

Applying Technologies Across the End-to-End PV Process to Increase Compliance and Quality

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- Industry Dynamics
  - What does the evolving PV landscape look like? What are the challenges we face?
  - Quality: what form does it take and how does it change across product portfolios?
  - Breaking down the PV business processes
- Applying Technologies for Better Compliance and Quality
  - Use industry standards
  - Maximize the quality of case data intake
  - Automate the case processing steps
  - Track operational metrics
  - In aggregate reporting, separate the logic layer from the presentation layer
  - Standardize the signal review and surveillance process

#### ORACLE

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#### ORACLE

# What does the evolving PV landscape look like? What are the challenges we face?

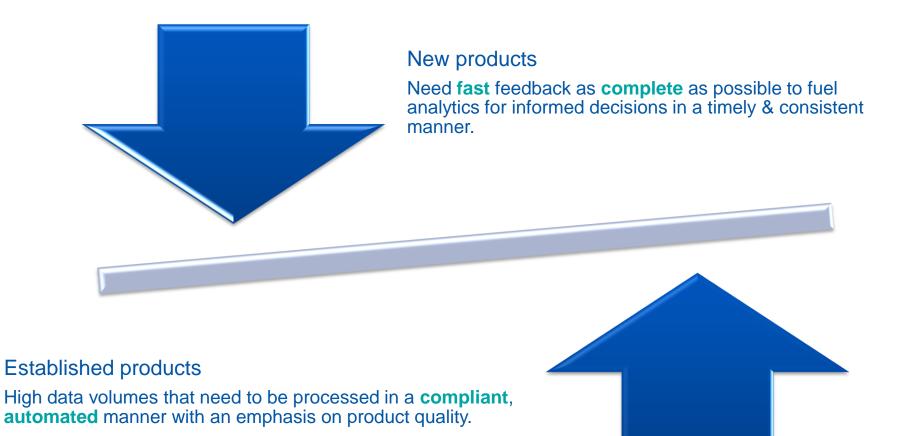
#### **External forces**

- Growing consumer awareness & advocacy
- Increasing PV regulation
- Increasing inspection scrutiny on non core areas
  - Affiliate practices
  - Patient Support Programs
  - Sales Rep activities

#### Internal forces

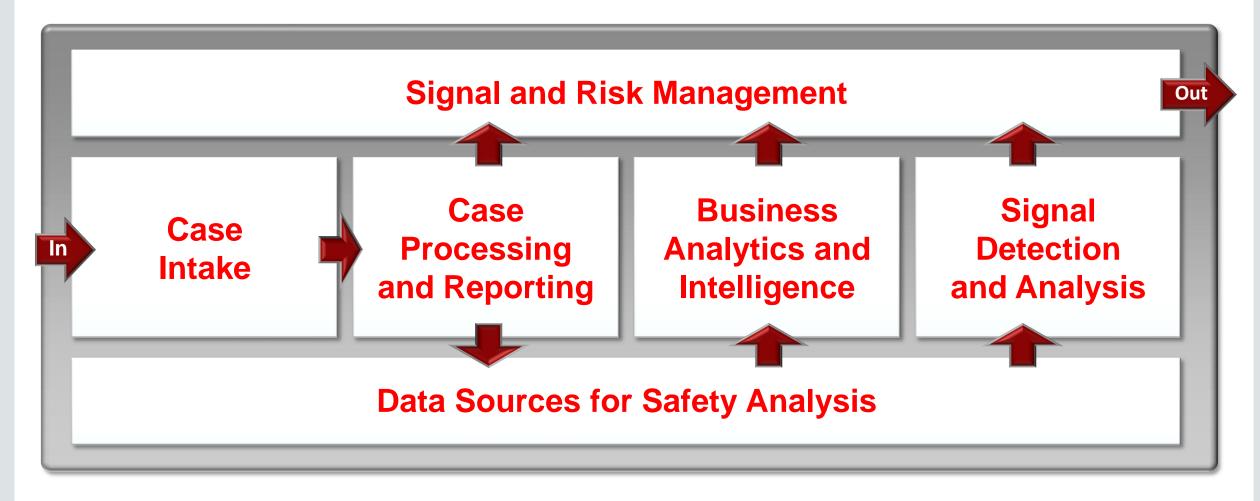
- Aggressive annual growth of cases reported
- Cost containment pressure
- Varied portfolios with differing demands

# Quality: What form does it take and how does it change across product portfolios?





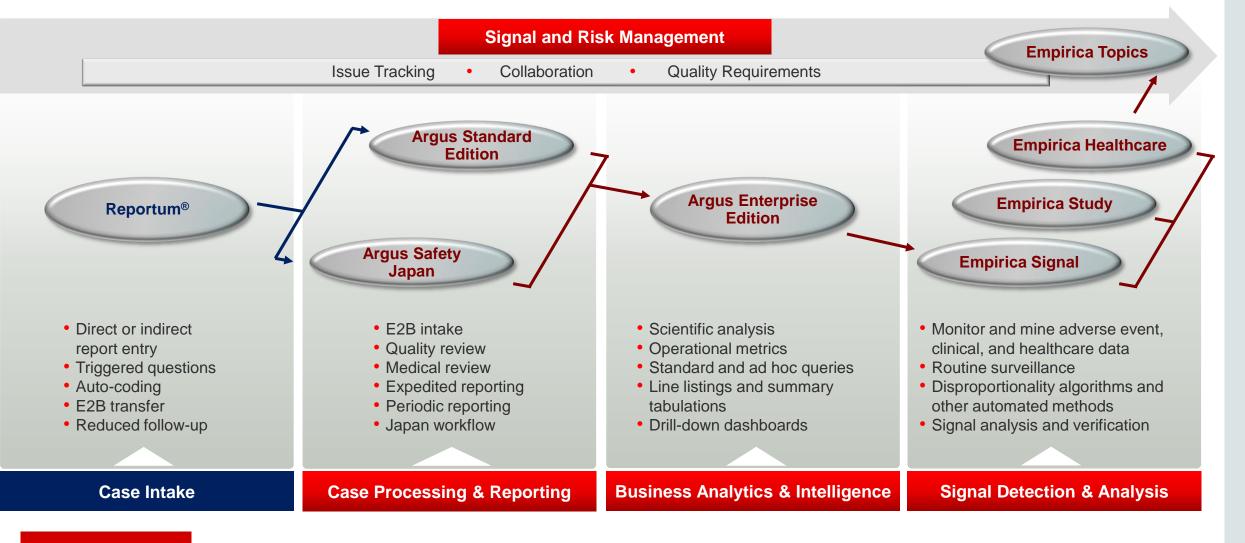
Product Safety and Pharmacovigilance High-Level Business Processes Supported by Disparate Data





## Oracle Health Sciences Safety Suite + MyMeds&Me Reportum®

Integrated Solution Supporting the End-to-End Pharmacovigilance Process



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Driving to Better Standards E2B(R3), eVAERS, eMDR and IDMP



- New standards adapted to the needs of regulators and industry
- Better interoperability and robustness
- More modern IT standards that fix issues with E2B(R2)
- Merges elements of the healthcare standard HL7
- Allows collection of additional safety information, which translates to safer products for patients



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## Quality across the portfolio – Into the detail...

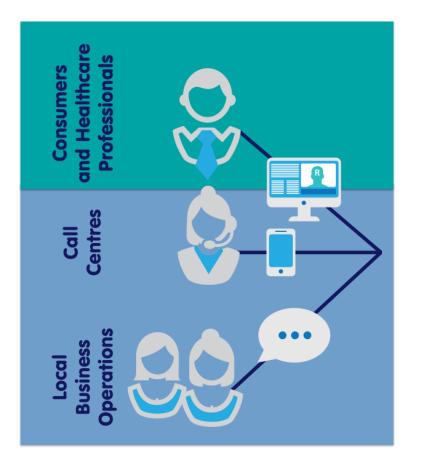
Prive to compile					
omplete & consistent ata set at 1 <sup>st</sup>					
nteraction	Intelligent info collected based upon				
	<ul> <li>Reporter type</li> <li>Products</li> <li>Events (Regulatory 8)</li> </ul>	Data stored & transferred in a			
	<ul> <li>Events (Regulatory &amp; RMP)</li> </ul>	structured (E2B) forma	Removal of reconciliation between AER & PQC	]	
				Dashboard monitoring of the process through intake to Argus	
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## How does technology influence this? End user experience & effectiveness

**Direct Reporting** Spontaneous AER Patient Support Programs

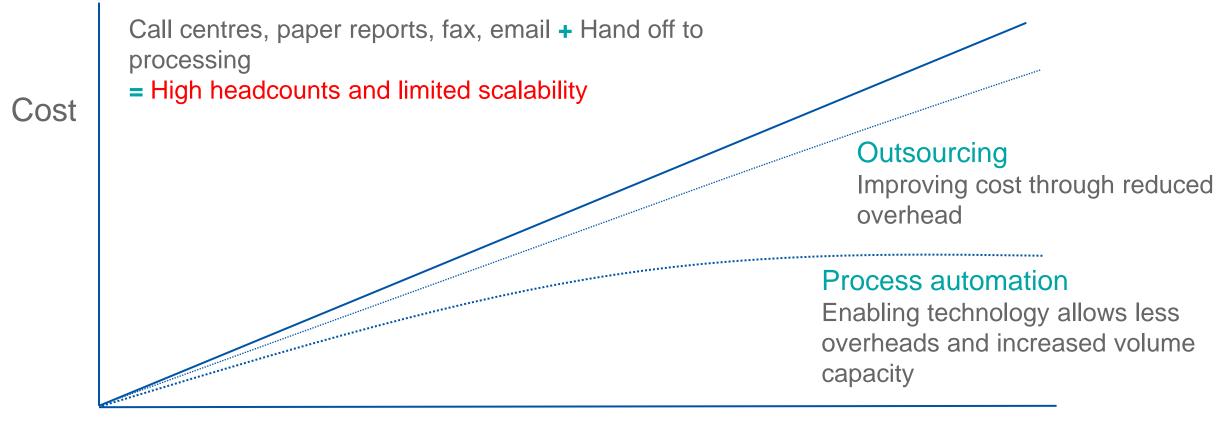
Indirect Reporting Via Companies



- Logical questioning, in stream enables the reporter to give maximum relevant info
  - Background medical history and con meds
  - Event questions dependent upon responses provided
- Product & event specific question triggers
- Product identifiers

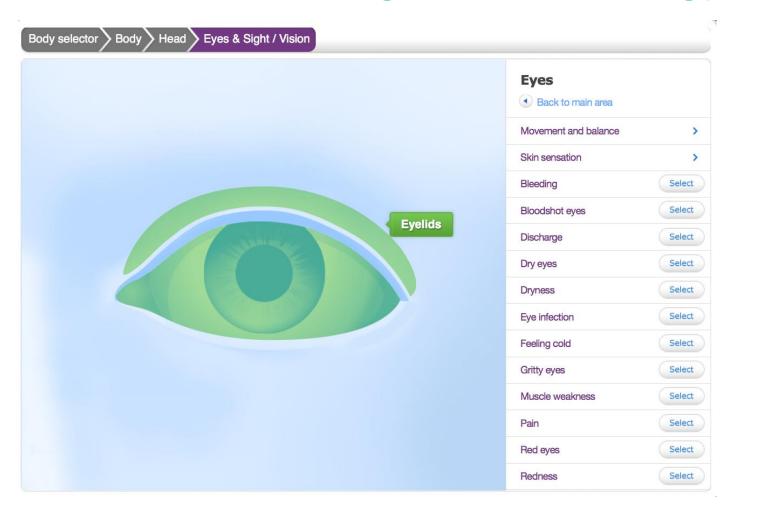


## How does technology influence this? Internal value & efficiency





## Intuitive, intelligent technology at its best





## Intuitive, intelligent technology at its best



Mmm Pharma Reporting Home MMM.com Contact Us (john.operator@pharma.com) Logout

#### MMM Pharma

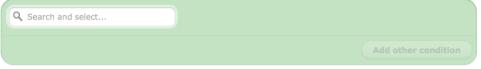
igl( Side Effects $igr>$ Contact Details $igr>$ What Happened	m d > Medicines $>$ Other Conditions	Investigations Summary Confirmation
Report reference: QCLY5ET1 Version: 1 MMMPharmaject is a combination product - Check for Product Co	Your session will time out in 13:37 omplaint	Cancel & Return to Homepage

#### **Other Conditions**

Please indicate if the patient has any of the following risk factors? Please tick all that apply

Biliary non-obstructive	Biliary obstructive disease
Congestive cardiac failure	Diabetes
Dyslipidemia	Exposure to toxic agent
Fatty liver or steatohepatitis	Haemodynamic shock
Hepatitis history (including A, B, C, D and E)	History of alcohol abuse
Inborn error of bilirubin metabolism	Intravenous drug abuse
Malignancy	Obesity
Recent blood product transfusion	Recent exposure to blood products or body fluids
Recent travel to foreign country	

Are there any other medical conditions that we should know about?





## Intuitive, intelligent technology at its best

MyMeds8	Me. Home		新しいレポートをログに記録	Log a New Report
最告書の種類				
可を報告します	か?			
O 有害事象	Ο 製品クレーム	○ 医療情報のリクエスト		
会社が有害事象	を認識した日			
2015-10-27				
设品				
設品名				
ここに入力す	ると提案が表示され	ます		
製品の使用開始	1 E			
2015-10-27				
服告者の詳細				
		14		
名		姓		
服告者のその他	の情報はありますか	\?		
	のはい 0はい			

Submit

My

Meds

Me

## Case Study – US Market Reports

## Goal of Reportum<sup>®</sup> adoption: Improve the quality of data captured whilst streamlining and standardizing report capture

#### **Deployment Overview**

- Live for 1yr +
- High Volumes (70,000 reports p.a. +)
- Collection of PQC & MI requests in addition to AEs
- Reportum workflow allows data to be QC'ed within Reportum before the data moves to Oracle Argus

#### **Benefit**

- Clear metrics illustrating the streamlining of effort in processing report intake
- Automated E2B transfer in place

#### Conclusion

For intake: Quality of data increased, time per report decreased. Manual effort for Argus entry reduced.



## Reportum<sup>®</sup> and Oracle Argus

#### • E2B

- R2 & the potential to extend
- R3 capabilities, e.g. attachments
- Coding
  - MedDRA & synonyms
  - Product coding
- Product quality information & tracking

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## Automating Case Processing Steps

- Auto-intake
- Auto-triage
- Auto-coding
- Auto-scheduling/generation/submission
- Auto-archiving

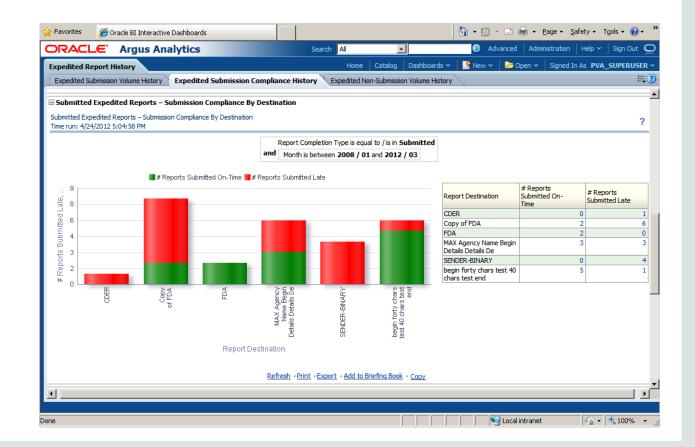




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## **Tracking Operational Metrics**

- Compliance throughout case processing
- Current and retrospective metrics
- Idle time analysis
- Case rework analysis



## Compliance Throughout Case Processing



**Complete each workflow step within internal deadlines in order to lock cases on time (workflow step compliance)** 



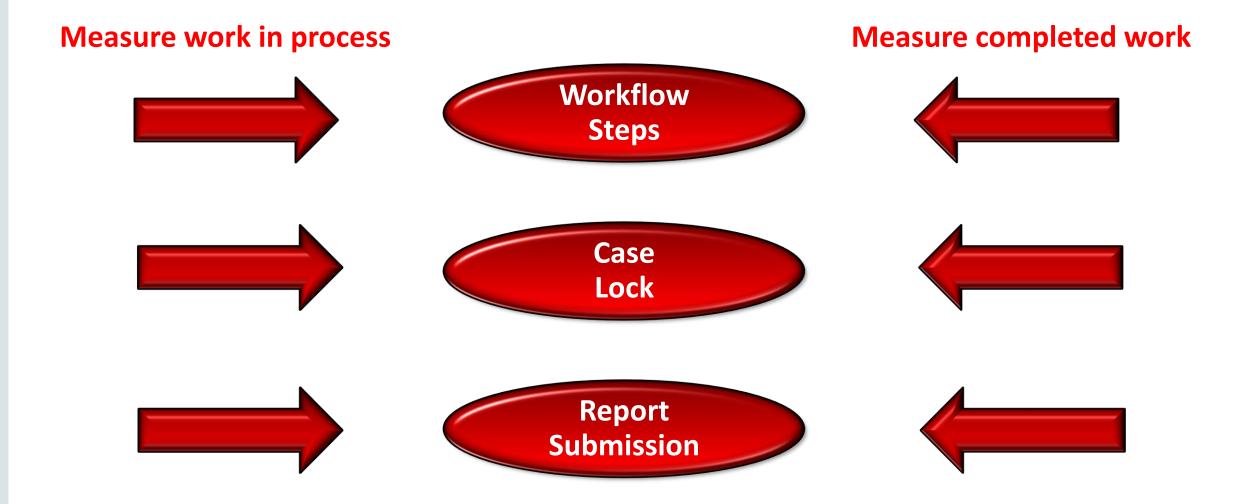
Lock each case within internal deadlines in order to leave sufficient time to submit expedited reports (lock compliance)



Submit each expedited report within regulatory deadlines (submission compliance)



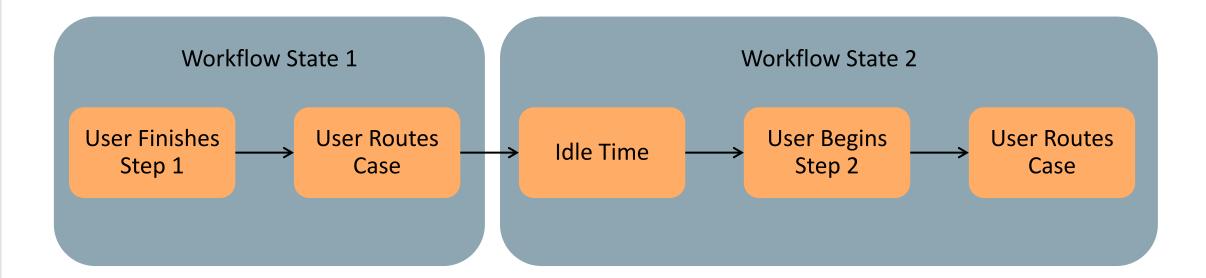
## **Current and Retrospective Metrics**





## Idle Time Analysis

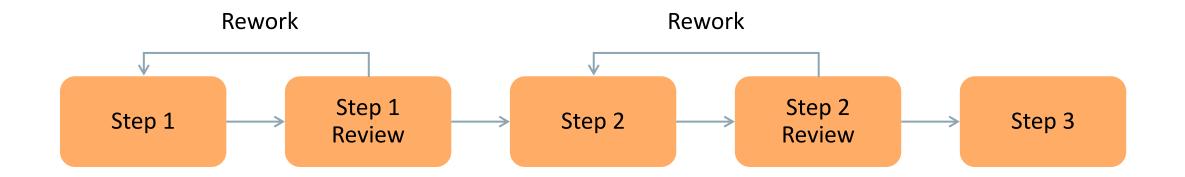
- Analyze the time that cases sit in workflow states before being picked up and worked on
- Optimize the business process to reduce idle time





## Case Rework Analysis

- Analyze rework being done due to unsatisfactory quality
- Take corrective actions such as training to reduce future risk





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## Separating the Logic Layer from the Presentation Layer

## 1 Data consistency

2 Report reusability

#### 3 Report performance





- Traditionally reports have the logic built-in, so report writers create their own logic (according to their own interpretations) during report creation; this inevitably leads to inconsistencies across the organization (different reports give different answers)
- Having the logic layer separate from the presentation layer helps keep it under control – one source of truth



## **Report Reusability**

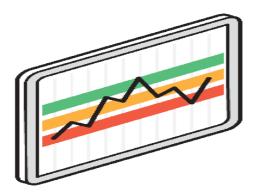


- Traditionally you need many reports and they are expensive to develop because they include the case selection logic
- In the Oracle platform, queries are used to select the cases (logic layer) while the reports are separate (presentation layer)
- This means reports are reusable for many purposes, which reduces dramatically:
  - the number of reports that needs to be developed
  - the cost per report



## **Report Performance**

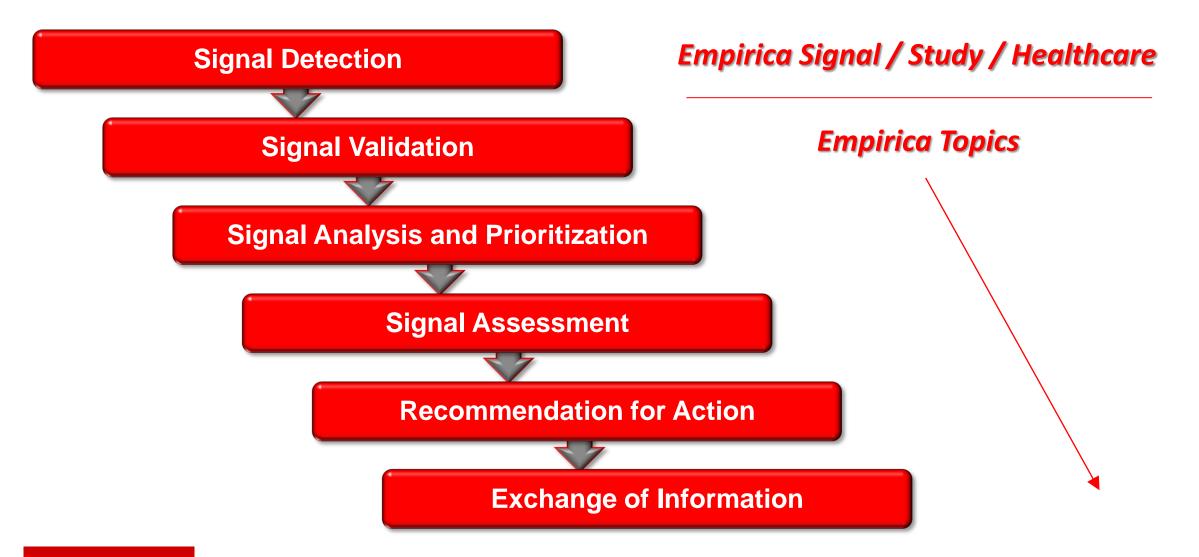
- Queries create a case series, a small subset of the data mart
- The report is executed against this case series, after the safety evaluator has made any necessary changes
- This means much better performance than running a report against the entire data mart





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## The Signal Management Process





## Routine Surveillance

Drug-Event Combinations											
				Home	Drugs Data M	inina Runs	Data Mining Resu	lts Oueries			
Home Drugs Data Mining Runs Data Mining Results Queries Case Series Reports Signals Top User: Robert Weber [admin.weber], View: Pediatric alert*									ug Comments		
Group: T Reviewer: Drug: Ibuprofen											
Select View Filter By Comments Save As View Manage Views											
Columns and Rows Print Download Select Rows											
AERS Signal Configuration Rows are filtered <b>19 rows</b> Sorted by Pediatric Alert, SOC, Pediatric EB05 2013Q1 desc.									e 1 of		
		1socl	¶ Event ⊾	¶Pediatric ↓	¶Pediatric ↓	<b>Vediatric</b>	Pediatric	¶Adult ⊾	Comment	¶ Topic ⊾	¶ Topic ⊾
				Alert	Nsince 2012Q4	N 2013Q1	EB05 2013Q1	EB95 2013Q1		Name	State
<b>P</b>	Ibuprofen	Musc	Juvenile idiopathic arthritis	**NEW**	1	2	2.155	1.967			
<b>P</b>	Ibuprofen	Renal	Renal failure acute	**NEW**	4	24	<u>0</u> 3.548	2.538	Bring to Meeting	<u>Ibuprofen -</u> Pediatric	1 - Create
1	Ibuprofen	Resp	Throat irritation	**NEW**	3	28	<u>2</u> 4.926	2.471			
<b>P</b>	Ibuprofen	SMQ	Oropharyngeal conditions (excl neoplasms, infections and allergies) (SMQ) [narrow]	**NEW**	22	<u>137</u>	3.017	1.542			
<b>P</b>	Ibuprofen	SMQ	Oropharyngeal disorders (SMQ) [narrow]	**NEW**	<u>28</u>	<u>163</u>	<u>1</u> 2.736	1.509			
<b>P</b>	Ibuprofen	SMQ	Acute renal failure (SMQ) [narrow]	**NEW**	8	<u>45</u>	<u>1</u> 2.127	1.696	Bring to Meeting	<u>Ibuprofen -</u> Pediatric	1 - Create
<b>P</b>	Ibuprofen	Skin	Toxic epidermal necrolysis	**NEW**	Z	Z	<u>6</u> 2.458	2.059			
<b>P</b>	Ibuprofen	Skin	Swelling face	**NEW**	5	8	<u>3</u> 2.442	2.162			

#### ORACLE<sup>®</sup>

## Building a Risk Knowledgebase

		Prefere	ences <u>Settings</u> F	eedback <u>Exit</u> Help
	me Data Mining Runs Data Mining Results Queries	Case Serie	s Reports S	Signals Topics
User: Sara Evans [sara.eva	ns], Topic: Pediatric antidepressants - Suicidality			
Print Show All Hide All B				
Topic General Informati	ion			
Visible to work teams: Ant	ibiotics idepressants Browse			
Topic name*: Ped	iatric antidepressants - Suicidality			
Topic description:	iatric antidepressant use - Suicidal thoughts and behavior		4	
Current state: Ass	signed 🔽			
Reason for change *:			* *	
Assigned to user *: Ma	rk Oneil [mark.oneil] 💌			
Keywords: Ped	iatric suicidality			
•	Add to existing project: Unassigned			
o.	Add to new project named:			
Save Cancel				
Topic Links				
Topic Comments				
Topic Attachments				
Add Topic Attachment				
Columns Print Download				
2 rows	Ro	ws Per Page:	50 Page	1 of 1
Attachment name	Attachment description	Source	Created By	Comments
Docket for 2004 FDA Proceedings	This document analyzes and evaluates data submitted by sponsors of several psychotropic drugs in response to FDA requests regarding data pertinent to pediatric suicidality.	URL	Mark Oneil	<u>0</u>
FDA black box warning letter	FDA letter requesting a labeling change for antidepressants to include a black box warning about suicidality in children and adolescents	File	Sara Evans	<u>0</u>

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Simplifying adverse event reporting and product quality capture