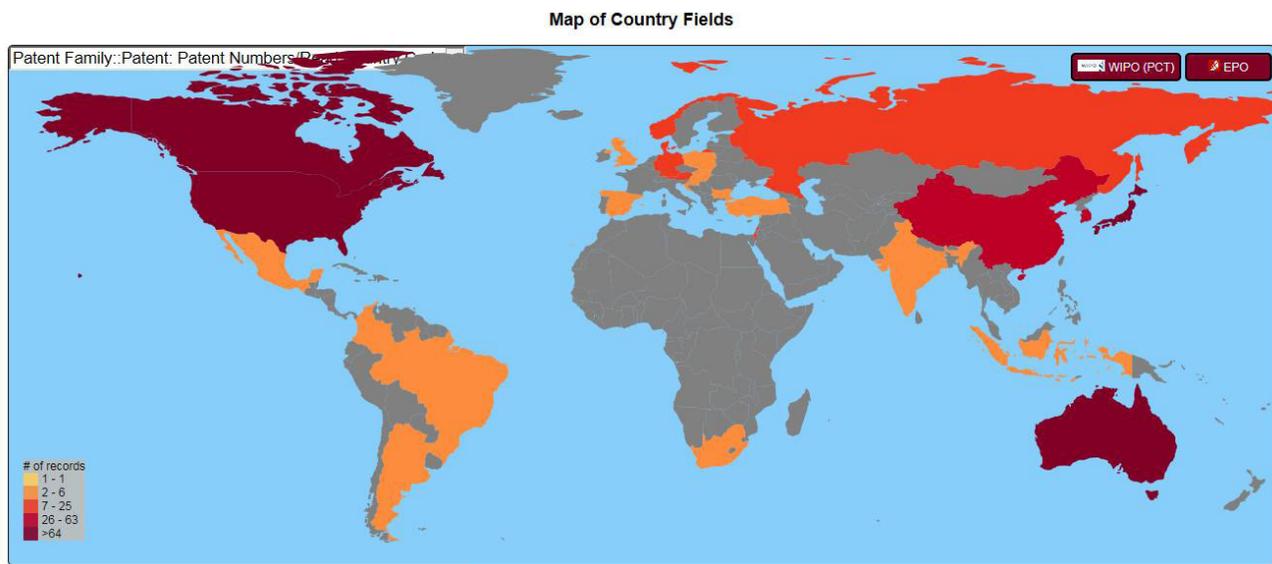
5. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using [File | Import](#). Save your .vpt file.
6. **Cleanup Patent Assignees:** Follow the instructions in the "Technique: Assignee Cleanup with List Comparison and Compare Columns" recipe to clean up your list of Assignees.
7. You may not be interested in all Assignees - for example, universities located in the US aren't of interest in this exercise. View the cleaned up Patent Assignee list, and use [Edit | Find](#) to find "Univ", then Select All and Add to Group. Name the group (e.g. "no interest").
8. You can double-click on the header for the group to bring the selected items to the top, where you can review them. You may want to turn off the group check-box for Univ Shanghai, for example.
9. **Create a list containing only those Assignees you are interested in:** Use [Fields | Create Field From Group](#), select the no interest group, and select the Use unchecked items radio button. Give the new field a name (e.g. "Selected Assignees") and then hit OK.
10. **Extract the year for the priority date:** Use [Sheets | Summary](#) to return to the Summary. Right-click on the Priority Date field and apply [Further Processing | Dates | Extract Years](#).
11. **Create the Matrix:** Select [Sheets | Add Matrix...](#)
12. Under the Rows heading, choose Selected Assignees.
13. Under the Columns heading, choose Priority Date: Dates/Extract Years.
14. Ensure that the Matrix type is Co-occurrence and Based On is # of Records, then press OK.
15. Double-click on the Priority Date: Dates/Extract Years label (near the top left) to sort the columns by year.
16. **Select interesting cells on the matrix:** As you review the matrix you may find cells that are of interest. For example, we found recent patenting activity from Jiangsu Hengrui Medicine and a few other organizations. Click and drag to draw a box around those cells, or use control-click to select multiple cells.
17. Right-click on a selected cell and choose Add Row Selections to Group. Create a group name such as "selected" and press OK. You may repeat these two steps to add several selections to the group.
18. **Send this new field back to BizInt Smart Charts** using [File | Export Fielded Records](#). In the Export Wizard, click Deselect All and then click the checkbox for Selected Assignees. Click OK to export.

#### BIZINT SMART CHARTS FOR PATENTS

19. Choose your original chart and the new Selected Assignees field will be created as a separate column.
20. [View | Sort](#) on the Selected Assignees, using a descending sort. This will put blank cells at the bottom. You can hide the blank rows by selecting the range and using [Edit | Hide Rows](#).
21. If not already visible, use [View | Columns](#) to add Patent Family to the chart. Double click on the column header and ensure that the Link Patent Numbers option is set. Under [Options | Full-text patent links](#) select Patentscope for WO documents.
22. Export the chart to HTML, and click on WO publication numbers to find addresses for the assignees.

## Mapping Patents by Authority [Patents PT-6]

This map shows relative density of patent records by country for a search of the sequence of poly ADP ribose polymerase (PARP) and a matching family search on Orbit.com. The records were combined with BizInt Smart Charts for Patents and BizInt Smart Charts Reference Rows was used to create a combined patent family table including unique family members from both sources. Then a single record for each patent family was sent to VantagePoint – Smart Charts Edition (VP-SCE). VP-SCE was used to extract patent authority codes and generate the map.



## Mapping Patents by Authority [Patents PT-6]

### How did we create this?

#### SEARCHES:

- GenomeQuest – sequence search for poly ADP ribose polymerase (PARP) from GQPAT and/or GENESEQ.
- Orbit.com – families corresponding to the sequences.

#### BIZINT SMART CHARTS FOR PATENTS

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Run the Identify Common Patent Families tool and sort by the Common Family field. Review and make changes if needed.
3. Display the Patent Family column.
4. Save the chart and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS (VERSION 1.2 OR HIGHER)

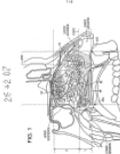
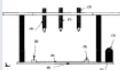
5. **Include unique family members from both sources:** On the third panel of the wizard, select the Patent Family column and click the Edit button to choose the Summarize Unique Values rule to include all unique family members from each source. *When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking and rules.*
6. Use **File | Export** to export the visible columns to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

7. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**. Save your .vpt file.
8. **Extract authority codes:** Right-click on the Patent child field under Patent Family and select **Further Processing | Patent Numbers | Read Country Code**.
9. **Tag Extracted field as a Country field:** Use **Sheets | Summary** to return to the summary. Right-click on the Patent: Patent Numbers/Read Country Code field and choose Set Meta Tags. Select Country on the right-hand column and click the left arrow button and then click OK.
10. **Create the Map:** From the Scripts menu, select World Map. A world map will automatically be generated. *You can click on the title to edit or click on a country to zoom and double-click to zoom out.*

# Integrating Patent Data with Claims from Other Patent Databases [Patents PT-10]

In this example we combine information from Chemical Abstracts, Derwent World Patents Index and fulltext patent sources on the new STN platform into a report that integrates the information from Chemical Abstracts with claims from DWPI and fulltext sources. The Identify Common Patent Families tool is used to identify related publications across databases, as shown in the chart below. The BizInt Smart Charts Reference Rows utility is then used to create a single row integrating claims and other information for each family, shown on the next page.

	Title	Common Family	Database	Patent Assignee	Priority Date	Claims	Graphic Information
1	Nasal delivery device for treating inflammatory or infectious condition of nasal cavity, has nosepiece unit with nosepiece that is fitted into nostril of person, and nozzle that ejects substance from delivery unit	GB2434989	Derwent World Patents Index	OPTINOSE AS	2006-02-14		
2	Delivery device and method	GB2434989	GB Patents Fulltext	OPTINOSE AS, Norway (NO)	2006-02-14	GB 2434989B 1. A nasal delivery device for delivering substance to the middle meatus in a nasal cavity of a subject in the treatment of a condition, in particular an inflammatory or infectious condition, thereof, the delivery device comprising: a nosepiece unit including a nosepiece for fitting to a nostril of a subject and a nozzle through which substance is in use delivered to the respective nasal cavity; and a delivery unit for delivering substance through the nozzle of the nosepiece; wherein the nosepiece is configured, when inserted into the nasal cavity, to extend into the nasal valve and provide for expansion thereof, and the nozzle provides for delivery of the substance as at least one liquid jet or an aerosol spray having a cone angle of not more than about 50 degrees, whereby at [CONT.]	
3	Sheet or tubular structure consisting of elastic biocompatible material and its use	EP2067494	Chemical Abstracts	Charite - Universitaetsmedizin Berlin, Germany (DE)	2007-12-04		
4	Sheet or tubular structure useful for covering e.g. orthopedic implant and pacemaker and for treating e.g. fractured/lost bone and heart disease, comprises elastic biocompatible material and biologically active substance	EP2067494	Derwent World Patents Index	CHARITE-UNIV MEDIZIN BERLIN UNIV BERLIN CHARITE	2007-12-04	EP2067494A1 A sheet or tubular structure, which consists of biocompatible material, is elastic and comprises at least one biologically active substance in at least one region.	

## Integrating Patent Data with Claims from Other Patent Databases [Patents PT-10]

### How did we create this?

#### SEARCHES:

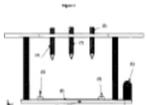
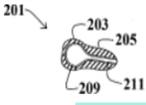
- A search for natamycin was conducted in Derwent Chemical Resource and transferred to Derwent World Patents Index and the patent numbers found were searched in Chemical Abstracts and fulltext patent files on new STN.

#### BIZINT SMART CHARTS FOR PATENTS

- Create a combined chart:** Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart, selecting the Chemical Abstracts chart first as the key chart.
- Identify related records:** Use **Tools | Identify Common Patent Families** to identify related records and then sort by the Common Family column to review the results.
- Use **View | Columns** to select the columns you want in your chart. For this example, Claims should be visible.
- Save the chart file and then use **File | Send to Reference Rows** to open the chart in BizInt Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS

- Integrate information from both databases:** Click Next to continue to the next step in the Create Reference Rows Wizard. *We already identified common patent families so we don't need to Regenerate them.*
- Click Finish in step 2. *Because you chose your Chemical Abstracts chart as the key chart it will automatically be at the top of your database preferences. This means that reference rows will contain information from CA by default. Reference Rows will draw from the next database if the preferred database is missing the information. This means that Claims will come from DWPI and the fulltext sources.*
- When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking.
- Create your report:** *To see the reference rows integrating your sources, you'll need to export. Use **File | Export** and choose an export format. For this example we chose HTML, chart and records. Then click OK. Click OK on the next screen to use the default options. You should see a report like the one below with one row per patent family showing claims as well as the additional columns you selected.*

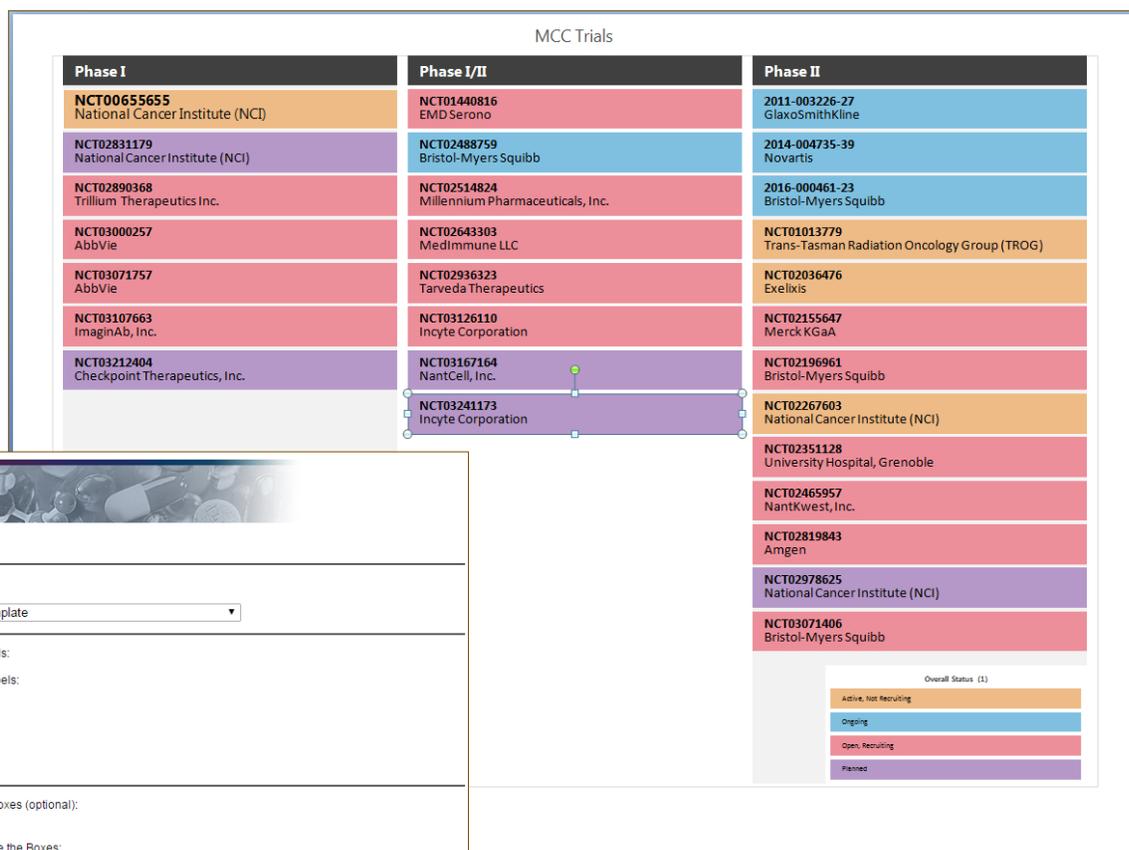
Title	Database	Patent Assignee	Priority Date	Claims	Graphic Information
1. Nasal delivery device for treating inflammatory or infectious condition of nasal cavity, has nosepiece unit with nosepiece that is fitted into nostril of person, and nozzle that ejects substance from delivery unit	1.1 DWPI	OPTINOSE AS	2006-02-14	GB 2434989B 1. A nasal delivery device for delivering substance to the middle meatus in a nasal cavity of a subject in the treatment of a condition, in particular an inflammatory or infectious condition, thereof, the delivery device comprising: a nosepiece unit including a nosepiece for fitting to a nostril of a subject and a nozzle through which substance is in use delivered to the respective nasal cavity; and a delivery unit for delivering substance through the nozzle of the nosepiece; wherein the nosepiece is configured, when inserted into the nasal cavity, to extend into the nasal valve and provide for expansion thereof, and the nozzle provides for delivery of the substance as at least one liquid jet or an aerosol spray having a cone angle of not more than about 50 degrees, whereby at [CONT.]	
	1.2 GBPATF				
2. Sheet or tubular structure consisting of elastic biocompatible material and its use	2.1 CABS	Charite - Universitaetsmedizin Berlin, Germany (DE)	2007-12-04	EP2067494A1 A sheet or tubular structure, which consists of biocompatible material, is elastic and comprises at least one biologically active substance in at least one region.	
	2.2 DWPI				
	2.3 EPFU				
3. Method for treating otitis externa with composition comprising corticosteroid with antifungal agent	3.1 CABS	SLATER P	2005-01-25	US8337481B2 What is claimed is: 1. A method for treating otitis externa, comprising: diagnosing an instance of otitis externa in a patient; and	
	3.2 DWPI				
	3.3 USFU				
4. Method for treating a skin ailment	4.1 CABS	The Procter & Gamble Company, United States	2010-04-26	1) A method for treating a skin ailment comprising: (a) providing a personal care product comprising (i) an	
	4.2 DWPI				

# Training (1): Creating a Trials “Piano” Chart

## [Trials CT-11]

This is the first in a set of two training recipes designed to familiarize you with the features of VantagePoint - Smart Charts Edition (VP-SCE). In these two recipes, you will learn how to clean-up data and create two visualizations - a Piano Chart and an Estimated Trial Completion Timeline.

These recipes use a “training.vpxi” file which was created by searching for Merkel Cell Carcinoma trials in ClinicalTrials.gov and EU Clinical Trials (EudraCT), importing the results into the BizInt Smart Charts Drug Development Suite and then integrating results for each trial with BizInt Smart Charts Reference Rows. In Reference Rows we applied column rules and reviewed the data to select representative values for each trial. We then exported from Reference Rows to create the training.vpxi file.



This recipe requires files which can be found at:

[www.bizint.com/vptraining](http://www.bizint.com/vptraining)

## Training (1): Creating a Trials “Piano” Chart [Trials CT-11]

### How did we create this?

**NOTE: THIS RECIPE REQUIRES VP-SCE VERSION 10**

*This recipe is designed to be used with a training.vpxi file and provides detailed step-by-step instructions for cleaning up the data and creating a piano chart as shown on the previous page.*

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION - *Clean-up the data*

1. **Import data:** Open VantagePoint - Smart Charts Edition (VP-SCE) and go to [File | Import XML \(Smart Data Exchange\)](#). Choose the training.vpxi file and click Open.
2. **Clean-up sponsor names:** On the Summary Sheet screen, right-click on the Sponsor field and select [List Cleanup](#). Select the Organization Names (Pharma).fuz file and click Use.
3. Use the Cleanup Confirm panel to clean-up terms. Switch the Display radio button to All Items and then drag and drop names to combine terms (for example, drag “Insight Biosciences International...” onto “Insight Corporation” to combine these terms). When you are done with clean-up, click the Accept button. *You do not need to save the Thesaurus. A new field “Sponsor (Cleaned)” is created.*
4. Use [Sheets | Summary Sheet](#) to return to the Summary Sheet. *This is also where you can navigate between lists. TIP: On the Summary Screen you can also right-click on a field name and use Rename Field to rename a field.*
5. **Set Phase as the Data Type for your phase field:** Right click in the Data Type column for the phase field, and from the “Set Data Type” submenu, select “Custom” and then “Phase”. *This will cause phases to sort properly in your visualization.*
6. **Normalize phase:** Right-click on the phase field and choose [Thesaurus](#). Select the “DrugDevelopmentPhases\_Arabic.the” file and click Use. *Note: if you don’t see this file, under Look In, go up one level to VantagePoint - SCE and select the Thesaurus folder.*
7. **Normalize status:** Return to the Summary Sheet. Right-click on the Overall Status field and choose Thesaurus. Select the “TrialStatus.the” file and click Use. *You will now have two more cleaned up fields “Phase (1)” and “Overall Status (1)”.*

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION - *Create the visualization*

8. Having cleaned up sponsors, phases and trial status, you are ready to build your visualization. *This visualization was originally built for drug pipeline data, so some of the wording on the script panel will refer to pipeline data.*
9. **Build the Piano Chart:** Go to [Scripts | Piano Pipeline Chart](#).
10. In Step 1, choose the Common Trial ID field for the Box Labels and your cleaned-up Phase (1) field for the Phase.
11. In Step 2, choose the cleaned Sponsor (Cleaned) field to add to the Boxes and the normalized Overall Status (1) field as the Field to Color Code the Boxes. Select the check box to add hyperlinks to trial records. *Note: record links in PowerPoint can be followed in the Slide Show view.*
12. In Step 3, enter the title “MCC Trials” for your chart. In Step 4, select the radio button for PowerPoint and click “Create Piano Chart”. *Your Create Piano Chart window should look as shown on the previous page.*
13. Some intermediate windows will appear and then VP-SCE will create a new document in PowerPoint and draw the piano chart, similar to the one shown on the previous page. *You can edit the chart in PowerPoint and follow links to the trial records in the PowerPoint show.*
14. To save your work in VP-SCE, go to [File | Save As](#) to save as a .vpt file.

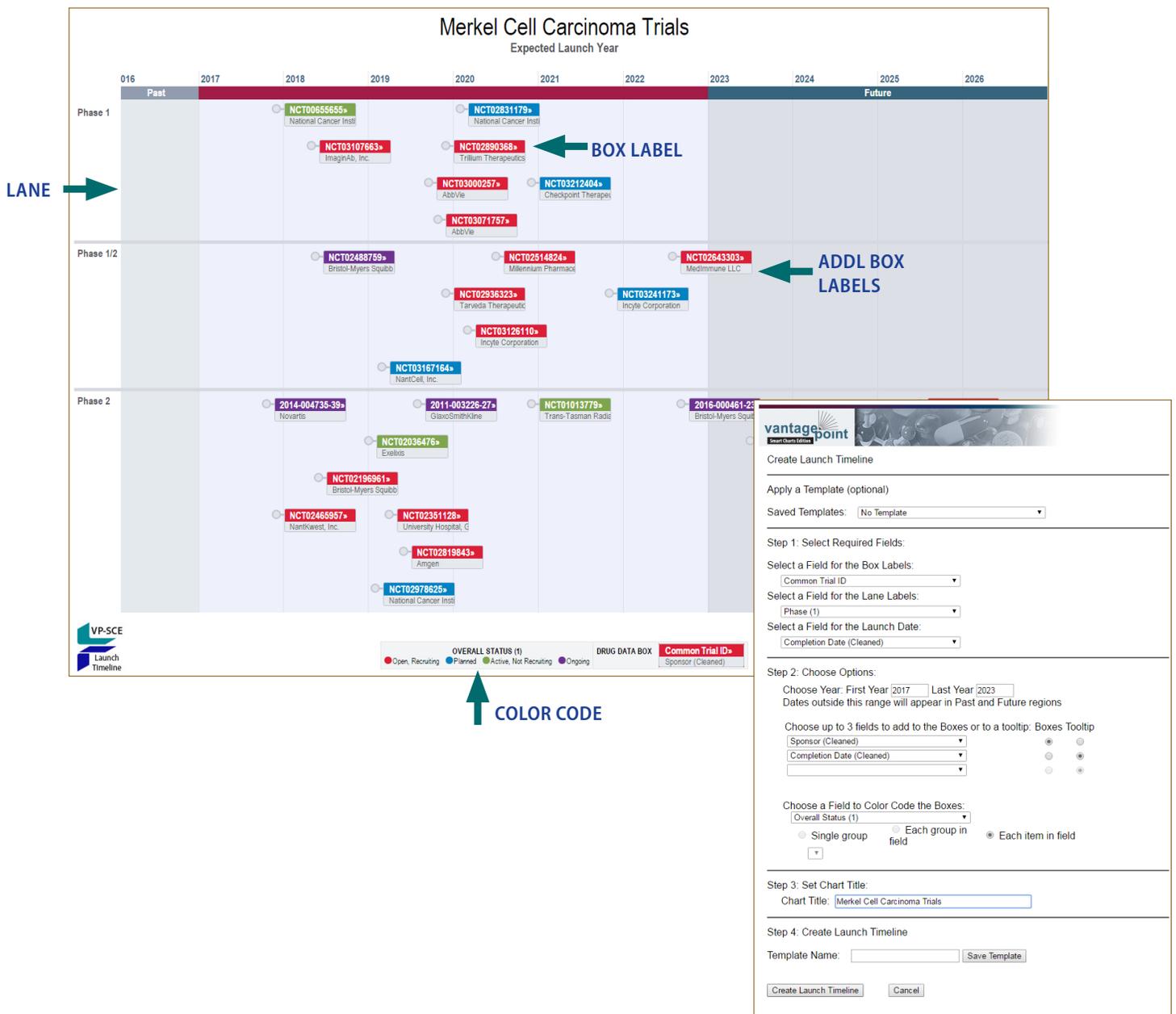
*If you have problems at any step, go back and check that you did not skip a step.*

*Do not hesitate to contact us at “support@bizint.com” for help!*

# Training (2): Trial Completion Timeline

## [Trials CT-12]

In this second recipe, you will clean-up trial completion dates and use your previously cleaned data to create a trial completion timeline. The timeline shows estimated completion dates for a set of trials arranged into horizontal categories, or lanes. This type of chart is also sometimes called a “swimlane” or “fishbone” chart. The trial completion timeline is created in VP-SCE and can be saved as an interactive HTML report.



This recipe requires files which can be found at:  
[www.bizint.com/vptraining](http://www.bizint.com/vptraining)

## Training (2): Trial Completion Timeline [Trials CT-12]

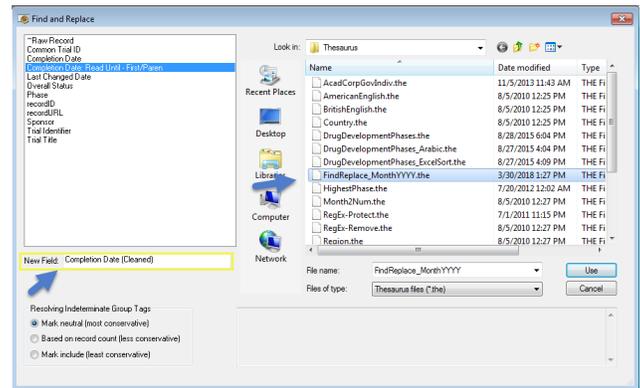
### How did we create this?

This recipe is a continuation of the first recipe in this series and uses the VP-SCE file created in the Training (1) recipe.

**FILES:** FindReplace\_MonthYYYY.the (Contact support@bizint.com for the files and installation directions)

#### VANTAGEPOINT - SMART CHARTS EDITION - Clean-up completion dates

1. **Remove text from completion date:** On the Summary Sheet, right-click on the completion date field and select **Further Processing | Read Until - First | Paren**.
2. **Convert partial dates:** Go to **Fields | Find and Replace** to open the Find and Replace panel. On the left side of this panel under "New Field:" change the field name to "Completion Date (Cleaned)" so that you have a more manageable field name. Then select FindReplace\_MonthYYYY.the and click **Use**. *Note: if you don't see this file, under Look In, go up one level to VantagePoint - SCE and select the Thesaurus folder.*



#### VANTAGEPOINT - SMART CHARTS EDITION - Create the visualization

3. **Create the Launch Timeline:** Use **Scripts | Create Launch Timeline** and select the fields that you want to include in your launch timeline.
  - Field for **Box Labels:** used for the box label - white text on colored background (e.g. Common Trial ID in this example).
  - Field for **Lane Labels:** used to label the lanes on the left of the timeline (e.g. Phase (I)).
  - Field for the **Launch Date:** the cleaned completion date, used to plot the boxes (e.g. Completion Date (Cleaned)).
  - First Year/Last Year: defines the date range of the launch timeline (e.g. 2017 and 2023).
  - Fields for boxes/tooltips: optional additional labels for the drug boxes (up to 3). These fields can also be used as "tooltips" when your mouse hovers over the drug box in the HTML version. (e.g. Sponsor (Cleaned) with Boxes selected, and Completion Date (Cleaned) with Tooltip selected).
  - Field for color code: used to color code the trial boxes (e.g. Overall Status (1)). For the radio button, select "Each item in Field."
  - Type "Merkel Cell Carcinoma Trials" for the Chart Title. Your script panel should look like the previous page.
4. Click on the **Create Launch Timeline** button to open your launch timeline in a VP-SCE window. In VP-SCE, you can click on each box to get more detail. *Note: The timeline adjusts to the size of the window which may result in some variation from the timeline pictured on the previous page.*
5. To save the launch timeline, click the camera icon:  in the toolbar. You can save as HTML or as an image. *Timelines saved as HTML can be opened in a browser window and have some interactive features- you can zoom, scroll, see tooltips, and click on a trial id to view the record on CT.gov or EudraCT.*
6. You can edit the title, subtitle and other information in the HTML window or the VP-SCE window.
7. Try running the Create Launch Timeline script again, but this time use Overall Status (1) for the Lane Labels and Phase (1) for the color code field, to create a slightly different visualization of the same data.
8. If you had the original BizInt Smart Charts clinical trial chart, you could export your cleaned up fields back into this chart as new columns.

We hope these recipes have helped you learn some of the basic features of VantagePoint - Smart Charts Edition (VP-SCE).  
The next step is to try the tools with your own project!

# Summarizing Clinical Trial Enrollment

## [Trials CT-4]

Other recipes in this Cookbook show how you can create trial timelines grouped by any aspect of the data, including enrollment. But which enrollment number do you use? This recipe shows how you can use Reference Rows to build a single row for each trial that includes a summary table showing enrollment number and update date from each database. The chart used here is the same set of trials for drugs targeting PARP used in the trial timeline recipes in this Cookbook.

You can also create a summary table showing the enrollment in each member state for each trial. The EudraCT (EU Clinical Trials) database provides trial records for a trial in each member country. BizInt Smart Charts tools help you identify related trials and summarize the data for all EU trials in a single row.

Trial Title	Common Trial ID	Database	Countries	Enrollment (Most Recent Trial)	Enrollment - Database Summary			
					Database	Enrollment	Last Changed Date	
21. Rucaparib(CO-338;Formally Called AG-014699 or PF-0136738) in Treating Patients With Locally Advanced or Metastatic Breast Cancer or Advanced Ovarian Cancer	NCT00664781	21.1 NCT   link	United Kingdom England Multinational Scotland	114	ClinicalTrials.Gov	84 (Anticipated)	2013-10-07	21.1
		21.2 ACT3   link			Adis Clinical Trials Database	114	2013-11-11	21.2
		21.3 TROVE   link			Citeline TrialTrove	84-114	2013-10-12	21.3
		21.1 NCT			21.2 ACT3			
22. PARP Inhibition for Triple Negative Breast Cancer (ER-/PR-/HER2-)With BRCA1/2 Mutations	NCT01074970	22.1 NCT   link	United States USA	135	ClinicalTrials.Gov	135 (Anticipated)	2013-09-12	22.1
		22.2 ACT3   link			Adis Clinical Trials Database	135	2013-09-19	22.2
		22.3 TROVE   link			Citeline TrialTrove	135-250	2013-07-06	22.3
		22.1 NCT			22.2 ACT3			

### Pertussis Trials - Enrollment in EU (EudraCT - Oct2015)

Trial Identifier	Database	EU Trial Summary		Enrollment (Total)	Phase	Population	Study Design					
		Member State	Enrollment in State									
23. A Phase III Exploratory Study of Drug Treatment in Diabetic Edema	EudraCT 2004-001175-19 102247	1.1 EUDRACT   link	Spain - AEMPS	345	3990	Phase III	Infants and toddlers Healthy volunteers	Prophylaxis Safety Efficacy Controlled Randomised Double blind Parallel group				
		1.2 EUDRACT   link	Italy - Italian Medicines Agency									
		1.3 EUDRACT   link	Finland - Fimea	2490								
		1.4 EUDRACT   link	Czech Republic - SUKL	300								
1.1 EUDRACT			3.1 EUDRACT		1.1 EUDRACT		1.1 EUDRACT					
24. A Study (ADP.R) Polymers PF-0136738 in Combination With Several Chemotherapy Regimes	EudraCT 2005-001288-73 104703, 104704	2.1 EUDRACT   link	Austria - BASG	100	500	Phase II	Infants and toddlers Children Healthy volunteers Subjects incapable of giving consent personally	Prophylaxis Safety Dose response Controlled Randomised open, partially double-blind				
		2.2 EUDRACT   link	Germany - PEI	400								
		2.1 EUDRACT							2.1 EUDRACT		2.1 EUDRACT	
		3.1 EUDRACT							3.1 EUDRACT		3.1 EUDRACT	
23. EudraCT 2005-003508-12 010	EudraCT 2005-003508-12 010	3.1 EUDRACT   link	Belgium - FPS Health-DGM	100	522	Phase IV	Infants and toddlers Healthy volunteers	Safety Controlled Randomised Double blind				
		3.2 EUDRACT   link	Austria - BASG	60								
		3.3 EUDRACT   link	Germany - PEI	372								
		3.1 EUDRACT							3.1 EUDRACT		3.1 EUDRACT	
24. EudraCT 2010-019730-27 113994	EudraCT 2010-019730-27 113994	4.1 EUDRACT   link	Germany - PEI	100	600	Phase II	Infants and toddlers Healthy volunteers Subjects incapable of giving consent personally	Prophylaxis Safety Efficacy Controlled Randomised Parallel group observer blind				
		4.2 EUDRACT   link	Czech Republic - SUKL	250								
		4.3 EUDRACT   link	Poland - Office for Medicinal Products	400								
		4.4 EUDRACT   link	Sweden - MPA	100								
4.1 EUDRACT			4.1 EUDRACT		4.1 EUDRACT		4.1 EUDRACT					

## Summarizing Clinical Trial Enrollment [Trials CT-4]

### How did we create this?

#### SEARCHES:

- **Overall Trial Enrollment:** We searched ClinicalTrials.gov, Citeline TrialTrove and Adis Clinical Trials Insight for trial records for Niraparib, BMS-673 & Rucaparib (and synonyms) -- three Phase III PARP drugs identified in the pipeline recipe.
- **Enrollment by Member States:** We searched EudraCT (EU Clinical Trials) for pertussis trials and downloaded each page of trials.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Run the **Identify Common Trial IDs** tool and sort by Common Trial ID. Review and make changes if needed.
3. Save the chart and send to Reference Rows using the toolbar icon (or **File | Send to Reference Rows**).

#### BIZINT SMART CHARTS REFERENCE ROWS

4. During the Create Reference Rows wizard for the overall trial enrollment example, make sure that ClinicalTrials.gov is listed as the first database.
5. When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking and rules. *Follow the steps in one or both of the next two sections to create the summary you need.*

#### BIZINT SMART CHARTS REFERENCE ROWS - Overall Trial Enrollment

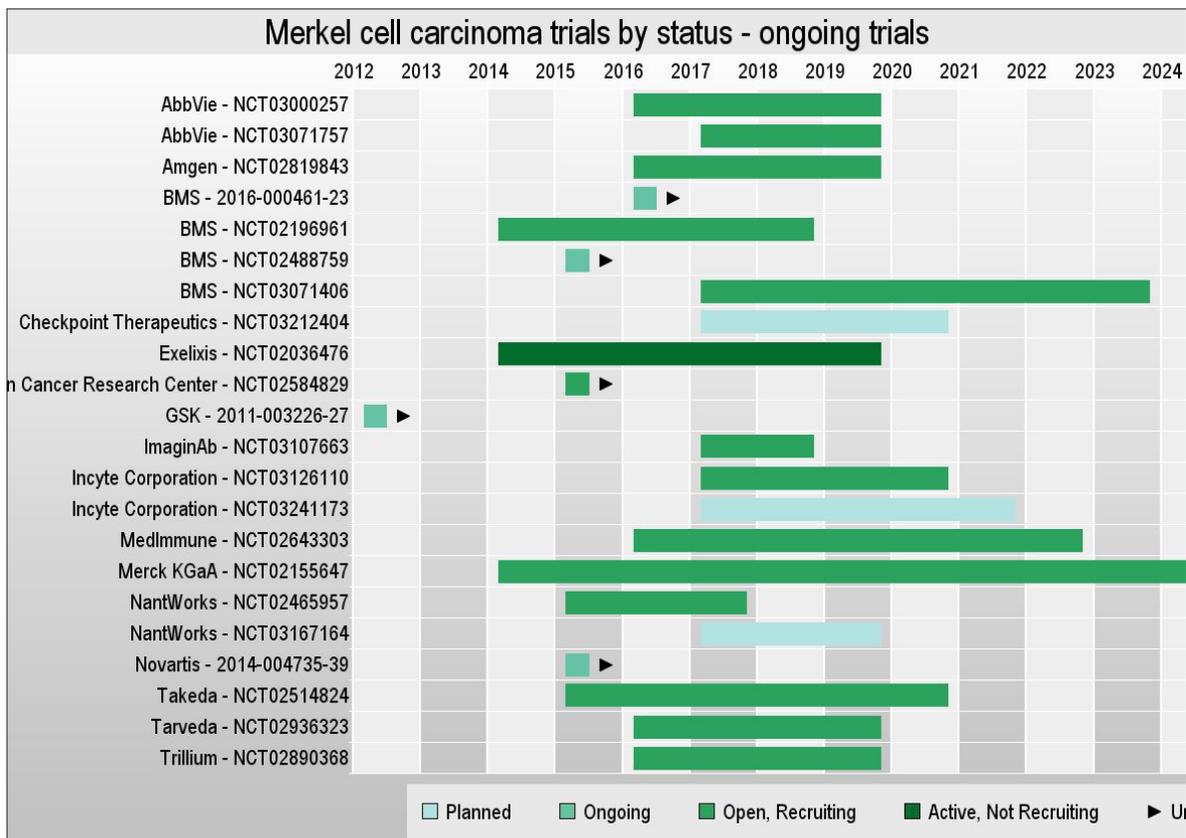
6. **Create the Overall Enrollment Subtable:** In the Selection View, run **Tools | Create Subtable from Columns**.
7. Select the Database, Enrollment and Last Changed Date columns in that order and press Apply. A new column will be created containing a subtable with these three columns.
8. Double click on the column header to rename the new column from Untitled Subtable to "Enrollment - Database Summary".
9. **Set the Export to Show Enrollment from all Sources:** Use **Reference Rows | Column Rules...** to set the rule for the new column to Summarize All Values. Blue hash marks will appear in the cells.
10. Hide any columns you do not want displayed in your final report.
11. Use **File | Export** to export the report to HTML and see the summary subtable..

#### BIZINT SMART CHARTS REFERENCE ROWS - Enrollment for All Member States

12. **Create the Country Enrollment Subtable:** In the Selection View, run **Tools | Create Subtable from Columns**.
13. Select the Member State and Enrollment in State columns in that order and press Apply. A new column will be created containing a subtable with these two columns.
14. Double click on the column header to rename the new column from Untitled Subtable to "EU Trial Summary".
15. **Change the column rule to summarize enrollment for each trial:** Use **Reference Rows | Column Rules...** to set the rule for the new column to Summarize All Values. Blue hash marks will appear in the cells.
16. Hide any columns you do not want displayed in your final report.
17. Use **File | Export** to export the report to HTML and see the summary subtable.

# Creating Clinical Trial Timelines Showing Trial Status [Trials CT-1]

This recipe shows how you can build trial timelines using fields beyond phase. In this example we will map trials by status for ongoing trials for Merkel cell carcinoma. This example was created with search results from ClinicalTrials.gov and the EU Clinical Trials Registry. BizInt Smart Charts Reference Rows was used to build a more complete single record for each trial using information from both sources. We then exported to VantagePoint – Smart Charts Edition (VP-SCE) to normalize and extract the data and generate the timeline. A thesaurus is used to group each trial into a normalized status which determines the color coding for the timeline. The same technique is applicable to trials aspects beyond phase and trial status — please contact us about extending this or any recipe.



## Creating Clinical Trial Timelines Showing Trial Status [Trials CT-1]

### How did we create this?

#### SEARCHES:

- **Clinical Trials:** We searched ClinicalTrials.gov and the EU Clinical Trials Registry for trial records for Merkel cell carcinoma. *Trial field names in this recipe are from ClinicalTrials.gov.*

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE - *create your combined chart*

1. Import each set of search results into BizInt Smart Charts and use the **File | Combine** feature to create a combined chart.
2. Use **Tools | Identify Common Trial IDs** and then sort by the Common Trial ID column.
3. Scroll through the chart to review the matched trials (row shading indicates each set of trials) and revise if necessary by manually editing the Common Trial ID. Re-sort by Common Trial ID.
4. Make the columns Completion Date, Start Date, and any columns you wish to use to color code your timeline visible using **View | Columns**. For this recipe we will use Overall Status. *Fields may be combined with Common Trial ID in VP-SCE to create a more informative timeline.* If you wish to use any additional columns in your timeline, such as Drugs or Sponsor(s), make them visible as well. We will use the Sponsor(s) column.
5. Save and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS - *select earliest start date and latest completion date for each trial*

6. In the wizard, click Next and then click Finish. *DO NOT Regenerate the Common Trial IDs if you edited any Common Trial IDs in Step 3.*
7. Right click in the Start Date column and choose Edit Column Rule. Change the rule for Start Date to Earliest Date and repeat to change the rule for Completion Date to Latest Date.
8. Make sure that the Common Trial ID, Start Date, Completion Date, Overall Status, Sponsor(s), and any other fields you plan to use are visible.
9. Use **File | Export** to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION - *clean up the data and create the trial timeline*

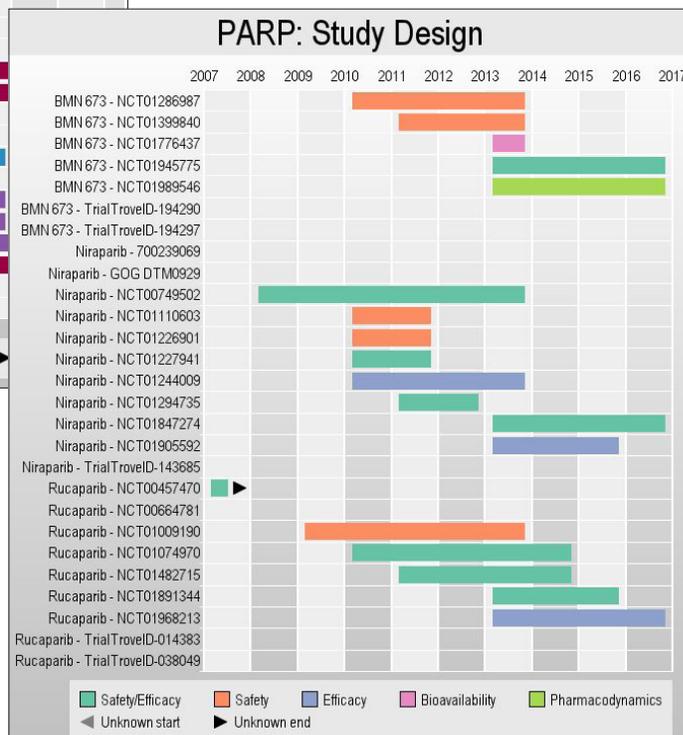
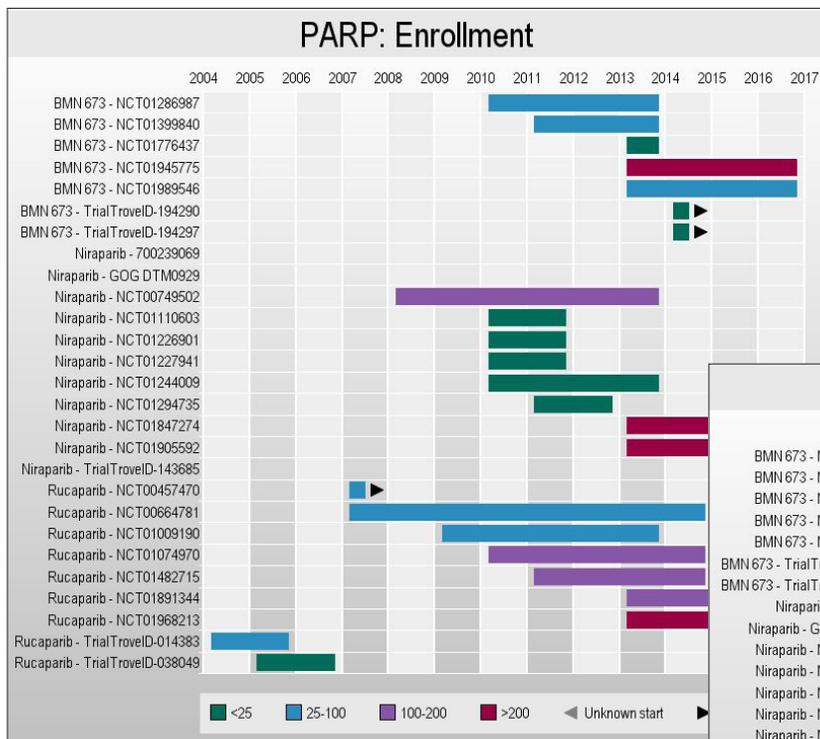
10. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using **File | Import**.
11. **Extract the year for the start date and completion date:** From the Summary sheet, right-click on Start Date, and select **Further Processing | Dates | Extract Years**. Repeat this step for the Completion Date field.
12. **Create groups for the timeline:** Go to **Sheets | Add List** and select the Overall Status list, and choose **Groups | Group using Thesaurus....** Click Next to skip step 1. Then click Browse and select the TrialStatus thesaurus to group the trials by status.
13. To have the timeline reflect the correct status order you may need to reorder the groups. Go to **Groups | Edit Groups** and click on group names and use the arrow buttons to reorder as needed. *Any field may be used here, as long as you create groups, either by thesaurus, as above, or manually by selecting rows and selecting Add Selection to Group... from the right-click menu.*
14. **Create trial labels for your timeline:** Return to the Summary Sheet using **Sheets | Summary**. Right-click on Sponsor(s) and Choose List Cleanup, select the General.fuz file, and click Use.
15. Use the Cleanup Confirm panel to clean up sponsors. Cleanup Confirm provides different tools, you can:
  - Enter keywords or partial keywords in the Find box, click the Add button, and switch the display to Custom Set of Items. To search additional keywords you can Add to the list or use Remove All to clear the Custom Set.
  - Drag and drop terms onto other terms to group them.
  - Cut a term and Paste it onto another term to do the same thing.
  - Right-click on a term and select Rename Term.
16. Using **Scripts | Concatenate Fields**, choose the cleaned sponsors field as the first field and Common Trial ID as the second field. Type " - " (hyphen with a space on either side) as the field separator. Name the new field "Sponsor + Trial ID" and click OK.
17. **Create the trial timeline:** Select **Scripts | Timeline Gantt**. Select Sponsor + Trial ID as the field to chart. Select the fields for the start and completion years, and from the Select Category Field drop-down select the field where you have created groups, in this case Overall Status. Enter a title for the timeline graphic, such as "MCC trials by status - ongoing", and click OK.
18. You can save the timeline as a .jpg file by clicking the camera icon: .

# Creating Clinical Trial Timelines Showing Enrollment & Study Design

## [Trials CT-3]

This recipe shows how you can build trial timelines using any field. In this example we will map trials by study type classification and enrollment for trials with drugs targeting poly ADP ribose polymerase (PARP), a target in trials for cancer. The same technique is applicable to other trials aspects — please contact us about extending this or any recipe.

A search for selected PARP drugs was conducted in ClinicalTrials.gov, Citeline TrialTrove, and Adis Clinical Trials Insight. BizInt Smart Charts Reference Rows was used to build a more complete single record for each trial using information from all three sources. We then exported to VantagePoint – Smart Charts Edition (VP-SCE) to normalize and extract the data and generate the timeline.



## Creating Clinical Trial Timelines Showing Enrollment & Study Design [Trials CT-3]

### How did we create this?

#### SEARCHES:

- **Clinical Trials:** We searched ClinicalTrials.gov, Citeline TrialTrove and Adis Clinical Trials Insight for trial records for Niraparib, BMS-673 & Rucaparib (and synonyms) -- three Phase III PARP drugs identified in the pipeline recipe. *Trial field names in this recipe are from ClinicalTrials.gov.*

**RECIPES:** Cleaning up Drug Names in Trial Data using Pipeline sourced Synonyms

**FILE:** study\_classification\_kw.txt (Contact support@bizint.com for the file and installation directions)

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE - *create your combined chart*

1. Import each set of search results into BizInt Smart Charts and use the **File | Combine** feature to create a combined chart.
2. Use **Tools | Identify Common Trial IDs** and then sort by the Common Trial ID column.
3. Scroll through the chart to review the matched trials (row shading indicates each set of trials) and revise if necessary by manually editing the Common Trial ID. Re-sort by Common Trial ID.
4. Make the Completion Date, Start Date, Drugs, Enrollment, and Study Design columns visible using **View | Columns**.
5. Save and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS - *select earliest start date and latest completion date for each trial*

6. In the wizard, DO NOT Regenerate the Common Trial IDs if you edited any Common Trial IDs in Step 3.
7. Right click in the Start Date column and choose Edit Column Rule. Change the rule for Start Date to Earliest Date and repeat to change the rule for Completion Date to Latest Date and Enrollment to Most Recently Updated.
8. Use **File | Export** to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION - *clean up the data and create the trial timeline*

9. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using **File | Import**.
10. **Extract the year for the start date and completion date:** From the Summary sheet, right-click on Start Date, and select **Further Processing | Dates | Extract Years**. Repeat this step for the Completion Date field.
11. **Import the keywords list:** Use **View | My Keywords** to display it if not already checked. Click on the key icon in the top right of the My Keywords panel and select **Import Keyword Lists**. Choose study\_classification\_kw.txt. If you don't have the file, contact support@bizint.com.
12. **Extract study design terms:** Use **Key Icon | Extract My Keywords From** and choose Study Design. This will create a new field Study Design : study\_classification\_kw.
13. **Create study design groups** Right-click on each item in the new field and select Add Selection to Group and use the name of the term as it should appear in the color key for the timeline.
14. **Create enrollment groups:** Use **Sheets | Add List** and select Enrollment to view enrollment numbers.
15. To have the timeline reflect the correct order you may need to reorder the groups. Go to **Groups | Edit Groups** and click on group names and use the arrow buttons to reorder as needed.
16. Decide on ranges of enrollment numbers to use. Select all the rows in a range, then right-click and add selection to group. Name the group as it should appear in the key, such as "<25" or "25-100". Repeat until all rows are in a group.
17. **Create trial labels for your timeline:** You can combine Common Trial ID with another field to create a trial label. In this recipe we use drug names, cleaned using the recipe, Technique: Using Pipeline Data to Cleanup Drug Names in Trial Data. *Whatever field you choose does not need to be unique, but there should be only one value per trial.*
18. Using **Scripts | Concatenate Fields**, choose the cleaned Drugs field created with the companion recipe as the first field and Common Trial ID as the second field. Type " - " (hyphen with a space on either side) as the field separator. Name the new field "Drug + Trial ID" and click OK.
19. **Create the trial timelines:** Select **Scripts | Timeline Gantt**. Select Drug + Trial ID as the field to chart. Select the fields for the start and completion years, and from the Select Category Field drop-down select Study Design : study\_classification\_kw. Enter a title for the timeline graphic, such as "PARP: Study Design", and click OK.
20. Repeat the previous step, this time selecting Enrollment as the Category Field.
21. You can save the timeline as a .jpg file by clicking the camera icon: .

# Trial Indications by Phase with a Bubble Chart [Trials CT-9]

This is one example of a bubble chart created with VantagePoint – Smart Charts Edition (VP-SCE) using data exported from BizInt Smart Charts Drug Development Suite. For another example with pipeline data, see Charting Indications by Phase with a Bubble Chart. Here the chart shows clinical trial indications by phase based on records from ClinicalTrials.gov, Citeline TrialTrove, and Adis Clinical Trials Insight. The subject of the search was trials with selected poly ADP ribose polymerase (PARP) inhibitors. A single record for each trial was created with BizInt Smart Charts Reference Rows and then exported to VP-SCE where we normalized trial phases and used the list cleanup tool to clean indications by creating a custom thesaurus. Then we used VP-SCE to generate the bubble chart.



## Charting Trial Indications by Phase with a Bubble Chart [Trials CT-9]

### How did we create this?

#### SEARCHES:

- We searched Citeline TrialTrove and Adis Clinical Trials Insight for trial records for Niraparib, BMS-673 & Rucaparib (and synonyms) -- three Phase III PARP drugs identified in the pipeline recipe.  
*Trial field names in this recipe are from ClinicalTrials.gov.*

*Note: This recipe is for VP-SCE 10 users; if you are using an earlier version, please refer to the October 2015 Cookbook.*

#### BIZINT SMART CHARTS FOR CLINICAL TRIALS

1. Import each set of search results into BizInt Smart Charts and use the **File | Combine** feature to create a combined chart.
2. Run the Identify Common Trial IDs tool and sort by the Common Trial ID field.
3. Display the Conditions and Phase columns.
4. Save the file and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS

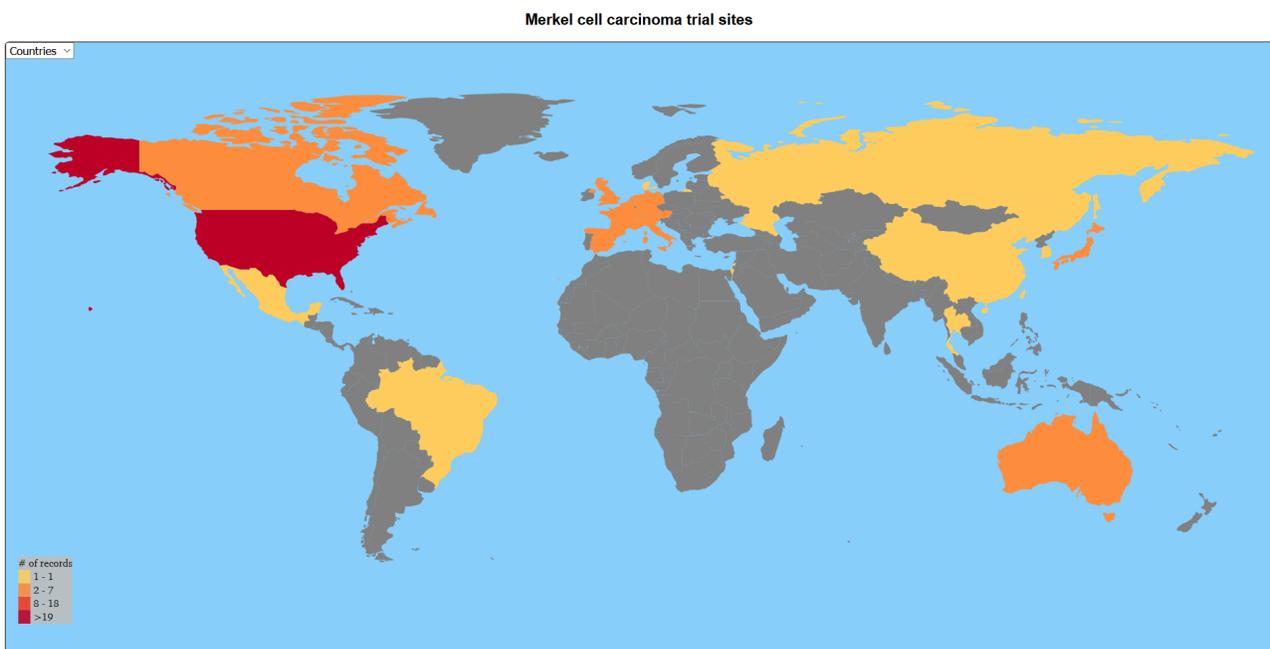
5. Change the rule for Conditions to Summarize All Values.
6. Use **File | Export** to export the visible columns to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

7. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using **File | Import**. Save your .vpt file.
8. **Ensure phase order sort:** Right-click on the Phase field and choose **Set Data Type | Custom | Phase**.
9. Right-click on Phase and select **Thesaurus...** and choose the "DrugDevelopmentPhases.the" file
10. **Cleanup Indications (Conditions):** If there are conditions containing data in parentheses, apply **Fields | Further Processing | Read Until - First | Paren** to remove qualifiers in parenthesis.
11. Go to **Fields | List Cleanup...** and select Condition: Read Until - First/Paren from the field list. Select the General.fuz file, and click Use.
12. Use the Cleanup Confirm panel to clean up indications.
13. Cleanup Confirm provides different tools, you can:
  - Enter keywords or partial keywords in the Find box, click the Add button, and switch the display to Custom Set of Items. To search additional keywords you can Add to the list or use Remove All to clear the Custom Set.
  - Drag and drop terms onto other terms to group them.
  - Cut a term and Paste it onto another term to do the same thing.
  - Right-click on a term and select Rename Term.
14. If you're working in this area often, consider saving the cleanup as a Thesaurus.
15. Select the top conditions, then right click to select Add Selection to Group.... In the New Group panel, type the word "top" and click OK. *You may also want to uncheck generic indications like "Cancer" or "Unspecified solid tumor."*
16. Save your .vpt file.
17. **Create the Bubble Chart:** From the Scripts menu, select Bubble Chart and a Browser window will open with options for the script.
18. For step 1, select the cleaned conditions field: Condition: Read Until - First/Paren (Cleaned) and change the radio button to Select a group. The field name will be different depending on the processing steps you used earlier.
19. For step 2, change the radio button to Select Any, and select Phase (1) from the drop-down.
20. For step 3, you can check the box to show record count in the bubbles and then scroll to the bottom of the window and click OK. A bubble chart showing conditions by phase will be created.

## Mapping Trial Locations [Trials CT-7]

This map shows relative density of clinical trials by country for trials for Merkel cell carcinoma. It was built using a search of ClinicalTrials.gov and the EU Clinical Trials Registry. The records were combined with BizInt Smart Charts Drug Development Suite and BizInt Smart Charts Reference Rows was used to send a single record per trial to VantagePoint – Smart Charts Edition (VP-SCE). VP-SCE was used to normalize country terminology and generate the map.



## Mapping Trial Locations [Trials CT-7]

### How did we create this?

#### SEARCHES:

- **Clinical Trials:** We searched ClinicalTrials.gov and the EU Clinical Trials Registry for trial records for Merkel cell carcinoma.  
*Trial field names in this recipe are from ClinicalTrials.gov.*

#### BIZINT SMART CHARTS FOR CLINICAL TRIALS

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Run the Identify Common Trial IDs tool, and then sort by the Common Trial ID column.
3. Scroll through the chart to review the matched trials (every time the row shading changes, you're in a new group).  
*Most of the groups should be sensible - one to three records on a trial. If you see groups containing larger numbers of records, you may want to make the Trial Identifier column visible, so you can review Common Trial ID assignment and in some cases manually edit the Common Trial ID column as appropriate.*
4. Re-sort by Common Trial ID.
5. Make the Countries column visible.
6. Save your chart and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS

7. In Step 1 of the wizard, DO NOT Regenerate the Common Trial IDs if you edited the Common Trial IDs in Step 3.
8. Change the rule for Countries to Most content (lines).
9. Use **File | Export** to export the visible columns to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

10. If the file does not launch automatically in VP-SCE, then import the .vpxi file into VP-SCE using **File | Import**. Save your .vpt file.
11. **Tag Countries as a Country field:** Right-click on Countries and choose Set Meta Tags. Select Country on the right-hand column and click the left arrow button and then click OK.
12. Double-click on Countries to view the list. *VP-SCE uses a thesaurus to normalize countries which can handle common variations, so you may skip to the final step and use the Countries field directly if you wish, but you won't have the same level of control.*
13. Bring up the **Fields | List Cleanup...** panel. Select the General.fuz fuzzy match file, and click Use.
14. Change the radio button to Display All Items and click on Item Name to sort. Manually match up country synonyms (like UK and United Kingdom) by drag and drop. When you are done, click Accept (do not save as thesaurus).
15. Choose **Scripts | World Map**. A world map will automatically be generated. *You can click on the title to edit or click on a country to zoom and double-click to zoom out.*

# Extracting the Highest Phase for an Indication [Pipeline DP-4]

In this example, we've used VantagePoint - Smart Charts Edition to normalize indications and phase terminology, and to create a copy of the Drug Development Phase subtable filtered for a specific indication (hepatitis C). In BizInt Smart Charts Drug Development Suite, we then run the new "Extract High Phase in Column" tool to extract the highest phase from the filtered subtable into a new column.

SUBTABLE FILTERED FOR HEPATITIS C

CLEANED HIGHEST PHASE

Drug	Drug Development Phase			Drug Development Phase:Hep C			Highest Phase (All Indications)	Extracted Highest Phase (Hepatitis C)
	Indication	Phase	Country	Indication: Hep C	Phase (Arabic)	Country		
interleukin-2, Medusa, Flamel	Cancer, renal	Phase II		hepatitis C	No Development Reported		Phase 2	No Development Reported
	Cancer, melanoma	Phase II						
	Infection, HIV/AIDS	No Development Reported						
	Infection, hepatitis-C virus	No Development Reported						
Aldesleukin	Malignant melanoma	Marketed	Canada, USA	hepatitis C	Discontinued	Spain	Launched	Discontinued
	Renal cancer	Marketed	Asia, Canada, European Union, Israel, South America, South Korea, USA					
	Renal cancer	Registered	Australia					
	Cancer	Phase II	USA					
	Non-Hodgkin's lymphoma	Discontinued(III)	USA					
	Hepatitis C	Discontinued(II)	Spain					
	Ovarian cancer	Discontinued(II)	USA					
	HIV-1 infections	No development reported(III)	Australia, USA					
Alequel	Crohn's disease	Phase II		hepatitis C	No Development Reported		Phase 2	No Development Reported
	Cancer, liver	No Development Reported						
	Infection, hepatitis-C virus	No Development Reported						
	Infection, hepatitis-B virus	No Development Reported						
	Transplant rejection, bone marrow	No Development Reported						
Alfaferone	Hairy cell leukemia	Pre-registration	Argentina	hepatitis C	Launched	Italy	Launched	Launched
	Hairy cell leukemia	Registered	Brazil					
	Hairy cell leukemia	Launched	Italy					
	Hairy cell leukemia	Pre-registration	Mexico					
	Hairy cell leukemia	Pre-registration	Poland					
	Hairy cell leukemia	Pre-registration	Spain					
	Hairy cell leukemia	Pre-registration	Spain					
	Hepatitis C virus infection	Pre-registration	Argentina					
Hepatitis B virus infection	Registered	Brazil						
Hepatitis B virus infection	Launched	Italy						

HIGHEST PHASE COLUMN EXTRACTED FROM THE FILTERED SUBTABLE

## Extracting the Highest Phase for an Indication [Pipeline DP-4]

### How did we create this?

#### SEARCHES:

- Indication = hepatitis C. Adis R&D Insight (web): 407 records; Citeline Pipeline (web): 554 records; IMS R&D Focus (Ovid): 393 records; Cortellis (web): 565 records.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE (VERSION 3.5.6 OR HIGHER)

1. Open your combined pipeline chart, with the Drug Development Phase and Highest Phase columns visible.
2. Use **File | Export** to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION

3. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**.
4. **Normalize Phases:** On the Summary Sheet, Right-click on Highest Phase field, select **Thesaurus...** and choose the DrugDevelopmentPhases\_Arabic.the file. This will normalize the phases using Arabic numbers.
5. Repeat this for the Phase sub-field in the Drug Development Phase field. Use **Sheets | Summary** to return to the Summary.
6. Right-click on the Highest Phase (1) field and select **Rename Field** to rename the field "Highest Phase (All Indications)".
7. Repeat to rename the sub-fields in the Drug Development Phase field. Rename Phase (1) to "Phase - Arabic",
8. **Clean up your selected indication:** On the Summary panel, double-click on Indication under Drug Development Phase.
9. If there are Indications containing data in parentheses, apply **Fields | Further Processing | Read until - First | Paren** to remove qualifiers in parenthesis after indications.
10. Bring up the **Fields | List Cleanup...** panel. Select Drug Development Phase:Indication:: Read Until - First/Paren from the field list on left. Select the General.fuz file, and click Use.
11. Select the Custom Set of Items radio button on the right side of the panel, type "hep" into the Find box, click the Regular Expression check box, and select Add. Drag and drop all the Hepatitis C items into a single item and then click Accept. *Saving the thesaurus is optional but can save time for future cleanup tasks.* You will now have a new sub-field: Indication:: Read Until - First/Paren (Cleaned).  
*To create the filtered subtable, you do not need to cleanup any other indications beyond Hepatitis C.*
12. Rename "Indication:Read Until - First/Paren (Cleaned)" to "Indication - Hep C". *Note: Rename the subfields in VP-SCE before you export!*
13. **Filter the subtable by your Indication:** In the Summary panel, double-click on the Drug Development Phase field. Double-click on Indication-Hep C to sort the subfield alphabetically. Shift-click to select all the Hepatitis C items, and from the right-mouse menu, select Add Selection to Group. Type in "Hep C" under New group and click OK. A new column with check marks for all the Hepatitis C items will be created.
14. Select **Fields | Create Field from Group Items**. Select the Hep C item under Drug Development Phase; click OK.
15. **Export filtered subtable and normalized phases back to BizInt Smart Charts:** Select **File | Export Fielded Records**. In the Export Wizard, uncheck the boxes for all fields except Drug Development Phase: Hep C, Highest Phase (All Indications), and recordID. Click OK to export.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

16. When BizInt Smart Charts Drug Development Suite comes to the foreground, select the original chart. It will redisplay with two new columns -- the **new Drug Development Phase - Hep C subtable** and a new **Highest Phase (All Indications)** column.
17. **Extract the highest phase for your Indication into a new column:** Select the Drug Development Phase - Hep C subtable and then select **Tools | Extract High Phase in Column**. A new column will be created showing the **Extracted Highest Phase from the Hep C subtable**. You can compare this to the Highest Phase (All Indications) column to see where the highest phase for Hepatitis C differs from the highest phase for all indications.

# Highest Phase for an Indication – Database Summary [Pipeline DP-5]

In this example, we've taken the chart from the previous recipe (Extracting the Highest Phase for an Indication) and used BizInt Smart Charts Reference Rows to select a single value for each unique drug. And, we've used tools in BizInt Smart Charts Reference Rows to create a summary of the Hepatitis C Phase and Update Date for each related drug record.

Hepatitis C Pipeline -- HTML exported from Reference Rows							
Drug	Database	Highest Phase (All Indications)	Highest Phase (Hepatitis C)	Database - Hep C Phase - Update Date			
				Database	Highest Phase (Hepatitis C)	Last Update	
1. P-1101	1.1 TPharm   <a href="#">link</a>	Phase 2	No Development Reported	Thomson Pharma	Phase 2	2012-03-26	1.1
	1.2 Adis   <a href="#">link</a>			Adis R&D Insight	Phase 1	2011-02-07	1.2
	1.3 Pipeln   <a href="#">link</a>			Citeline Pipeline	No Development Reported	2012-04-23	1.3
	1.4 IMS   <a href="#">link</a>			IMS R&D Focus	Phase 1	2011-12-15	1.4
	1.1 TPharm			1.3 Pipeln	1.3 Pipeln		
2. nivolumab	2.1 TPharm   <a href="#">link</a>	Phase 2	Phase 1	Thomson Pharma	Phase 1	2012-03-22	2.1
	2.2 Adis   <a href="#">link</a>			Adis R&D Insight	Phase 1	2012-03-04	2.2
	2.3 Pipeln   <a href="#">link</a>			Citeline Pipeline	Phase 1	2012-02-22	2.3
	2.4 IMS   <a href="#">link</a>			IMS R&D Focus	Phase 1	2012-05-02	2.4
	2.1 TPharm			2.4 IMS	2.4 IMS		
3. REP-9AC	3.1 TPharm   <a href="#">link</a>	Phase 2	Preclinical	Thomson Pharma	Phase 2	2012-02-02	3.1
	3.2 Adis   <a href="#">link</a>			Adis R&D Insight	Preclinical	2007-09-25	3.2
	3.3 Pipeln   <a href="#">link</a>			Citeline Pipeline	Preclinical	2012-02-22	3.3
	3.4 IMS   <a href="#">link</a>			IMS R&D Focus		2006-11-13	3.4
	3.5 IMS   <a href="#">link</a>			IMS R&D Focus	Preclinical	2006-11-13	3.5
	3.1 TPharm			3.3 Pipeln	3.3 Pipeln		
4. XTL-2125	4.1 TPharm   <a href="#">link</a>	Phase 1	Phase 1	Thomson Pharma	Phase 1	2012-03-20	4.1
	4.2 Adis   <a href="#">link</a>			Adis R&D Insight	Discontinued	2008-03-07	4.2
	4.3 Adis   <a href="#">link</a>			Adis R&D Insight	Discontinued	2010-05-24	4.3
	4.4 Pipeln   <a href="#">link</a>			Citeline Pipeline	Discontinued	2007-06-11	4.4
	4.5 IMS   <a href="#">link</a>			IMS R&D Focus	Phase 1	2007-05-14	4.5
	4.1 TPharm			4.1 TPharm	4.1 TPharm		



SUMMARY OF HEP C PHASE AND UPDATE DATE

## Highest Phase for an Indication – Database Summary [Pipeline DP-5]

### How did we create this?

#### SEARCHES:

- Indication = hepatitis C. Adis R&D Insight (web): 407 records; Citeline Pipeline (web): 554 records; IMS R&D Focus (Ovid): 393 records; Cortellis (web): 565 records.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE (VERSION 3.5.6 OR HIGHER)

1. Open your combined pipeline chart from the previous recipe, with the extracted highest phase for Hepatitis C column visible.
2. Right-click on the Extracted Highest Phase column and choose **Column Properties**. Rename the column “Highest Phase (Hepatitis C)” and click OK.
3. Save the .cht file.
4. Send the chart to Reference Rows using the toolbar icon (or **File | Send to Reference Rows**).

#### BIZINT SMART CHARTS REFERENCE ROWS (VERSION 1.0.6 OR HIGHER)

5. During the Create Reference Rows wizard, on the second panel, make sure that Cortellis is listed as the first database. Click Next.
6. On the third panel, select the Highest Phase (All Indications) column, click the Edit button and choose the Most Recently Updated rule to select the phase from the most recently updated record. Do the same for the Highest Phase (Hepatitis C) column.
7. When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking and rules.
8. In the Selection View, run **Tools | Create Subtable from Columns**.
9. Select the Database, Highest Phase (Hepatitis C) and Last Update columns in that order and press Apply. A new column will be created containing a subtable with these three columns.
10. Double click on the column header to rename the new column from Untitled Subtable to “Database - Hep C Phase - Update Date”.
11. Use **Reference Rows | Column Rules...** to set the rule for the new column to Summarize All Values. Blue hash marks will appear in the cells.
12. Hide any columns you do not want displayed in your final report.
13. Use **File | Export** to export the report to HTML and see the selected highest phases and the subtable column summarizing the Database/Hep C Phase/Update data.

# Creating Pipeline “Piano Charts” in PowerPoint [Pipeline DP-13]

This recipe describes how to build a piano chart visualization of a drug pipeline, which shows one box for each drug, boxes color-coded by field values, and boxes labeled by multiple fields. In this example we have color coded the boxes by delivery route and included both drug name and originator company in the boxes.

Search results were exported from InfoDesk Pipeline Plus to BizInt Smart Charts Drug Development Suite and then integrated with Reference Rows. In Reference Rows we applied columns rules and reviewed the data to select representative values for each drug. VantagePoint - Smart Charts Edition (VP-SCE) was used to normalize company names and clean-up and simplify delivery routes.

The chart is then built using the “Create Piano Chart” dialog shown below and exported to PowerPoint (or Excel) where it can be further customized.

The screenshot displays the BizInt Smart Charts interface. The main window shows a piano chart titled "Merkel cell carcinoma drugs by indication phase - RoA". The chart is organized into columns representing different stages: Biological Testing, Preclinical, Phase I, Phase II, Launched, Discontinued, and No Development Reported. Each stage contains boxes for various drugs, color-coded by their route of administration. A legend on the right indicates the color coding: Orange for Injectable, Blue for Injectable, Intratumoral, Red for Oral, and Purple for Unknown.

The "Create Piano Chart" dialog box is open in the foreground, showing the configuration steps:

- Apply a Template (optional):** Saved Templates: No Template
- Step 1: Select Required Fields:**
  - Select a Field for the Box Labels: Product
  - Select a Field for the Phase: Highest Phase (Indication)
- Step 2: Choose Options:**
  - Select a Field to add to the Boxes (optional): Originator
  - Add hyperlinks to drug records
  - Choose a Field to Color Code the Boxes: Route of Administration (Cleaned)
- Step 3: Set Chart Title:** Chart Title: carcinoma drugs by indication phase - RoA
- Step 4: Create Piano Chart:** Choose the export format for your chart:  PowerPoint  Excel. Template Name: [empty]. Save Template

## Creating Pipeline “Piano Charts” in PowerPoint [Pipeline DP-13]

### How did we create this?

**NOTE: THIS RECIPE REQUIRES NEW VP-SCE FILES DATED JUNE 2016. GO TO [WWW.BIZINT.COM/PIANO](http://WWW.BIZINT.COM/PIANO) FOR INSTRUCTIONS AND TO DOWNLOAD THE FILES, OR CONTACT [SUPPORT@BIZINT.COM](mailto:SUPPORT@BIZINT.COM).**

*This recipe assumes basic knowledge of using the BizInt Smart Charts tools. For more information on using the features below, refer to the BizInt Smart Charts Mini Guides, or contact [support@bizint.com](mailto:support@bizint.com).*

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE - *create your combined chart*

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** features to create a combined chart
2. Use **Tools | Identify Common Drug Names**.
3. Make the drug name, overall highest phase, company/originator, and Route of Delivery/Administration columns visible using **View | Columns**.
4. Save and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS - *build a single row per drug to send to VP-SCE*

5. Select your desired Database Ranking in the wizard, then click Finish to see the Selection View.
6. Apply Column Rules (for example, Most Recently Updated for the phase field, Least Content (characters) for the company name).
7. **Choose content to include in the piano chart:** Review the selections (indicated by green checkmarks) and edit as needed, either by right-clicking on a different cell and choosing **Select this cell** or by double-clicking in a cell to edit the contents.
8. Use **File | Export** to export as VantagePoint - Smart Charts Edition. VantagePoint - BizInt Smart Charts Edition (VP-SCE) should open and import the file.

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION - *clean fields and build the piano chart*

9. **Clean-up fields used in the Piano Chart (drug name, company, phase, delivery route):** On the Summary screen, right-click on the field name and select List Cleanup. Select the General fuzzy match file and click Use. Use the Cleanup Confirm panel to clean-up terms -- switch the radio button to All items and drag and drop to combine and then click Accept. *Saving the thesaurus is optional.* Repeat with the other fields.  
*Note that a box will be created for each drug and originator pair. If you have more than one originator for a drug you will see multiple boxes for that drug. If you have more than one delivery route per drug, only the first will be used to color the boxes.*
10. **Set Phase as the Data Type for your phase field:** In the Summary Sheet, right click in the Data Type column for your cleaned up Phase field, and select “Custom” and then “Phase” from the “Set Data Type” submenu.
11. **Build the Piano Chart:** Go to **Scripts | Piano Pipeline Chart**. In Step 1, select the fields you want to include in your chart. Choose the drug name field for the Box Labels and your phase field for the Field for the Phase.
12. In Step 2, choose the cleaned originator field to add to the Boxes and the cleaned delivery route as the Field to Color Code the Boxes. Select the check box to add hyperlinks to the boxes if desired. *Note: record links in PowerPoint can be followed in the Slide Show view.*
13. In Step 3, enter a title for your chart. In Step 4, select the radio button for Excel or PowerPoint and click “Create Piano Chart”.
14. VP-SCE will create a new document in PowerPoint or Excel and draw the piano chart. *You can edit the chart in PowerPoint. In Excel, use the option to Copy as Picture to create an image that you can paste into another application. You can also save the selection as a PDF from Excel.*

# Creating Pipeline “Piano Charts” in PowerPoint - type of molecule [Pipeline DP-14]

This recipe describes how to build a piano chart visualization of a drug pipeline, which shows one box for each drug, boxes color-coded by field values, and boxes labeled by multiple fields. In this example we have built a “type of molecule” category using data found in different fields in different databases. We used this to color code the boxes.

Search results were exported from InfoDesk Pipeline Plus to BizInt Smart Charts Drug Development Suite and then integrated with Reference Rows. In Reference Rows we applied columns rules and reviewed the data to select representative values for each drug. VantagePoint - Smart Charts Edition (VP-SCE) was used to normalize company names and create the type of molecule category.

The chart is then built using the “Piano Pipeline Chart” dialog shown below and exported to PowerPoint (or Excel) where it can be further customized.

The screenshot shows a PowerPoint slide titled "Merkel cell carcinoma drugs by indication phase - type of molecule". The slide contains a piano chart visualization with columns for Biological Testing, Preclinical, Phase I, Phase II, Launched, Discontinued, and No Development Reported. Each drug is represented by a colored box spanning across the phases it is in. A legend on the right identifies the color coding for the type of molecule: Antibody (orange), Biological, other (blue), Cell & gene therapy (red), Protein & peptide (purple), Small molecule therapeutic (green), and Vaccine (brown).

Overlaid on the slide is the "Create Piano Chart" dialog box. The dialog has the following sections:

- Create Piano Chart**
- Apply a Template (optional)**: Saved Templates: [No Template]
- Step 1: Select Required Fields:**
  - Select a Field for the Box Labels: [Product]
  - Select a Field for the Phase: [Highest Phase (Indication)]
- Step 2: Choose Options:**
  - Select a Field to add to the Boxes (optional): [Originator]
  - Add hyperlinks to drug records
  - Choose a Field to Color Code the Boxes: [Type of molecule]
- Step 3: Set Chart Title:** Chart Title: [rcinoma drugs by phase - type of molecule]
- Step 4: Create Piano Chart**
  - Choose the export format for your chart:  PowerPoint  Excel
  - Template Name: [ ]

Buttons at the bottom of the dialog are "Create Piano Chart" and "Cancel".

## Creating Pipeline “Piano Charts” in PowerPoint - type of molecule [Pipeline DP-14]

### How did we create this?

**NOTE: THIS RECIPE REQUIRES NEW VP-SCE FILES DATED JUNE 2016. GO TO [WWW.BIZINT.COM/PIANO](http://WWW.BIZINT.COM/PIANO) FOR INSTRUCTIONS AND TO DOWNLOAD THE FILES, OR CONTACT [SUPPORT@BIZINT.COM](mailto:SUPPORT@BIZINT.COM).**

*This recipe assumes basic knowledge of using the BizInt Smart Charts tools. For more information on using the features below, refer to the BizInt Smart Charts Mini Guides, or contact [support@bizint.com](mailto:support@bizint.com).*

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE - *create your combined chart*

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** features to create a combined chart.
2. Use **Tools | Identify Common Drug Names**.
3. Make the drug name, overall highest phase, company/originator, and any columns containing “type of molecule” information visible using **View | Columns**.
4. Save and select **File | Send to Reference Rows** to open the chart in BizInt Smart Charts Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS - *build a single row per drug to send to VP-SCE*

5. Select your desired Database Ranking in the wizard, then click Finish to see the Selection View.
6. Apply Column Rules (for example, Most Recently Updated for the phase field, Least Content (characters) for the company name).
7. **Choose content to include in the piano chart:** Review the selections (indicated by green checkmarks) and edit as needed, either by right-clicking on a different cell and choosing **Select this cell** or by double-clicking in a cell to edit the contents.
8. Use **File | Export** to export as VantagePoint - Smart Charts Edition. VantagePoint - BizInt Smart Charts Edition (VP-SCE) should open and import the file.

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION - *clean fields and build the piano chart*

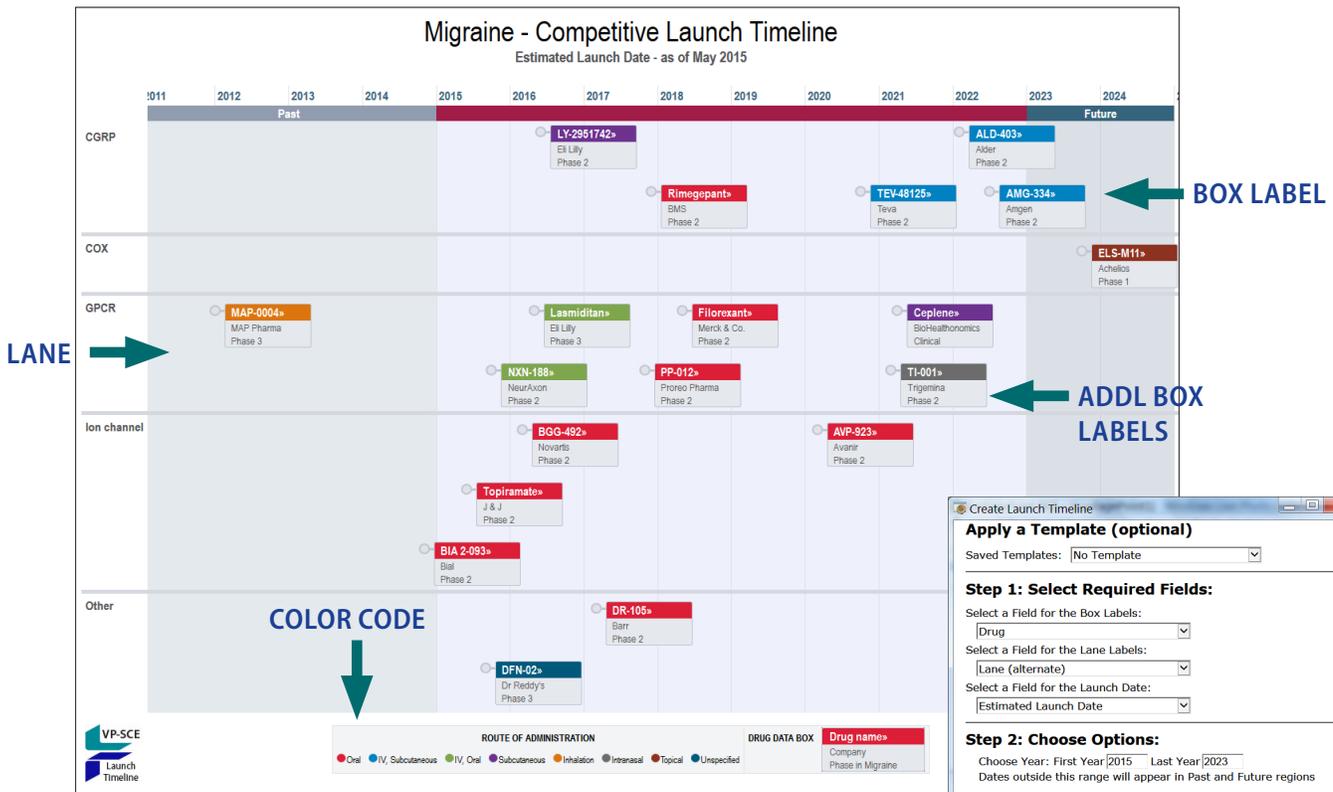
9. **Create a “type of molecule” field by merging fields:** Use **Fields | Merge Fields** and add all the relevant fields to the right-hand list. Name the new field “type of molecule” and click OK.
10. **Clean-up fields used in the Piano Chart (drug name, company, phase, type of molecule):** On the Summary screen, right-click on the field name and select List Cleanup. Select the General fuzzy match file and click Use. Use the Cleanup Confirm panel to clean-up terms -- switch the radio button to All items and drag and drop to combine and then click Accept. *Saving the thesaurus is optional.* Repeat with the other fields. *Note that a box will be created for each drug and originator pair. If you have more than one originator for a drug you will see multiple boxes for that drug. If you have more than one type of molecule category per drug, only the first will be used to color the boxes.*
11. **Set Phase as the Data Type for your phase field:** In the Summary Sheet, right click in the Data Type column for your cleaned up Phase field, and select “Custom” and then “Phase” from the “Set Data Type” submenu.
12. **Build the Piano Chart:** Go to **Scripts | Piano Pipeline Chart**. In Step 1, select the fields you want to include in your chart. Choose the drug name field for the Box Labels and your phase field for the Field for the Phase.
13. In Step 2, choose the cleaned originator field to add to the Boxes and the cleaned type of molecule field as the Field to Color Code the Boxes. Select the check box to add hyperlinks to the boxes if desired. *Note: record links in PowerPoint can be followed in the Slide Show view.*
14. In Step 3, enter a title for your chart. In Step 4, select the radio button for Excel or PowerPoint and click “Create Piano Chart”.
15. VP-SCE will create a new document in PowerPoint or Excel and draw the piano chart. *You can edit the chart in PowerPoint. In Excel, use the option to Copy as Picture to create an image that you can paste into another application. You can also save the selection as a PDF from Excel.*

# Creating a Competitive Launch Timeline

## [Pipeline DP-12-1]

This recipe shows how to create a launch timeline visualization showing estimated launch dates for a set of drugs arranged into horizontal categories, or lanes. This type of chart is also sometimes called a “swimlane” or “fishbone” chart. Most of the data is drawn from a drug pipeline table with an added column for the estimated launch date. The launch timeline is created in VP-SCE and can be saved as an interactive HTML report.

This example shows a competitive launch timeline for migraine drugs in May 2015. The estimated launch dates were calculated and entered manually from trial data.



**Create Launch Timeline**

**Apply a Template (optional)**  
 Saved Templates: No Template

**Step 1: Select Required Fields:**  
 Select a Field for the Box Labels: Drug  
 Select a Field for the Lane Labels: Lane (alternate)  
 Select a Field for the Launch Date: Estimated Launch Date

**Step 2: Choose Options:**  
 Choose Year: First Year 2015 Last Year 2023  
 Dates outside this range will appear in Past and Future regions  
 Choose up to 3 fields to add to the Boxes or to a tooltip:  
 Company  Phase in Migraine  Route of Administration (Cleaned)   
 Choose a Field to Color Code the Boxes:  
 Route of Administration (Cleaned)  Single group  Each group in field  Each item in field

**Step 3: Set Chart Title:**  
 Chart Title: Migraine - Competitive Launch Timeline

**Step 4: Create Launch Timeline**  
 Template Name: Save Template  
 Create Launch Timeline Cancel

## Launch timeline – Creating a Competitive Launch Timeline [DP-12-1]

### How did we create this?

#### SEARCHES:

- Searches were conducted in Adis R&D Insight, Pharmaprojects, and Cortellis. A complementary search was conducted in Citeline TrialTrove and ClinicalTrials.gov for drugs selected for inclusion in the timeline.

**RECIPES:** Extracting the Highest Phase for an Indication

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. **Create a combined chart:** Import each set of search results into BizInt Smart Charts and use [File | Combine](#) to create a combined chart.
2. **Identify related records:** Use [Tools | Identify Common Drug Names](#) to identify related records.
3. Ensure that any columns you want to review are visible. Use [View | Columns](#) to add or remove as you wish.
4. **Extract phase in indication:** Follow the steps in the recipe Extracting the Highest Phase for an Indication.
5. **Select drugs to include:** Hide rows for any drugs that you want to omit from your timeline.
6. Save the chart file and then use [File | Send to Reference Rows](#) to open the chart in BizInt Reference Rows.

#### BIZINT SMART CHARTS REFERENCE ROWS

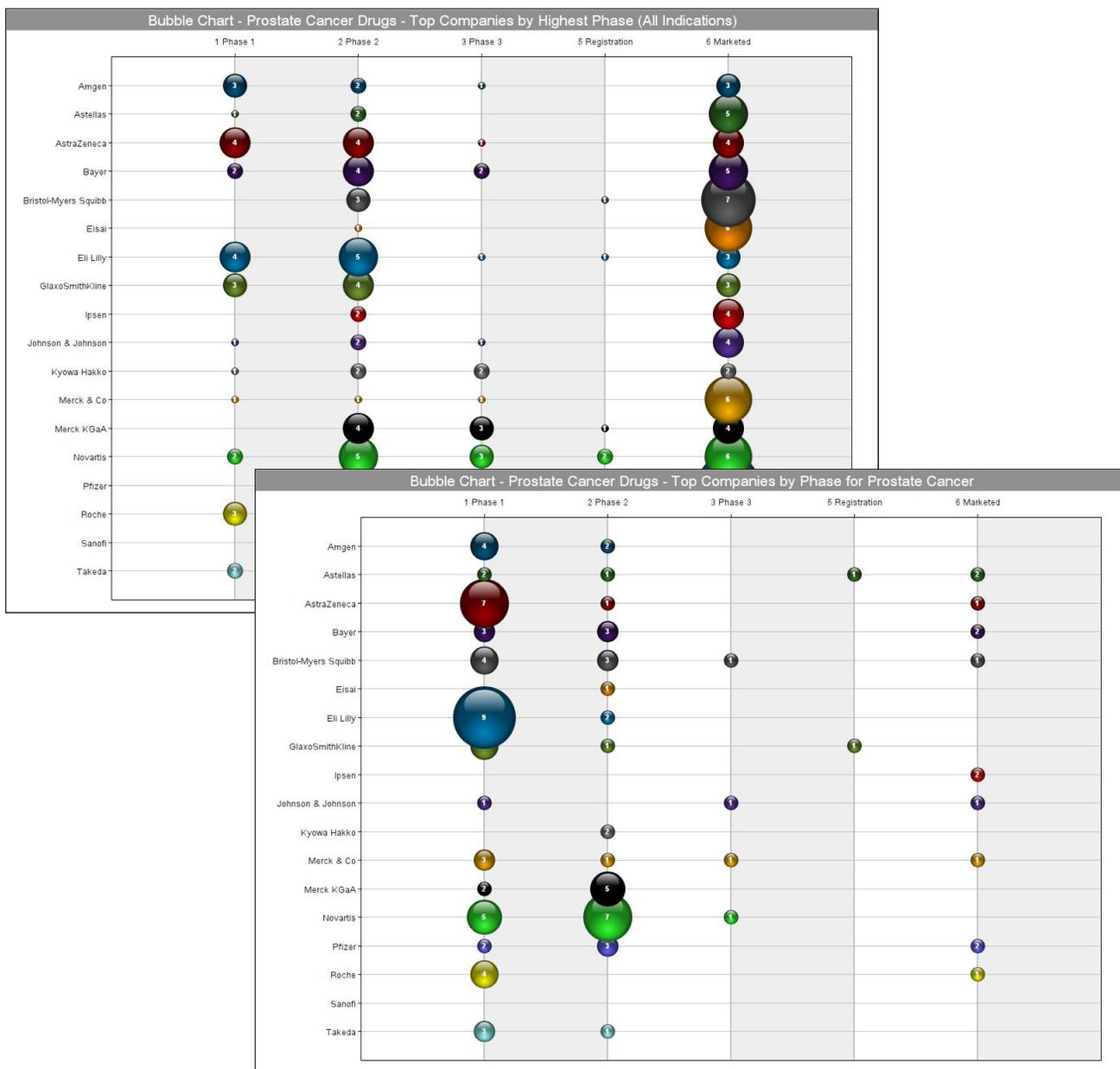
7. **Prepare the data for the timeline:** *In addition to phase in indication, you will need a column for each component of the timeline. These will be based on pipeline data but may require further selection, such as picking a single company, and cleanup, such as identifying a shorter company name.* Rather than editing the original columns, either use [Edit | Add Column](#) to create new columns or export to VP-SCE and return as new columns for each timeline component. *For our example timeline we will need these columns: drug name, company, phase in indication, route of administration, and mechanism of action.*
8. **Add estimated launch dates:** Use [Edit | Add Column](#) and rename the created column “Estimated Launch Date”. Enter dates for each box that will appear on your timeline.
9. Use [File | Export](#) to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION (VERSION 9.1 OR HIGHER)

10. **Create the Launch Timeline:** Use [Scripts | Create Launch Timeline](#) and select the fields that you want to include in your launch timeline. Field selections used in this example are shown on the opposite page.
  - Field for **Box Labels:** used for the drug box label - white text on colored background (e.g. Drug Name in this example).
  - Field for **Lane Labels:** used to label the lanes on the left of the timeline (e.g. targets).
  - Field for the **Launch Date:** the estimated launch date, used to plot the drug boxes.
  - First Year/Last Year: defines the date range of the launch timeline.
  - Fields for boxes/tooltips: optional additional labels for the drug boxes (up to 3). These fields can also be used as “tooltips” when your mouse hovers over the drug box in the HTML version.
  - Field for color code: used to color code the drug boxes (e.g. MOA in this example). For the radio button, you will generally pick “Each item in Field.”
  - Enter a Title for your chart if you wish.
11. Click on the [Create Launch Timeline](#) button to open your launch timeline in a VP-SCE window. In VP-SCE, you can click on each box to get more detail.
12. To save the launch timeline, click the camera icon  in the toolbar. You can save as HTML or as an image. *Timelines saved as HTML can be opened in a browser window and have some interactive features – you can zoom, scroll, see tooltips, and click on a drug name to view the full record on the publisher’s site.*
13. You can edit the title, subtitle and other information in the HTML window or the VP-SCE window.

# Bubble Charts for Top Companies in a Drug Pipeline [Pipeline DP-8]

Techniques from different recipes can be combined to create a more powerful visualization. Here we use the recipe Extracting the Highest Phase for an Indication [Pipeline DP-4] as the basis for building a bubble chart. In this example we'll use pipeline data for prostate cancer drugs. Pictured here are a bubble chart showing companies and highest phase overall and the same chart using highest phase for our target indication, prostate cancer. The picture is quite different, suggesting which companies are supporting an existing prostate cancer franchise and which are looking to expand into a new indication.



## Bubble Charts for Top Companies in a Drug Pipeline [Pipeline DP-8]

### How did we create this?

#### SEARCHES:

- Cortellis, Adis R&D Insight, Pharmaprojects: Indication = Prostate Cancer  
*Field names in this recipe are from Adis R&D Insight.*

#### RECIPES: Extracting the Highest Phase for an Indication

##### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Use **Tools | Identify Common Drug Names** and sort by the resulting Common Drug Name field.
3. Display the Companies, Drug Development Phase, and Highest Phase columns.
4. Use the steps in the Extracting the Highest Phase for an Indication recipe to create a “Highest Phase (Prostate cancer)” field.
5. Select **File | Send to Reference Rows**.

##### BIZINT SMART CHARTS REFERENCE ROWS

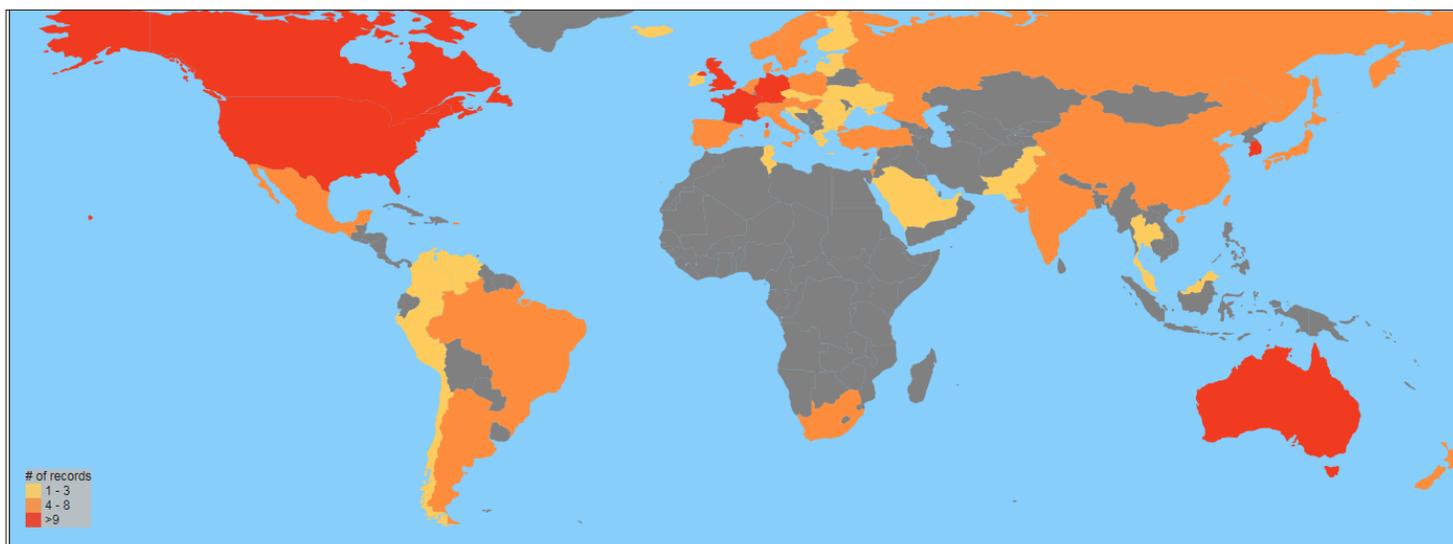
6. On the third panel of the Create wizard select Highest Phase and click on Edit to change the rule to Most Recently Updated. Do the same for the Highest Phase (Prostate cancer) field. Click Finish to create the reference rows. *When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking and rules.*
7. Review the selections and make any changes especially to the Companies and Highest Phase (Prostate cancer) fields. To change which cell is selected for the reference row, right-click on a cell and choose Select this cell.
8. Use **File | Export** to export the visible columns to VantagePoint - Smart Charts Edition.

##### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

9. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**.
10. **Normalize company names:** Double-click on the Companies field to view the contents. Use **Fields | Further Processing | Read Until - First/Paren** to remove information in parentheses.
11. Go to **Fields | List Cleanup**, select the General.fuz file, and click Use.
12. Use the Cleanup Confirm panel to clean up Companies.
13. Cleanup Confirm provides different tools, you can:
  - Enter keywords or partial keywords in the Find box, click the Add button, and switch the display to Custom Set of Items. To search additional keywords you can Add to the list or use Remove All to clear the Custom Set.
  - Drag and drop terms onto other terms to group them.
  - Cut a term and Paste it onto another term to do the same thing.
  - Right-click on a term and select Rename Term.
14. If you’re working in this area often, consider saving the cleanup as a thesaurus.
15. Select the top 20 rows of the cleaned company field, right-click and choose Add Selection to Group and name it “map”.
16. Return to the Summary sheet using **Sheets | Summary**.
17. **Ensure phase order sort:** Right-click on the Highest Phase (Prostate cancer) field and choose **Set Data Type | Custom | Phase**.
18. **Select phases you want for your bubble chart:** Double-click on Highest Phase (Prostate cancer). Select the rows for phases to include, right-click and choose Add Selection to Group and name it “map”.
19. Save your .vpt file.
20. **Build the bubble chart:** Go to **Scripts | Bubble Chart**. In step 1, use the cleaned Companies field for the rows and change the radio button to Select a group. (The “map” group should be selected by default). In step 2, change the radio button to Select Any and pick the Highest Phase (Prostate cancer) field. Again change the radio button to Select a group and the “map” group should be selected by default. You can check the box to show record counts in step 3. Title your chart and click OK to create the chart.
21. **Build the bubble chart by overall high phase:** Repeat steps 17-20, this time using the Highest Phase field.

# Comparing Global Development Overall and by Specific Indication [Pipeline DP-15]

Techniques from different recipes can be combined to create a more powerful visualization. Here we use the recipe Extracting the Highest Phase for an Indication [Pipeline DP-4] as the basis for building two maps. In this example we'll use pipeline data for Merkel cell carcinoma drugs. Pictured here is a map (top) showing activity for any indication and then a second map (below) showing only countries where development for Merkel cell carcinoma is indicated. It is a much more focused picture showing activity almost exclusively in the major markets of US, Europe, and Japan.



## Comparing Global Development Overall and Indication-focused [Pipeline DP-15]

### How did we create this?

#### SEARCHES:

- Cortellis, Adis R&D Insight, Pharmaprojects: Indication = Merkel cell carcinoma  
*Field names in this recipe are from Adis R&D Insight.*

#### RECIPES: Extracting the Highest Phase for an Indication

##### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of search results into BizInt Smart Charts and use [File | Combine](#) to create a combined chart.
2. Use [Tools | Identify Common Drug Names](#) and sort by the resulting Common Drug Name field.
3. Display the Drug Development Phase column.
4. Use [File | Export](#) to export the visible columns to VantagePoint - Smart Charts Edition.

##### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

5. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using [File | Import](#).
6. **Tag Countries as a Country field:** Right-click on Country sub-field in the Drug Development Phase field and choose Set Meta Tags. Select Country on the right-hand column and click the left arrow button and then click OK.
7. **Cleanup country names:** Right-click on the Country sub-field again and choose [List Cleanup](#). Select the General.fuz fuzzy match file, and click Use.
8. Change the radio button to Display All Items and click on Item Name to sort. Manually match up country synonyms (like UK and United Kingdom) by drag and drop. When you are done, click Accept (do not save as thesaurus).
9. Use the steps 8-16 in the Extracting the Highest Phase for an Indication recipe to filter Drug Development Phase by indication, creating a "Drug Development Phase : MCC" field.
10. Select [File | Send to Reference Rows](#).

##### BIZINT SMART CHARTS REFERENCE ROWS

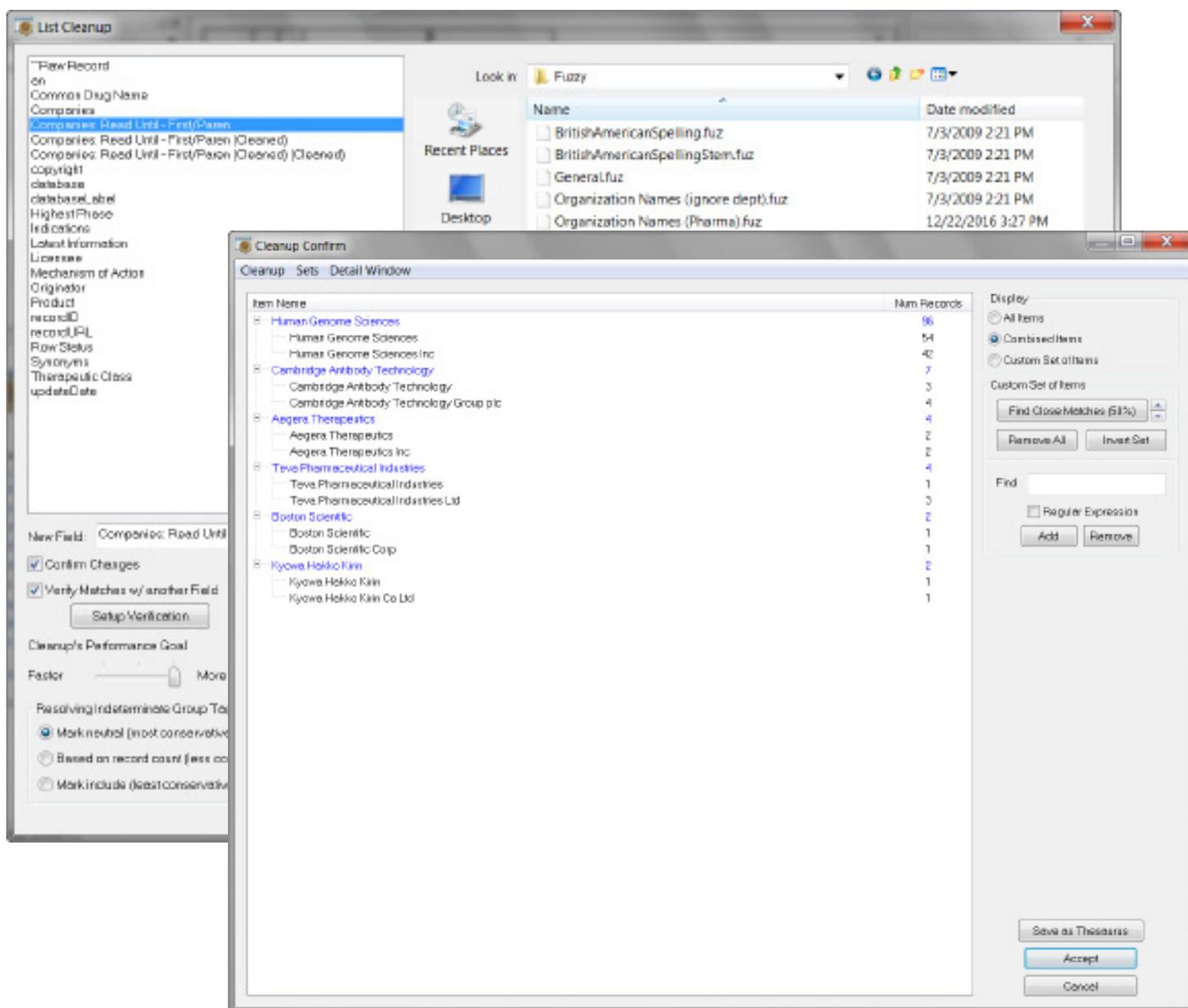
11. On the third panel of the Create wizard select Drug Development Phase and click on Edit to change the rule to Summarize Unique Values. Do the same for the Drug Development Phase : MCC field. Click Finish to create the reference rows. *When the wizard finishes, you will see the Selection View. Green check marks indicate the items selected by the database ranking and rules.*
12. Use [File | Export](#) to export the visible columns to VantagePoint - Smart Charts Edition.

##### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

13. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using [File | Import](#).
14. **Build the world maps:** Go to [Scripts | World Map](#).

# Technique: Using List Cleanup

VP-SCE offers multiple ways to clean up data. The primary tool is List Cleanup, which is found under the Fields menu. The majority of the recipes in this Cookbook include a List Cleanup step. Here we show some options for cleaning company names. The primary difference when cleaning up different fields is your choice of fuzzy match file.



## Technique: Using List Cleanup

### How did we create this?

#### SEARCHES:

- List Cleanup can be used with any type of data. Here we clean up company names from a drug pipeline search.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Run the Identify Common Drug Names tool and sort by the Common Drug Name field.
3. Use **View | Columns** to display the company name field you want to clean up.
4. Use **File | Export** to export as VantagePoint - Smart Charts Edition. VP-SCE should open and import the file.

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

5. When import completes you will see the Summary sheet. Double-click on the company field you wish to clean.
6. **Quick clean up:** Use **Fields | Further Processing | Read Until First | Paren**. This removes parenthetical information to allow List Cleanup to perform better.
7. Go to **Fields | List Cleanup**. You will be prompted to select a fuzzy match file to automatically match terms and then go to the Cleanup Confirm panel to complete the cleanup.
8. **Choose a Fuzzy match file:** Select Organization Names (Pharma).fuz as the Fuzzy match file and click **Use**.
9. **Display options:** There are three different display options selected by the radio button on the right-hand side. The initial display shows **Combined Items** to show what the fuzzy match file has combined. Items that are collapsed initially indicate a stronger match, whereas expanded items don't match as closely and should be reviewed. **All Items** shows the full set of terms and **Custom Set of Items** is used when searching for terms by keyword.
10. **Review combined items:** As you review the combined items if you see a group where none of the items should be grouped together, click on the top level item and click **Delete**. *This doesn't delete the individual terms. To remove a single item from a group, select it and click the Delete key. The term still exists in the data and won't be renamed in the cleaned field.*
11. **Drag and drop:** Combine groups by dragging one group onto another. Or drag a term from one group to another.
12. **Rename a term:** Right-click on a term and choose **Rename Term**. Or, if you prefer to use a different sub term as the group name, right-click on your preferred term and choose **Make This Item the Group Name**.
13. Click the radio button at any time to switch to **All items** to review the full set of terms.
14. **Search for terms:** Enter keywords or partial keywords in the Find box, click the **Add** button, and switch the display to **Custom Set of Items**. To search additional keywords you can **Add** to the list or use **Remove All** to clear the Custom Set.
15. **Search for multiple terms:** To search multiple terms at once you can check the Regular Expression box and use the pipe symbol "|" in place of the boolean OR.
16. **Finish Cleanup and Save:** When you have completed cleanup you can click **Accept** to create the new, cleaned field. *You may save the cleanup as a thesaurus to use with other datasets if you wish.*
17. **Repeat List Cleanup:** You can continue to clean the field if you wish using **Fields | List Cleanup** a second time, this time choosing a different fuzzy match file.
18. **Export back to BizInt Smart Charts:** Go to **File | Export Fielded Records**. In the Export Wizard, click to **Deselect All** and check the box for the final cleaned companies field. Click **OK** to export.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

19. When BizInt Smart Charts Drug Development Suite comes to the foreground, select the original chart. The cleaned company field will be added as a new column at the end of your chart.

# Technique: Phase and Company Cleanup across Databases [Pipeline DP-2]

This table shows the highest phases of drugs and companies (originators and licensees) in the Human Genome Sciences pipeline, based on searches in Cortellis, R&D Insight, R&D Focus, and Pharmaprojects. Phase descriptors and company names were cleaned up using VantagePoint - Smart Charts Edition and BizInt Smart Charts Reference Rows was used to select a single phase and company list for each drug retrieved from multiple databases. The top table shows the BizInt Smart Charts Reference Rows "selection view"; the bottom table shows the exported HTML.

Human Genome Sciences - Pipeline (TP, RDI, RDF, CP - Aug 2012)							
	Drug	Database	Status	Status (Arabic)	Companies	Companies (Cleaned)	Update Date
1 -1	balugrastim	Thomson Pharma	Phase 3 Clinical	Phase 3	Aventis Behring LLC CoGenesys Inc Human Genome Sciences Inc Teva Pharmaceutical Industries Ltd	Aventis Behring LLC CoGenesys Inc Human Genome Sciences Teva	2012-08-07
1	ALBUGRANIN	IMS R&D Focus	Preclinical	Preclinical	Human Genome Sciences (USA)	Human Genome Sciences	2003-08-18
1 -3	albumin-GCSF fusion, HGS	Citeline Pipeline	No Development Reported	No Development Reported	Human Genome Sciences	Human Genome Sciences	2004-10-14
2 -1	Darapladib	Adis R&D Insight	Phase III	Phase 3	GlaxoSmithKline (Originator) Human Genome Sciences (Originator)	GlaxoSmithKline Human Genome Sciences	2012-08-14
2 -2	SB 435495	Adis R&D Insight	Discontinued I	Discontinued	GlaxoSmithKline (Originator) Human Genome Sciences (Originator)	GlaxoSmithKline Human Genome Sciences	2009-05-05
2 -3	darapladib (pINN)	IMS R&D Focus	Phase III	Phase 3	GlaxoSmithKline (UK) Human Genome Sciences (USA)	GlaxoSmithKline Human Genome Sciences	2012-08-23
2 -4	darapladib	Citeline Pipeline	Phase III	Phase 3	GlaxoSmithKline Human Genome Sciences	GlaxoSmithKline Human Genome Sciences	2012-07-26
3 -1	FP-1039	Thomson Pharma	Phase 2 Clinical	Phase 2	FivePrime Therapeutics Inc Human Genome Sciences Inc	Five Prime Therapeutics Human Genome Sciences	2012-08-03
3 -2	FP 1039	Adis R&D Insight	Phase I	Phase 1	Five Prime Therapeutics (Originator) Human Genome Sciences (Licensee)	Five Prime Therapeutics Human Genome Sciences	2012-08-07
3 -3	FP 1039	IMS R&D Focus	Phase II	Phase 2	FivePrime (USA) Human Genome Sciences (USA)	Five Prime Therapeutics Human Genome Sciences	2012-06-12
3 -4	FP-1039	Citeline Pipeline	Phase II	Phase 2	Five Prime Therapeutics Human Genome Sciences	Five Prime Therapeutics Human Genome Sciences	2012-06-05
4 -1	lexatumumab	Thomson Pharma	Phase 2				

	Drug	Database	Status	Status (Arabic)	Companies	Companies (Cleaned)	Update Date
1. -1	balugrastim	1.1 TPharm   link 1.2 IMS   link 1.3 Pipeln   link	Phase 3 Clinical	Phase 3	Aventis Behring LLC CoGenesys Inc Human Genome Sciences Inc Teva Pharmaceutical Industries Ltd	Aventis Behring LLC CoGenesys Inc Human Genome Sciences Teva	2012-08-07
2. -1	Darapladib	2.1 Adis   link 2.2 Adis   link 2.3 IMS   link 2.4 Pipeln   link	Phase III	Phase 3	GlaxoSmithKline (Originator) Human Genome Sciences (Originator)	GlaxoSmithKline Human Genome Sciences	2012-08-23
3. -1	FP-1039	3.1 TPharm   link 3.2 Adis   link 3.3 IMS   link 3.4 Pipeln   link	Phase I	Phase 2	FivePrime Therapeutics Inc Human Genome Sciences Inc	Five Prime Therapeutics Human Genome Sciences	2012-08-07
4. -1	lexatumumab	4.1 TPharm   link 4.2 Adis   link 4.3 IMS   link 4.4 Pipeln   link	Phase 2 Clinical	Phase 2	Cambridge Antibody Technology Group plc Human Genome Sciences Inc	AstraZeneca Human Genome Sciences	2012-08-03
5. -1	raxibacumab	5.1 TPharm   link 5.2 Adis   link 5.3 IMS   link 5.4 Pipeln   link	Preregistration	Launched	Cambridge Antibody Technology Group plc Human Genome Sciences Inc	Cambridge Antibody Technology Group plc Human Genome Sciences	2012-08-06

## Technique: Phase and Company Cleanup across Databases [Pipeline DP-2]

### How did we create this?

#### SEARCHES:

- Cortellis: Company = Human Genome Sciences Inc. - 42 (296 No Development Reported deleted)
- Adis R&D Insight: Organisation Name = Human Genome Sciences - 55
- IMS R&D Focus: Company Name = Human Genome Sciences - 69
- Pharmaprojects: Company = Human Genome Sciences Inc. - 54

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of search results into BizInt Smart Charts to create .cht files.
2. Use the [File | Combine](#) feature to create a single combined chart. Use [Tools | Identify Common Drug Names](#) and sort by the resulting Common Drug Name field.
3. Display the Companies (includes both Originators and Licensees) and Status columns.
4. Use [File | Export](#) to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION

5. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using [File | Import](#).
6. When import completes, double-click on the Companies field in the Summary to view the contents of the field.
7. Apply [Fields | Further Processing | Read until first paren](#) to remove qualifiers in parenthesis after company names.
8. Bring up the [Fields | List Cleanup...](#) panel. Select Companies: Read Until - First/Paren from the field list on left. Select the Organization Names (Pharma).fuz file, and click Use.
9. Use the Cleanup Confirm panel to further cleanup company names and then click Accept. You will now have a new field Companies: Read Until - First/Paren (Cleaned).
10. Go to [Sheets | Add List](#) and choose the Status field to view the contents of the field.
11. Apply [Fields | Thesaurus...](#), choose the DrugDevelopmentPhases\_Arabic.the file and click Use. This will normalize the phases using Arabic numbers (e.g. Phase 2).
12. **Export the new cleaned up company names and phases back to BizInt Smart Charts as a new column** using [File | Export Fielded Records...](#) In the Export Wizard, click to uncheck the box for Companies: Read Until - First/ Paren. All the other fields we want to export. Click OK to export.

#### BIZINT SMART CHARTS REFERENCE ROWS

13. When BizInt Smart Charts Drug Development Suite comes to the foreground, select the original chart. It will redisplay with a new column: Companies: Read Until - First/Paren (Cleaned). Use [View | Column Properties](#) to rename this column "Companies (Cleaned)", and rename the Status (1) column to "Status (Arabic)".
14. Select [File | Send to Reference Rows](#) to open the chart in BizInt Smart Charts Reference Rows.
15. When the wizard finishes, right-click on the Companies (Cleaned) column and choose Edit Column Rule. Select the Summarize Unique Values rule to include all companies listed for each unique drug.
16. Use the Most Recently Updated rule for the Status (Arabic) column to choose the status from the most recently updated record.
17. Use [File | Export](#) to export the Reference Rows report to HTML.

# Technique: Assignee Cleanup with List Comparison and Compare Columns

## [Patents PT-1]

In this recipe, we use VantagePoint - Smart Charts Edition (VP-SCE) to extract a list of companies from Assignees in patents from a search for CAS-9, based on a searches in Minesoft PatBase. Company names were cleaned up using VantagePoint - Smart Charts Edition and inventor names were removed from the Assignee list (as shown in the chart below) so that a company analysis could be done. We then used Compare Columns in BizInt Smart Charts to compare assignees cleaned with VP-SCE to the Probable Assignee from PatBase.

Title	Probable Assignee	Patent Assignee	Assignees (Cleaned up, Companies only)	Unique in Assignees (Cleaned up, Companies only)
COMPOSITIONS AND METHODS FOR TARGETED GENE DISRUPTION IN PROKARYOTES	RADIANT GENOMICS INC	KIM JEFFREY LIU OLIVER RADIANT GENOMICS INC	RADIANT GENOMICS INC	
GENOME MODIFICATION USING GUIDE POLYNUCLEOTIDE/CAS ENDONUCLEASE SYSTEMS AND METHODS OF USE	PIONEER HI BRED INT INC	DU PONT PIONEER HI BRED INT	DU PONT PIONEER HI BRED INT	DU PONT PIONEER HI BRED INT
INDUCIBLE DNA BINDING PROTEINS AND GENOME PERTURBATION TOOLS AND APPLICATIONS THEREOF	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	ASSOCIATION PRESIDENT AND RESEARCH FELLOW AT HARVARD UNIV BRIGHAM MARK KONERMANN SILVANA BROAD INST INC CONG LE HARVARD COLLEGE ZHANG FENG SANJAN NEVILLE ESPI MASSACHUSETTS INST TECHNOLOGY SANJANA NEVILLE ESPI	HARVARD COLLEGE BROAD INST INC MASSACHUSETTS INST TECHNOLOGY	HARVARD COLLEGE BROAD INST INC MASSACHUSETTS INST TECHNOLOGY
METHODS AND COMPOSITIONS FOR NUCLEASE DESIGN	SANGAMO BIOSCIENCES INC	DOYON YANNICK SANGAMO BIOSCIENCES INC	SANGAMO BIOSCIENCES INC	
THERAPEUTIC USES OF GENOME EDITING WITH CRISPR/CAS SYSTEMS	CHILDRENS MEDICAL CENTER	CHILDRENS MEDICAL CENTER HARVARD COLLEGE	HARVARD COLLEGE CHILDRENS MEDICAL CENTER	HARVARD COLLEGE
USE OF CATIONIC LIPIDS TO DELIVER CAS9	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	HARVARD COLLEGE	HARVARD COLLEGE	HARVARD COLLEGE

## Technique: Assignee Cleanup with List Comparison and Compare Columns [Patents PT-1]

### How did we create this?

#### SEARCHES:

Minesoft PatBase: Patent numbers found via a search on another platform

#### BIZINT SMART CHARTS FOR PATENTS

1. Import your results into BizInt Smart Charts to create a .chp file.
2. Display the Patent Assignee, Probable Assignee and Inventor(s) columns.
3. Use [File | Export](#) to export the chart to VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

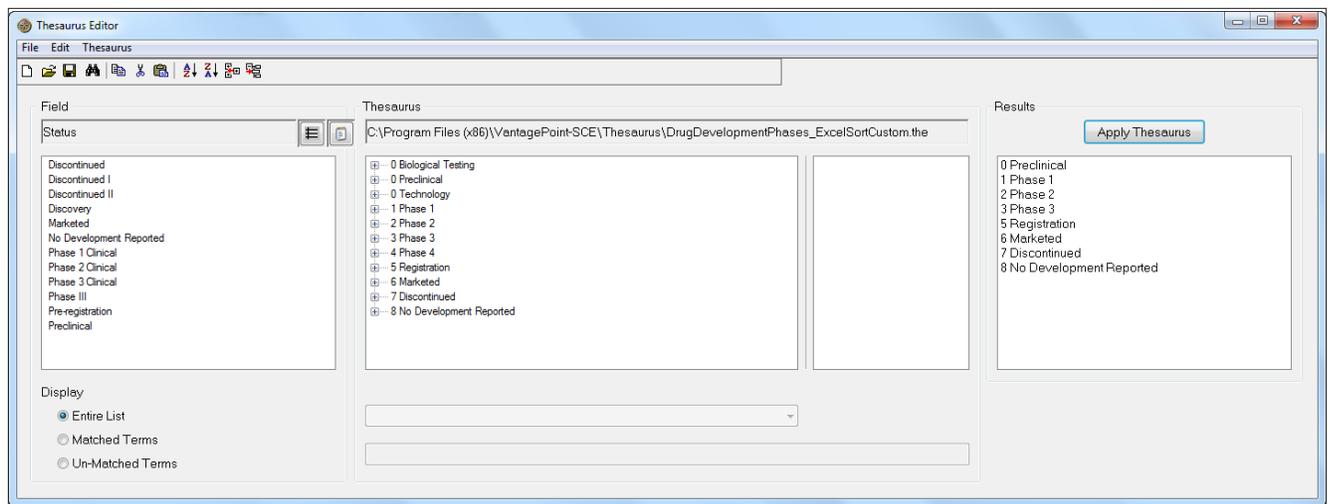
4. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using [File | Import](#).
5. **Remove Inventors from the Assignee List:** On the Summary page, double-click on Patent Assignee.
6. Choose [Groups | List Comparison](#).
7. In the middle list, expand the list, and then choose Inventor(s). In the Comparison Type choose Unique. At the bottom right of the panel give the new group a name (such as "NoInv"). *You can improve the comparison accuracy by selecting Fuzzy Comparison and then pressing the ... button to select the Person Names - Very Aggressive comparison.*
8. Press OK. This will place a check mark next to every Assignee which doesn't exactly match an Inventor.
9. Choose [Fields | Create Field From Group Items...](#), select the Patent Assignee field, and the NoInv group. Enter a new field name "Assignee Companies". At this point, the list contains many variations on the Assignee company names, but may still contain many individual names that weren't an exact match to the inventors.
10. **Normalize the Assignee Names:** Choose [Fields | List Cleanup](#) and choose Organization Names (Pharma).fuz as the fuzzy match criteria (you don't need to set any other options). Use the Cleanup Confirm panel to further cleanup company names. Type part of a name into the Find box and click Add. The Custom Set of Items will show everything that matches what you typed – this is a great way to find all universities (finding "univ"). Then click Accept.
11. **Manually remove remaining Inventors from the Assignees:** Note that you may still have individual names in the list. Review the list, clicking the NoInv box until the mark is blank when the name is an individual.
12. Once again, use [Fields | Create Field from Group Items](#) to create a new group from the Assignee Companies (Cleaned) : NoInv group. Call this field "Assignees".
13. **Export cleaned up Assignees back to BizInt Smart Charts:** Export the cleaned up Assignees back to BizInt Smart Charts as a new column using [File | Export Fielded Records](#). In the Export Wizard, click Deselect All and then click the checkbox for Assignees. Click OK to export.

#### BIZINT SMART CHARTS FOR PATENTS

14. When BizInt Smart Charts for Patents comes to the foreground, select the original chart. It will redisplay with a new Assignee Companies column. You can use [Text | Highlight Cells](#) to highlight the column in yellow.
15. **Compare Columns:** Go to [Tools | Compare Columns](#). Choose your new Assignees column as the first column. Click Next and select Probable Assignee as the column to compare and click Next. Then click Finish to use the default comparison. *A new column is created showing items from the cleaned Assignees column not found in Probable Assignee. Note that Probable Assignee is a single term per record.*

# Technique: Working with Thesauri

VP-SCE offers multiple ways to create and work with thesauri. In many recipes you will notice that when you clean a field with List Cleanup, you have the option to save as a thesaurus. You can also edit and create thesauri directly with the Thesaurus Editor. Here we will show how it can be used to edit a Drug Development Thesaurus to provide a custom sort in Excel or in VP-SCE visualizations.



## Technique: Working with Thesauri

### How did we create this?

#### SEARCHES:

- We used the DrugDevelopmentPhases\_ExcelSort.the as a starting point to create a thesaurus that will sort the way we want. We could also create a thesaurus from scratch, or edit a thesaurus created as part of List Cleanup.

#### VANTAGEPOINT - BIZINT SMART CHARTS EDITION

1. Go to **Tools | Thesaurus Editor** to open the Thesaurus Editor in a new window.
2. Use **File | Open Thesaurus** and select the thesaurus you want to work with. We'll use DrugDevelopmentPhases\_ExcelSort.the.
3. Before making changes, save under a new name. From the **File** menu select **Save as**.
4. There are two levels in a VP-SCE thesaurus, Top Level Items and Sub Items. The center pane of the Thesaurus Editor shows the structure of the current thesaurus. When you open a thesaurus only the Top Level Items are shown. These are the terms that will replace anything matching the associated Sub Items when the thesaurus is used. To expand an item and view the Sub Items associated with a Top Level Item you can click the plus sign.
5. **Combine Phases:** Drag one Top Level Item under another one to consolidate them. Here we drag "0 Biological Testing" onto "0 Preclinical" so that records with either preclinical or biological testing as the phase will be treated as preclinical in our custom thesaurus.
6. **Change Phase Sorting:** Right-click on the Top Level Item for the phase you want to change and select **Rename Item**. Then change the numbering to reflect your preferred sort order. We will right-click on "7 Discontinued" and change the 7 to a 0, moving the Discontinued items from the bottom to the top of the list.
7. You can use outline numbering convention of 1, 1.1, 1.1.1, and so on to have phases sort between the existing numbers. Because of the text descriptions, phases will sort alphanumerically, so standard numbering 10 and above will not sort as expected.
8. **Add a New Phase:** To add a new phase, from the **Thesaurus** menu select **Insert Top Level Item** and enter the preferred term that should replace the existing text when the thesaurus is run. For this thesaurus, we use a number followed by a text description for the added phase. Here we want to add Phase 1/2 as a separate phase, "1 Phase 1/2".
9. **Check the sort:** Right-click on your new Top Level Item and select **Re-Sort Thesaurus**. To change the sort, change the number.
10. **Move the Phase 1/2 terms:** Use ctrl-click to select all the Phase 1/2 Sub Items from the "1 Phase 1" Top Level Item and drag and drop them to your new "1 Phase 1/2" Top Level Item.
11. You can also add Sub Items to the new phase by right-clicking on the new Top Level Item and selecting **Insert Sub Item**. The drop-down box controls whether you want to match exactly or search within the existing term "contains."
12. Sub Items use regular expressions and can be quite complex, but can also be literal matches. For literal matches begin the Sub Item with a caret (^) and end with a dollar sign (\$).
13. Check your thesaurus: Use **File | Load Field** and select a field with matching terms, here choose the Phase field and click the Apply Thesaurus button.
14. You'll see the results of applying the thesaurus in the right-hand column, You can also change the radio button on the left-hand side to show only Un-Matched or Matched terms from the field you loaded. This allows you to see what you want to add to your thesaurus.
15. Save your thesaurus.

# Technique: Extracting Keywords

You may find yourself wanting to extract a set of keywords from a field. For example, you might want to visualize Endpoint Classifications in search results from Citeline TrialTrove. TrialTrove provides this information as part of the "Study Design" column, in one of two different formats. This Technique shows how to extract a set of keywords from a field in VP-SCE using the My Keywords feature.

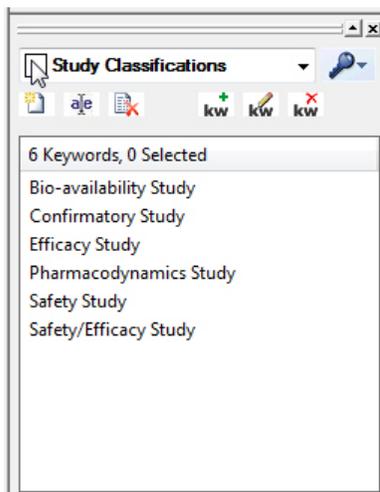


FIGURE 1. THE MY KEYWORDS PANEL

Study Design	Study Design : Study Classifications
This is a double-blind, randomized, active controlled, phase 2, multi-centre, dose ranging, safety study. This was an immunogenicity, single dose study.	Safety Study
Study Type: Interventional Study Design: Allocation: Randomized Control: Active Control Endpoint Classification: Safety/Efficacy Study Intervention Model: Parallel Assignment Masking: Single Blind (Outcomes Assessor) Primary Purpose: Prevention This is a controlled, multicenter, immunogenicity study. This is an observer blinded and tolerability study.	Efficacy Study Safety/Efficacy Study
Study Type: Interventional Study Design: Allocation: Randomized Endpoint Classification: Safety/Efficacy Study Intervention Model: Parallel Assignment Masking: Single Blind (Outcomes Assessor) Primary Purpose: Prevention This is a multicenter, active comparator, immunogenicity study. This is dose response, non-inferiority, tolerability, exploratory study.	Efficacy Study Safety/Efficacy Study

FIGURE 2. KEYWORDS EXTRACTED USING SIMPLE KEYWORDS

Study Design	Study Design : Study Classifications	Study Design : Study Classifications (2)
Study Type: Interventional Study Design: Allocation: Randomized Endpoint Classification: Safety/Efficacy Study Intervention Model: Parallel Assignment Masking: Double-Blind Primary Purpose: Prevention This is an observer blind, multi-center, active controlled, immunogenicity and tolerability study.	Efficacy Study Safety/Efficacy Study	Safety/Efficacy Study

FIGURE 3. KEYWORDS EXTRACTED USING REGULAR EXPRESSIONS

## Technique: Extracting Keywords

### How did we create this?

#### SEARCHES:

- For this particular example, we used an export from CiteLine TrialTrove. If you would like to follow along, you can import any results from TrialTrove into BizInt Smart Charts Drug Development Suite, make the Study Design column visible, and then export to VP-SCE.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

- Import the search results into BizInt Smart Charts to create .cht files.
- Display the “Study Design” column.
- Use **File | Export** to export the chart as VantagePoint - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION

- If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**.
- Double-click on the Study Design field.
- Make sure the My Keywords panel is visible. Look on the **View** menu and make sure **My Keywords** is checked. The My Keywords panel is shown in Figure 1 (on the previous page.)
- Click the +kw button or press Insert on your keyboard to insert a new keyword. Type the phrase you would like to extract from the raw data. In the example in Figure 1, you can see that we have entered some of the Endpoint Classifications that we see in our data.
- To extract your keywords from a field, bring up the Manage Keywords menu (under the blue-gray key icon), and hold your mouse over **Extract My Keywords From | Study Design**. (Move your mouse over Extract My Keywords From and then move the mouse to the field name that you want to extract from). This will create a new field with only the extracted keywords.
- Export the extracted keywords back to BizInt Smart Charts as a new column** using **File | Export Fielded Records**. In the Export Wizard, the Study Design : Study Classifications field should already be checked. Click OK to export.

#### GOING FURTHER

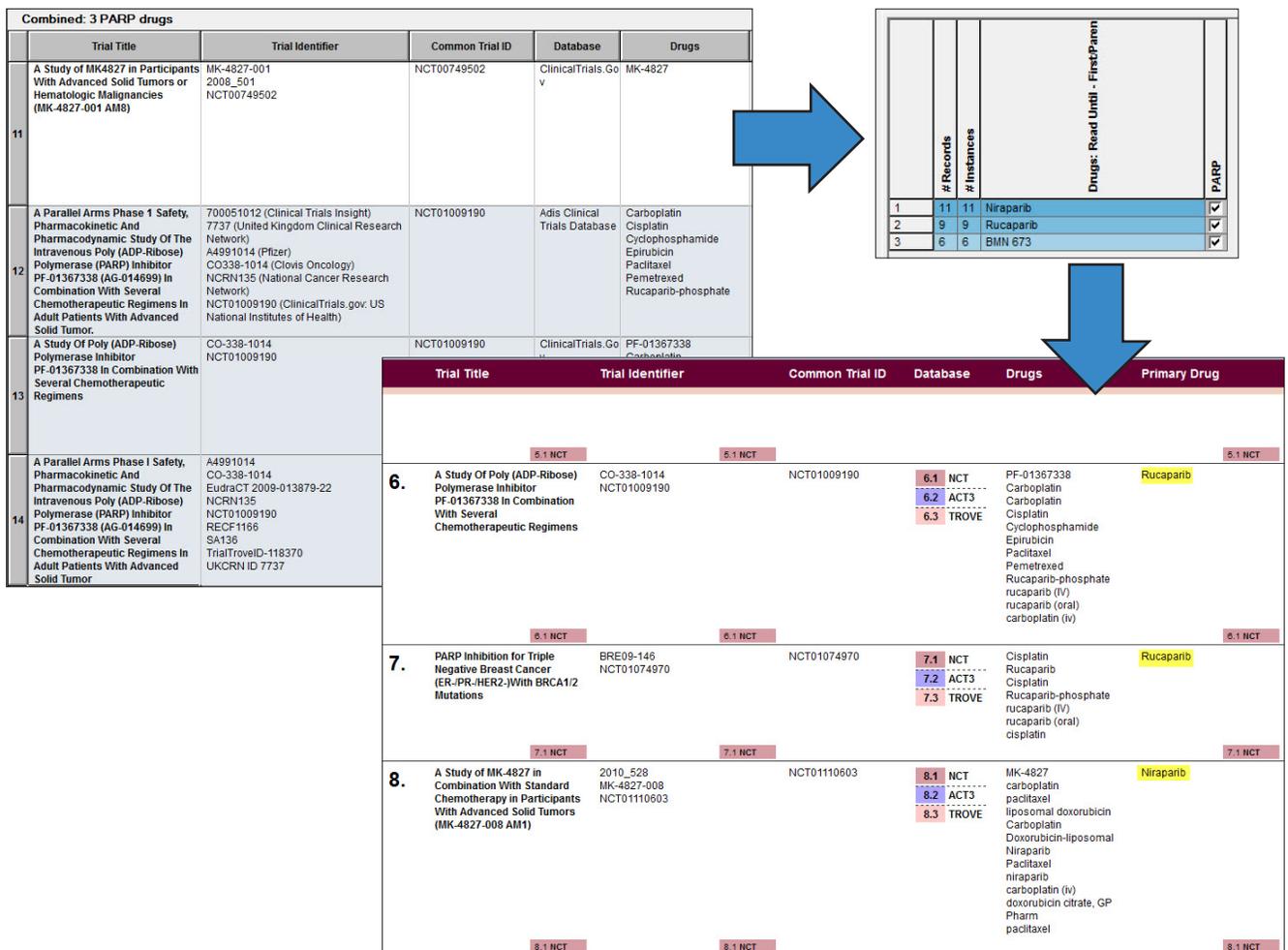
- Keywords can be case sensitive or not. You can control whether a set of keywords is case sensitive on the Manage Keywords menu (under the blue-gray key icon), and then follow to the **Keyword Options** sub-menu. If you look at the Figure 2 (on the previous page), the first row lists “safety study” in all lower case, but our standard keyword is used in the extracted column.
- My Keywords can do more than simply match phrases. For example, if you look more carefully at the example in Figure 2, you will see that we are extracting both “Safety/Efficacy Study” and “Efficacy Study” from records where the original text contains “Safety/Efficacy Study”. We can use a regular expression to ensure that we only match the exact term “Efficacy Study”.
- To use a regular expression, make sure that there is a check mark next to **Regular Expressions** on the **Keyword Options** sub-menu. Then modify your keyword to include the necessary regular expression code. In this case, we want to only match when the character before “Efficacy” is not a “/”. You can see the regular expression we used in the keyword on the right
- When we Extract My Keywords from the Study Design field again, you see in Figure 3 that we now only extract “Efficacy Study” when that exact text is present, and not when the classification is “Safety/Efficacy Study”.

```
(?!/)Efficacy Study
```

# Technique: Using Pipeline Data to Cleanup Drug Names in Trial Data [Trials CT-5]

This recipe shows how to use drug names and synonyms from pipeline records and apply them to clinical trial data. As a result we can go from a field listing all drugs used in each trial to a single drug of interest for each trial as shown in the HTML export pictured.

In this example we used two searches: a pipeline search for the drug target poly ADP ribose polymerase (PARP) and a clinical trials search for selected PARP inhibitors. The results of the pipeline search were combined and then a single record for each trial was created with BizInt Smart Charts Reference Rows. The same was done with the clinical trials set. We then exported the pipeline records to VantagePoint – Smart Charts Edition (VP-SCE) and generated a custom thesaurus using Common Drug Name as the main term and Synonyms as the sub term. Then the clinical trials set was exported to VP-SCE. Using VP-SCE, the data was cleaned and then the thesaurus we just created was applied to transform the Drugs field down to a single term for each PARP inhibitor.



## Technique: Using Pipeline Data to Cleanup Drug Names in Trial Data [Trials CT-5]

### How did we create this?

#### SEARCHES:

- **Pipeline:** We searched Cortellis, Pharmaprojects and Adis R&D Insight for drug records where Mechanism of Action = ADP ribose polymerase (PARP) inhibitor.  
*Pipeline field names in this recipe are from Adis R&D Insight.*
- **Clinical Trials:** We searched ClinicalTrials.gov, Citeline TrialTrove and Adis Clinical Trials Insight for trial records for Niraparib, BMS-673 & Rucaparib (and synonyms) -- three Phase III PARP drugs identified in the pipeline recipe.  
Trial field names in this recipe are from ClinicalTrials.gov.

**FILE:** AdditionalDivideAt.conf (Contact support@bizint.com for the file and installation directions)

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

1. Import each set of pipeline search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
2. Run the Identify Common Drug Names tool and sort by the Common Drug Name field.
3. Display the Synonyms column.
4. Use **File | Export** to export the chart as Vantage Point - Smart Charts Edition (creates a .vpxi file.)

#### VANTAGEPOINT - SMART CHARTS EDITION

5. If the file does not launch automatically in VantagePoint - Smart Charts Edition (VP-SCE), then import the .vpxi file into VP-SCE using **File | Import**.
6. Use **Scripts | Make Thesaurus** and select Common Drug Name for the Main Field and Synonyms for Sub Field and click OK.
7. Name your thesaurus and save it in your VantagePoint-SCE/Thesaurus/ folder.
8. Switch back to BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE.

#### BIZINT SMART CHARTS DRUG DEVELOPMENT SUITE

9. Import each set of clinical trial search results into BizInt Smart Charts and use **File | Combine** to create a combined chart.
10. Run the Identify Common Trial IDs tool and sort by the Common Trial ID field.
11. Display the Drugs column, save and select **File | Send to Reference Rows** and then use **File | Export** to export as VantagePoint - Smart Charts Edition.

#### VANTAGEPOINT - SMART CHARTS EDITION

12. On the Summary page, double-click on the Drugs field.
13. Review the list and note where multiple drugs are linked as one item using and, +,vs., etc. We're going to split drug terms on these links, one at a time.
14. Use **Fields | Further Processing | Divide At | Plus** to split any terms joined with +.
15. Repeat the previous step on the new list to split remaining joined drugs.
16. Apply **Fields | Further Processing | Read Until - First | Paren** to remove anything in parentheses to help the thesaurus match.
17. Go to **Fields | Thesaurus** and select the thesaurus you created earlier and click Use.
18. Use **Fields | List Cleanup...**, select the General.fuz file, and click Use. Drag and drop to complete the cleanup for your drugs of interest and then click Accept. *Saving the thesaurus is optional but can save time for future company cleanup tasks.*
19. Select the rows for your drugs of interest, right-click and select Add Selection to Group..., and name your group.
20. Go to **Fields | Create Field from Group Items** and choose the group you just created.
21. Now you have a normalized field with just your selected drugs which you can export back to BizInt Smart Charts or use to build a timeline chart.



## About this Cookbook

This “Cookbook” illustrates how to create some popular visualizations and reports from patent, clinical trials, drug pipeline, and gene sequence data using tools in the BizInt Smart Charts family.

To use these “recipes”, you’ll need the following software:

- BizInt Smart Charts Drug Development Suite 3.7.0 or higher (4.0 required for some recipes)
- BizInt Smart Charts for Patents 3.7.0 or higher (4.0 required for some recipes)
- BizInt Smart Charts Reference Rows 1.2.0 (or higher)
- VantagePoint - Smart Charts Edition (9.1 or 10.0 required for some recipes)

### **BIZINT SMART CHARTS TRIAL SOFTWARE**

You can download BizInt Smart Charts trial software at: <http://www.bizint.com/try>

You can request a trial of VantagePoint - Smart Charts Edition at <http://www.bizint.com/vpsce> or contact us (email: [support@bizint.com](mailto:support@bizint.com)).

### **BIZINT SMART CHARTS PRODUCT DOCUMENTATION**

You’ll find more information on how to use BizInt Smart Charts software tools at:  
<http://www.bizint.com/tips>

*Note: These recipes are constantly being tested and revised based on user feedback. We suggest that you check the website to see if there is a more recent version of your recipe. If you find any errors or need help, please contact us!*

*February 2018*

## Download the Software

- **Customer downloads:** <http://www.bizint.com/downloads/>  
You will need to enter the userid and password supplied to your company.
- **Trial downloads:** <http://www.bizint.com/try>  
We encourage you to evaluate BizInt Smart Charts using your own data!

## Keep up with the Latest Releases

- **Latest release information web page:** provides details on all releases.  
[http://www.bizint.com/product/patents/latest\\_release.php](http://www.bizint.com/product/patents/latest_release.php)  
[http://www.bizint.com/product/drugdevsuite/latest\\_release.php](http://www.bizint.com/product/drugdevsuite/latest_release.php)
- **Subscribe to release announcements** by email or RSS feeds.  
<http://www.bizint.com/support/SubscribeReleases.php>

## Using the Software

- **Creating Reports from Databases and Hosts web page:** follow the links on the left side of the web page for step by step instructions for each database/host.  
<http://www.bizint.com/support/create/>

## Go to [www.bizint.com/tips](http://www.bizint.com/tips) for links to these useful documents —

- **Mini Guide:** provides a step-by-step overview of the key features of each BizInt Smart Charts product.
- **Combining and Updating Reports:** a detailed discussion of features and options for creating combined and updated reports.
- **Distributing Reports:** a guide to choosing and using the export formats available with BizInt Smart Charts, including HTML, Word, Acrobat, and Excel.
- **BizInt Smart Charts Reference Rows Mini Guide:** a guide to using the Reference Rows utility for creating single rows combining information from related records.
- **Gene Sequence Reports:** describes the latest features for using BizInt Smart Charts with IP sequence databases.
- **Cookbook of Reports and Visualizations:** [www.bizint.com/Cookbook](http://www.bizint.com/Cookbook)



## Contact Us for Help

- **Email us** at [support@bizint.com](mailto:support@bizint.com)
- **Call us** at +1 (714) 289 1000 (office hours are 8 am - 5 pm Pacific)



Software for  
Business Intelligence

**BizInt Smart Charts**

# *Cookbook of Reports & Visualizations*

The *Cookbook of Reports & Visualizations* illustrates how to create some popular visualizations and reports from drug pipeline, clinical trials, and patent data using tools in the BizInt Smart Charts family.

The Cookbook provides step-by-step recipes showing how you can create these reports and visualizations with your own data.

[www.bizint.com/Cookbook](http://www.bizint.com/Cookbook)

