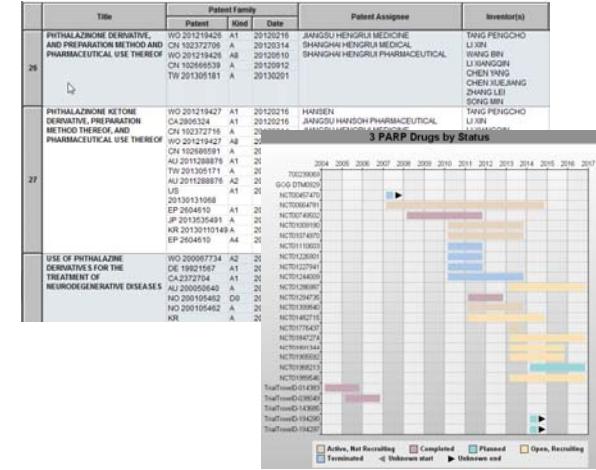




Software for  
Business Intelligence

# BizInt Smart Charts



## Panel: Creating Reports and Visualisations to Facilitate Competitor Intelligence, Drug Target Analysis and Clinical Trial Planning

9 September 2014  
Pharma CI USA, Parsippany NJ

Moderator: Diane Webb, BizInt Solutions

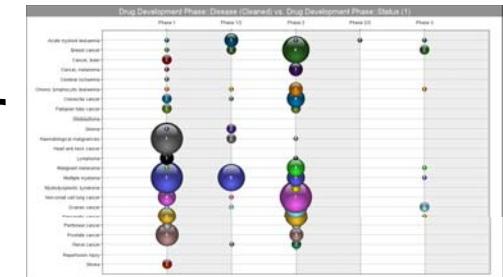
# Panelists:

- **Christine Geluk, MSLIS**  
Senior Information Specialist  
Eisai Inc.
- **Monica Weiss-Nolen**  
Patent Information Scientist  
Sanofi Pasteur
- **Karalee Sheaffer**  
Information Scientist  
Sanofi Pasteur



# Three case studies showing:

- How skilled searchers can create information-rich reports and visualizations based on multiple sources.
- How information specialists can collaborate with CI analysts to answer questions such as:
  - What can we learn from failed competitor clinical trials?
  - How can we more easily monitor competitor patents?
  - How can we better assess the drug pipeline?





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# Visualizing Outcome Measures in Clinical Trials

By:

Christine (Chrissy) Geluk, MSLIS

Senior Information Specialist

Library & Information Services

Intellectual Property, Law & Government Affairs

DATA  
VISUALIZACIÓN

# Outline

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- **Search Example: Trials Using the FEV1 Marker**
- **Analyzing the Results through Visualization**
- **Observations from the Analysis**

# Search Example: Trials Using FEV1 Marker

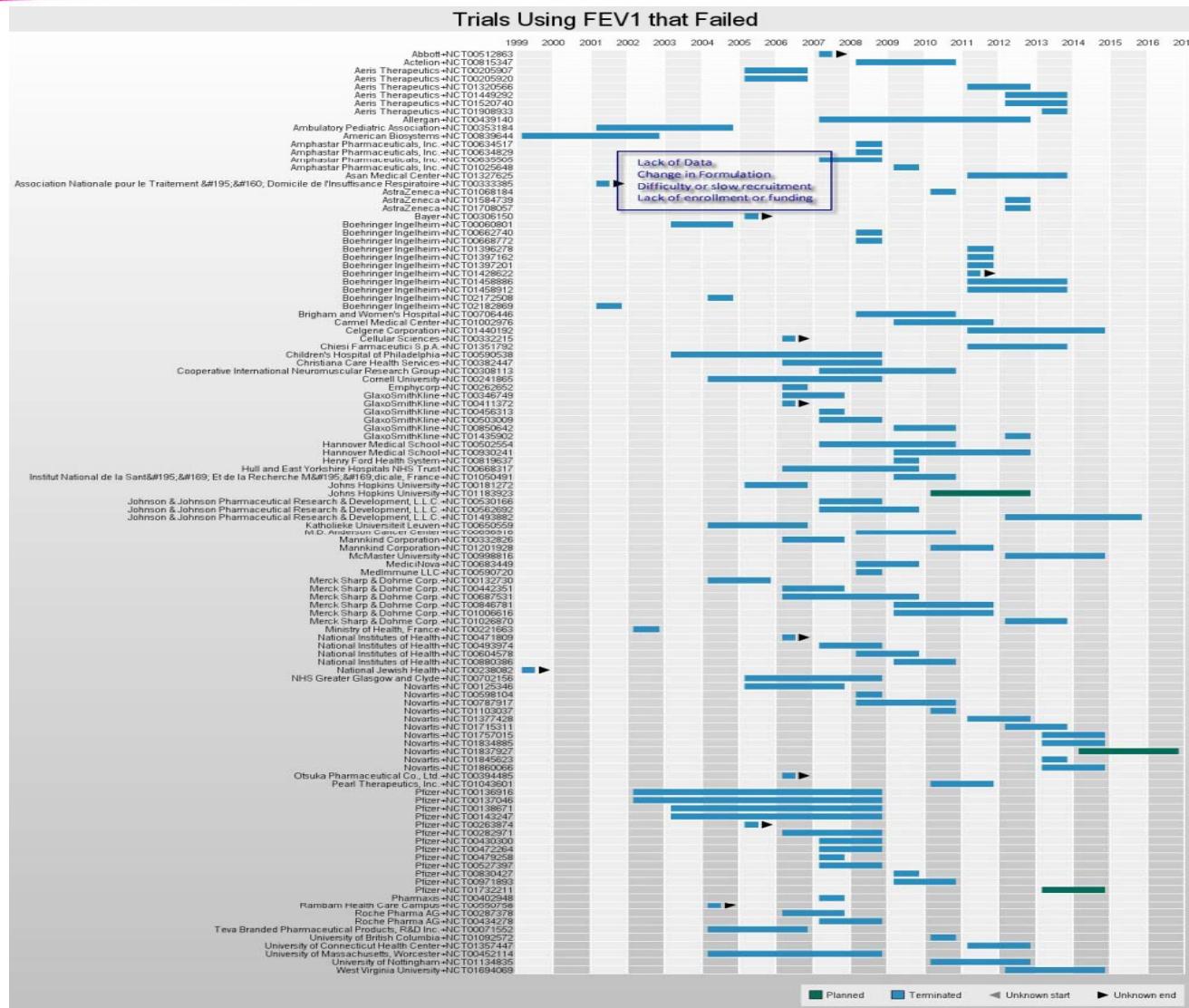


- **Forced Expiratory Volume in 1 second (FEV1) is a common marker in the development for the treatment of asthma , chronic obstructive pulmonary disease (COPD) and other respiratory conditions**
  - Have any clinical trials failed using this endpoint?

“..While physicians believe clinical trials will continue to assess FEV1, they would like to see increased use of more patient-centered end points, including symptom scores and quality of life...” (Decision Resources, Pharmacor, 4 Oct 2012)

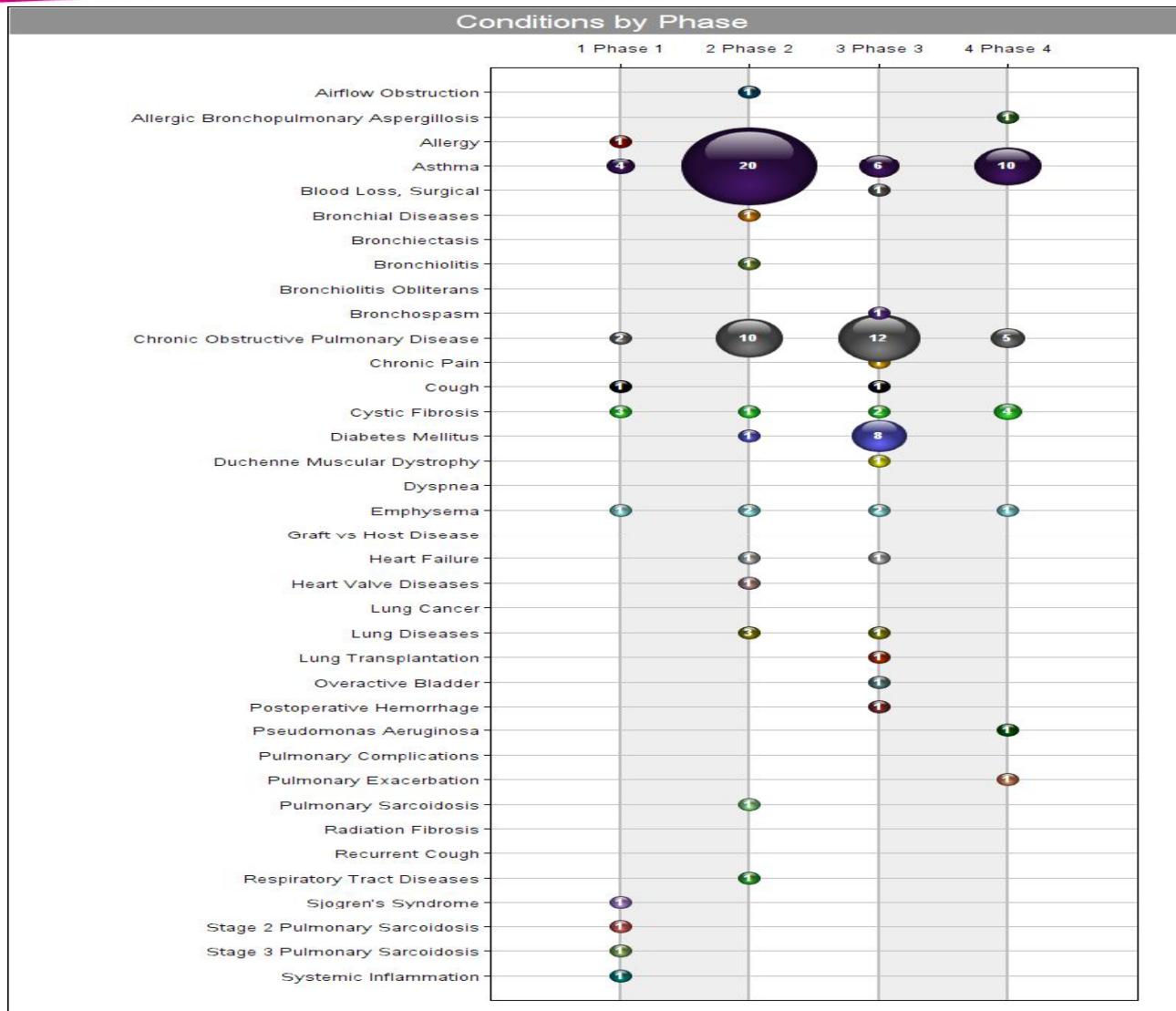
- Are there other opportunities?
- **Search Parameters**
  - Source: ClinicalTrials.gov
  - Strategy: FEV1 or Forced Expiratory or Forced Exploratory as an Outcome Measure
  - Results: 1,627 Trials Using/Used FEV1 as Marker (~7% terminated, withdrawn, suspended)
  - Tools: BizInt SmartCharts for Drug Pipelines/Reference Rows, VantagePoint-SCE

# Analyzing the Results through Visualization



- ❖ 114 Trials
- ❖ 1999 – 2017
- ❖ Some Reasons Why Failed:
  - ❖ Lack of Data
  - ❖ Change in Formulation
  - ❖ Recruitment Challenges
  - ❖ Enrollment Challenges
  - ❖ Funding Challenges
- ❖ Typical Players:
  - ❖ Pfizer
  - ❖ Boehringer Ingelheim
  - ❖ Novartis
  - ❖ GSK
  - ❖ NIH
  - ❖ Merck
  - ❖ AstraZeneca
  - ❖ Etc.

# Observations from the Analysis



- ❖ Conditions other than Respiratory:
  - ❖ Allergy
  - ❖ Pain
  - ❖ Diabetes
  - ❖ Cancer
  - ❖ etc.
- ❖ FEV1 is useful yet potentially lacking for respiratory conditions
- ❖ Can FEV1 be useful for other conditions?
- ❖ Possible next steps: evaluate 'successful' trials using FEV1 for non respiratory conditions

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“Confusion and clutter are the failure of design, not the attributes of information.”

- Edward R. Tufte

inspireUX



What is design? It's where you stand with a foot in two worlds - the world of technology and the world of people and human purposes - and you try to bring the two together.

(Mitchell Kapor)

[izquotes.com](http://izquotes.com)

# Infectious Disease Biologics Pipelines: Normalization and Visualization

Karalee Sheaffer

# Infectious Disease Biologics Pipelines

## Background

- Uses: indication landscapes, company overviews, target scans, etc
- Requires searches in at least 3 pipeline databases
- Multiple search strategies required due to broad scope (i.e. vaccines, mAbs, bacteriophages, etc); differ by database

## Current Process

- Generate results in each database using separate strategies
- Combine results in BizInt Smart Charts
- Normalize data using Vantage Point
- Extract, combine and normalize biologic information from multiple fields manually
- Integrating multiple pipeline records for each product into 1 record using BizInt
- Visualize using Excel

Product Name	Synonyms	Organization(s)	Highest Phase	Type of Biologic	Biological Description	Latest Change Date	Update Date	Database		
1. Clostridium difficile Probiotics	anti-Clostridium MAb, Progenics Therapeutics, Clostridium difficile Probiotics, Clostridium difficile Probiotics (Inegrator)	Medimmune (AstraZeneca), Progenics Therapeutics, AstraZeneca PA-41 PA-40 PA-40 PA-40	Preliminary	Monoclonal Antibody, Progenics Therapeutic	Antibacterial Clostridium difficile toxin antibody, Clostridium difficile toxin antibody, Clostridium difficile toxin antibody, Medimmune Response Parenteral formulation	2012-12-18 Licensing agreement with Medimmune Response	2013-07-10	13.1 Pipeline 13.2 CORTL 13.3 Ads		
13.1 Pipeline										
13.1 Pipeline										
13.1 Pipeline										
13.2 CORTL										
13.2 CORTL										
13.1 Pipeline										
14.1 Pipeline	30B Serobiotin/aztreonam	Merck & Co. (Acquired)	Phase III	Monoclonal Antibody	mAb, fully humanized Clostridium difficile	2013-08-12 Ongoing Phase	2013-08-12	14.1 Pipeline		
				Type of Biologic	Discovery/ Preclinical	Phase I	Phase II	Phase III	Clinical Phase	Total by Type
1				Monoclonal Antibodies	8				Unspecified	9
2				Polyclonal Antibodies	2					2
3				Biological Peptide			1			1
4				Biological Protein, Unspecified	1		1			2
5				Recombinant Proteins	1	1	1			3
6				Biological Spore			1			1
7				Immunoglobulin	1					1
8				Microbota Suspension			1			1
9				Prophylactic Vaccines	3	1				5
10				Prophylactic/ Therapeutic Vaccines	5	1				6
11				Grand Total	21	3	5	1	1	31

# Problem and Goal

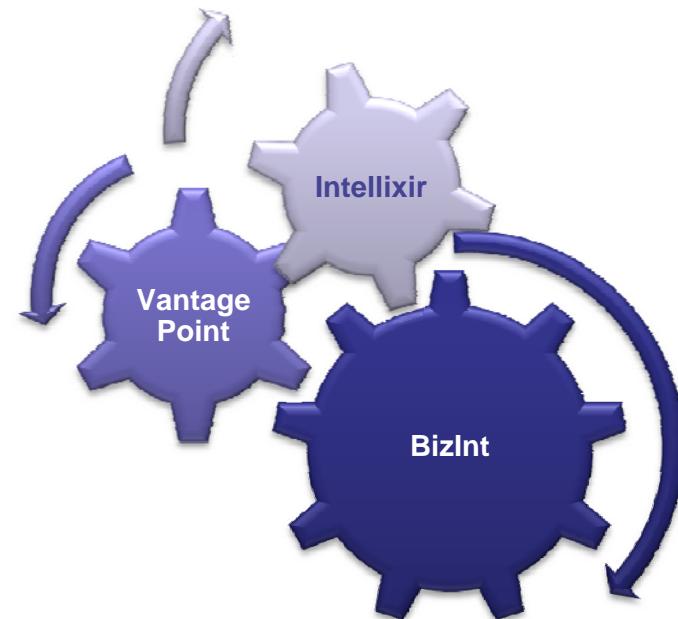
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- Problem

- Manual process for extracting and normalizing the biologics information
- Time consuming
- Subject to interpretation and error
- Limited visualization options

- Goal

- Use tools to combine, extract, and normalize the biologics information from the pipeline data
- Increase efficiency
- Reduce error
- Enhance visualization



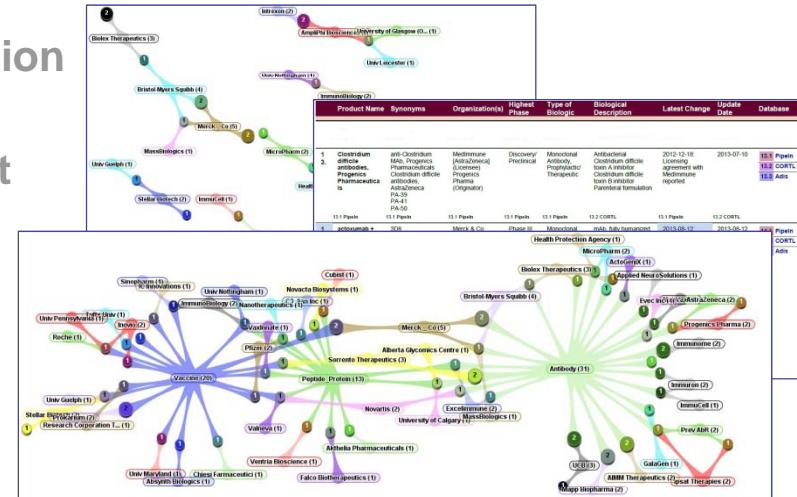
# Case Study

## Indication landscape

- Biologics for a specific indication – vaccines, antibodies, bacteriophages, proteins/peptides, etc
- 3 pipeline databases requiring different strategies; 113 records

## Process changes

- No manual extraction normalization of the biologics data
- Utilize BizInt and INTELLIXIR for extraction and normalization
- Visualize using Vantage Point and BizInt instead of Excel



# Value & Required Skills

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- Value
  - Less manual review
  - Saves time
  - Systematic, organized format
  - Enhanced visualization
  - Easy review
- Required Skills
  - Extensive knowledge of pipeline databases
  - Skills with text analytics tools
  - Knowledge of additional resources that may provides answers to the problem

