

# Data Driven Monitoring A Day in the Life

Human Factors October, 2015

### **The New Mindset: Responsiveness**

I wonder if my strategy from yesterday is still appropriate or has something changed that I need to be aware of...

# **Active Interaction Begins**



# **Dynamic Modularity is the Key Component**



# First Scenario Dashboard to Site List

Studies

User focuses on Study B. All dash parts interact.

# Studies Study A Study B Study C Study D Study E Study F

Geographic Area

Q

Site Status

Display All

Created Initiated Active Closed

▼ Time

Staff





🔺 Cale	endar <mark>Take</mark>	Action	-	🖣 April 🕨	۶ 🕻	>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2	3	4	5	6	7
		Site Visit		Site Visit		
	9	10	11	12	13	14
		Site Visit			Site Visit	
F	16	17	10	10	Phone Call	21
5	Site Visit	Site Visit	Phone Call	19	20	21
		Phone Call				
2	23	24	25 Site Visit	26 Site Visit	27	28
19	30	31	1	2	3	4
		Site Visit				

Created

Initiated

Active

Closed

▼ Time

Staff

User focuses on Study B. All dash parts interact.



CMAs: 3

View Region

View Country





▲ Cale	ndar Take	Action	-	∢ April ▶	۶ ډ	۰ 🗆
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2	3	4	5	6	7
		Site Visit		Site Visit		
1	9	10	11	12	13	14
		Site Visit			Site Visit	
e	16	17	10	10	Phone Call	21
5	Site Visit	Site Visit	Phone Call	19	20	21
		Phone Call				
2	23	24	25 Site Visit	26 Site Visit	27	28
9	30	31	1	2	3	4
		Site Visit				

Studies IN Study B

User focuses on Study B. All dash parts interact.





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Display All	
Created	
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🔺 Caler	ndar Take	Action	•	🖣 April 🕨	ρ 🕻	> 🗆		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
1	2	3 Site Visit	4	5	6	7		
8	9	Associat visits an	ted calenda d related s	ir changes t ite alerts fo	o site r Study B	14		
15	16 Site Visit					21		
22	23	24	25	26 Site Visit	27	28		
29	30	31 Site Visit	1	2	3	4		

🔺 No	otifications	Take Act	ion	•		ዖ 🌣 🗖
Desc	Task	s are rel	ated to st	tudy E	3	nent Details
	Multiple SAEs	Occurred	10001		Visit site to se	ee if there is a problem
	Drug Accounta	ability	20002		Must be top	priority at next visit
	New SAE Repo	rted	30003		Follow up wi	ith site as appropriate
	Enrollment De	lay	40004		Contact site	to discuss enrollment planning
	Multiple SAEs	Occurred	50005		Visit site to s	ee if there is a problem



🔺 Caler	ndar <mark>Take</mark>	Action	-	ዖ 🌣 🗖					
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday			
1	2	3 Site Visit	4	5	6	7			
8	9	10	11	12	13 Site Visit Phone Call	14			
15	16 Site Visit	17	18	19	20	21			
22	23	24	25	26 Site Visit	27	28			
29	30	31 Site Visit	1	2	3	4			

•	Notifications	Take Act	ion	•	ዖ 🌣 🗖						
	Description		Site Number	\$	Acknowlegement Details						
	A Multiple SAEs C	Occurred	10001		Visit site to see if there is a problem						
	👃 Drug Accounta	bility	20002		Must be top priority at next visit						
	🔔 New SAE Repo	rted	30003		Follow up with site as appropriate						
	🔔 Enrollment Del	ay	40004		Contact site to discuss enrollment planning						
	🔔 Multiple SAEs C	Occurred	50005		Visit site to see if there is a problem						



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Studies

Study B

Study C Study D

Study E

Study F

Geographic Area

Site Status

Display All

Created

Initiated Active

Closed

▼ Time ▼ Staff

Study B x Display All Study A

Лo	nitori	ng														Paul Finn	ey 🌻	?
Stu	idies 🕨	Study B: S	ites Tak	e Action	•													
	Site Number	Notifications	Site Name	Investigator 🍦 Name	Country	Approved CRA	Assigned CMA	Days until Max Visit Interval	Workload (Hours)	Worldoad Change	Risk Score	Risk Change	Data Quality	Data Timeliness	Milestone Delay	Milestone Other Triggers	Protocol Adherence	
	10001		Site One	Investigator One	United States	CRA One	CRAOne	10 🔞	2.9	2.0	45	-1.0	3.0	40	4.0	3.9	40	
	20002	Ā	Site Two	Investigator Two	United States	CRA Two	CRA Two	48	2.6	2.4	2.3	1.2	1.9	3.0	3.0	1.2	3.0	
	30003	Δ	Site Three	Investigator Three	United States	CRAThree	CRA Three	-38 🔞	6.0	-2.3	2.8	2.0	2.0	3.2	3.2	40	32	
	40004	Δ	Site Four	Investigator Four	United States	CRA Four	CRA Four	-38 🚺	5.0	-1.9	2.5	1.7	2.5	1.6	1.6	0	1.6	
	50005	4	Site Five	Investigator Five	United States	CRA Five	CRA Five	13 🚺	3.0	2.0	3.5	-3.0	2.0	2.0	2.0	48	2.0	
	60006	Δ	Site Six	Investigator Six	United States	CRASix	CRA Six	11	2.1	2.3	1.3	0	1.8	.40	.40	0	.40	
	70007	Δ	Site Seven	Investigator Seven	United States	CRA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9	
	80008		Site Eight	Investigator Eight	United States	CRA Eight	CRA Eight	17	4.0	-7.8	2.4	0	1.1	25	2.5	1.3	2.5	
	90009	4	Site Nine	Investigator Nine	United States	CRANine	CRA Nine	99	2.0	4.3	3.2	-3.0	3.3	1.5	1.5	1.1	1.5	
	10010		Site Ten	Investigator Ten	United States	CRA Ten	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0	
Stu	Site Risk	Study B: S Score vs. Si	iites Tak	e Action I (Hours)	•	•	•	No t Site Num Site Nam Country	Aousing isplays r o make f ber. 10001 e: Site One United State	a scatter neaningfi further in	plot point ul inform formed c	t ation hoices.	Risk Status Very High High				4	
	3.5		-					Investiga	tor Name: In	westigator Or	ne	_	Low					

Very Low

Override Applied:

Thershold Lines:

Very High

Medium

High

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#### Mousing the Risk Score's alert icon displays a tooltip with

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▲ Studies	Stu	idies 🕨	Study B: S	ites Take	e Action	aningtul i	nformat	ion										
Study B x Q Display All		Site Number	Notifications	Site Name	Investigator 🍦 Name	Country	Approved CRA	Assigned CMA	Days until Max Visit Interval	Workload (Hours)	Workload Change	Risk Score	Risk Change	Data Quality	Deta Timeliness	Milestone Delay	Milestone Other Triggers	Protocol Adherence
Study A Study B		10001	<b>A</b>	Site One	Investigator One	United States	CRA One	CRA One	Risk Overrid	e: Very High			-1.0	3.0	40	4.0	3.9	4.0
Study C Study D		30003	 	Site Two Site Three	Investigator Two Investigator Three	United States	CRA Two CRA Three	CRA Two CRA Three	-38 🔞	6.0	-2.3	2.8	1.2	2.0	3.0	3.0	1.2 40	3.0 3.2
Study E Study F		40004	<u>۵</u>	Site Four	Investigator Four	United States	CRA Four	CRA Four	-38 🔯	5.0	-1.9	2.5	1.7	2.5	1.6	1.6	0	1.6
<ul> <li>Geographic Area</li> </ul>		60006	4	Site Five	Investigator Five	United States	CRA Five CRA Six	CRA Five CRA Six	13 🕑	2.1	2.0	3.5	-3.0	1.8	.40	.40	48	.40
▼ Site Status		70007	Δ.	Site Seven	Investigator Seven	United States	CRA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9
٩		80008 90009		Site Eight Site Nine	Investigator Eight	United States	CRA Eight CRA Nine	CRA Eight	17	4.0	-7.8	3.2	-3.0	1.1	25 1.5	2.5	1.3	2.5
Display All Created		10010	4	Site Ten	Investigator Ten	United States	CRA Ten	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0
Initiated Active	-	-		_				111	T A									· · ·

#### Studies Study B: Sites Take Action



### ▼ Time

Closed

▼ Staff

workload and risk indicators that make up the respective risk categories. Studies 
Study B: 10001 Take Action ٠ Studies Study B x Q Display All Study A 10 関 10001 3.0 40 4.0 3.9 4.0 Site One Investigator One United States CRA One CRA One 2.9 2.0 4.5 -1.0 Study B 20002 1 United States CRATwo CRA Two 48 2.6 2.3 1.2 1.9 3.0 3.0 1.2 3.0 Site Two Investigator Two 2.4 Study C Study D 30003 Δ -38 関 2.0 3.2 3.2 40 3.2 Site Three Investigator Three United States CRAThree CRA Three 6.0 -2.3 2.8 2.0 Study E 40004 Δ -38 👿 United States CRA Four 1.7 2.5 1.6 1.6 0 Site Four Investigator Four CRAFour 5.0 -1.9 2.5 1.6 Study F 50006 ۵. 13 🚺 3.5 -3.0 2.0 2.0 2.0 48 2.0 Investigator Five United States CRA Five CRA.Five 3.0 2.0 Site Five Geographic Area 60006 1.8 .40 .40 0 .40 Site Six Investigator Six United States CRA Six CRA Six 11 2.1 2.3 1.3 0 70007 Δ 3.5 3.9 3.9 1.7 3.9 Site Seven Investigator Seven United States CRA Seven CRA Seven 38 1.9 4.0 3.1 2.0 Site Status 80006 ۸ 1.1 25 2.5 1.3 United States CRA Eight CRA Eight 17 -7.8 2.4 0 2.5 Site Eight Investigator Eight 4.0 Q 90009 Δ 3.3 1.5 1.5 1.1 CRANine 99 2.0 4.3 3.2 -3.0 1.5 Site Nine Investigator Nine United States CRA Nine Display All 10010 United States 3.9 -2.9 3.5 1.0 1.0 3.0 1.0 Site Ten Investigator Ten CRA Ten CRA Ten 44 1.9 6.2 Created 11 4 II Þ Initiated Active Studies I Study B: 10001 Take Action ٠ Closed Site Workload Site Risk Time Workload 5 5 **Risk Indicators** New SAE Reported Staff 4.5 4.5 Adverse Event Rate Issue Open CRF Queries CRF Completion Timeliness Open Grade 1 Issues 4 Score 4 CRF Query Aging Standard Activities 3.5 3.5 **CRF Requery Rate** (Hours) Indicator Delay of FPI з з Enrollment Rate Issue (high/low) Workload 2.5 2.5 First Monictring Visit Due 춣 Investigational Product Review. 2 2 Weighted I Investigator Site File Review Com. Site 1.5 1.5 Last to Follow-Up Subject Rate Manual CRF Query Rate 1 1 Missing or incomplete CRF Page 0.5 0.5 0 Thershold Lines: 0 Data Quality Data Timeliness Milestone Delay Milestone Other Protocol Adher... Site Managem... Site Visit Comp.. Very High High **Risk Category** Medium

A single site is selected from the list and the visualization changes to Site Workload

and Site Risk bar charts with categorical data that makes up total displayed

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The CRA clicks on the Investigator Name



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Study E Study F ▼ Geog Site S

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▼ Time

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The Take Action menu allows the user to select from an alphabetized list of context specific actions.

Studies	Stu	idies 🕨	Study B: 1	0001	Take Action 💌													
tudy B x Q		Site Number	Notifications	Site Nar	Add New Site Issue	1.	oproved RA	Autog CMA	visit interval	Workload (Hours)	Workload Change	Risk Score	Risk Change	Data Quality	Data Timeliness	Milestone Delay	Milestone Other Triggers	Protocol Adherence
isplay All					Export Site Table	- F.												
udy A	1.5	10001		Site On	Modify Site Action	19	RA One	CRA One	10 🤨	2.9	2.0	4.5	-1.0	3.0	40	4.0	3.9	4.0
udy C		20002	4	Site Two	Schedule Site Action	e?	RA Two	CRA Two	48	2.6	2.4	2.3	1.2	1.9	3.0	3.0	1.2	3.0
udy D		30003	Δ	Site Thr	View Last Onsite Visit	P <sup>h</sup>	RA Three	CRA Three	-38 🔯	6.0	-2.3	2.8	2.0	2.0	3.2	3.2	40	3.2
udy E udy F		40004	Δ	Site Fou	View Last Onsite Visit Rep	port 🖻	RA Four	CRA Four	-38 🔯	5.0	-1.9	2.5	1.7	2.5	1.6	1.6	0	1.6
		50005		Site Five	View Open Issues	1	RA Five	CRA Five	13 🤨	3.0	2.0	3.5	-3.0	2.0	2.0	2.0	48	2.0
Geographic Area		60006	Δ	Site Six	View Site Summary Repo	rt⇒	RASIX	CRA Six	11	2.1	2.3	1.3	0	1.8	.40	.40	0	.40
Site Status		70007	Δ	Site Sev	View Study Summary Rep	oort⊩	RA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9
		80006		Site Eig	ht Investigator Eight United St	ates C	RAEight	CRA Eight	17	4.0	-7.8	2.4	0	1.1	25	2.5	1.3	2.5
Q		90009	4	Site Nin	e Investigator Nine United St	ates C	RANine	CRA Nine	99	2.0	4.3	3.2	-3.0	3.3	1.5	1.5	1.1	1.5
play All eated		10010		Site Ten	Investigator Ten United St	ates C	RATen	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0
Kated	4																	

#### Studies ▶ Study B: 10001 Take Action

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							(	of the possible journey. The arrow for Export Site							raurriney 👾						
▲ Studies	Stu	dies 🕨	Study B: 1	0001	Take Action	•		Table indicate monitor like)	es a sub-me with curve	enu. The d arrow	square ic denotes a	or									
Study B × Q		Site Number	Notifications	Site Nar	Add New Site Iss	ue	E Paran (	out of the sys	tem			journey		Data Quality	Data Timeliness	Milestone Delay	Milestone Other Triggers	Protocol Adherence			
Display All					Export Site Table		Excel														
Study A Study B		10001		Site One	Modify Site Action	n	PDF	CRA One	10 [	2.9	2.0	4.5 🏹	-1.0	3.0	40	4.0	3.9	4.0			
Study C		20002		Site Two	Schedule Site Ac	tion	🖻 RA Two	CRA Two	48	2.6	2.4	2.3	1.2	1.9	3.0	3.0	1.2	3.0			
Study D		30003	Δ	Site Thr	View Last Onsite	Visit	🖻 RA Three	CRA Three	-38 🔯	6.0	-2.3	2.8	2.0	2.0	3.2	3.2	40	3.2			
Study E Study F		40004	Δ	Site Fou	View Last Onsite	Visit Report	🖻 RA Four	CRA Four	-38 🔯	5.0	-1.9	2.5	1.7	2.5	1.6	1.6	0	1.6			
		50005		Site Five	View Open Issue	s	🖄 RA Five	<b>CRAFive</b>	13 [	3.0	2.0	3.5	-3.0	2.0	2.0	2.0	48	2.0			
Geographic Area		60006	Δ	Site Six	View Site Summa	ary Report	► RA Six	CRA Six	11	2.1	2.3	1.3	0	1.8	.40	.40	0	.40			
▼ Site Status		70007	Δ	Site Sev	View Study Sumr	mary Report	RA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9			
		80008		Site Eigh	t Investigator Eight	United States	CRA Eight	CRA Eight	17	4.0	-7.8	2.4	0	1.1	25	2.5	1.3	2.5			
Dieplay All		90009	4	Site Nine	Investigator Nine	United States	CRANine	CRA Nine	99	2.0	4.3	3.2	-3.0	3.3	1.5	1.5	1.1	1.5			
Created		10010		Site Ten	Investigator Ten	United States	CRA Ten	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0			
Initiated	-																				
Active Closed	Stu	dies 🕨	Study B: 1	0001	Take Action	•															

Meaningful icons in line with selections tell the story





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The user selects the Risk Score cell for site 10001 and the Site Risk Score Over Time and Risk Category Score charts display.





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# Second Scenario Dashboard to Study List

Studies

User is alarmed with the level of high level alerts and wants to view a grid layout of each study

Tree Map

Take Action

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Site Status

Display All
Created
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٣	Time	
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Cale	ndar Take	Action	-	🖣 April 🕨	۶ 🕻	>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
		Site Visit		Site Visit		
1	9	10	11	12	13	14
		Site Visit			Site Visit	
					Phone Call	
15	16 Site Visit	17 Site Visit	18 Phone Call	19	20	21
		Phone Call				
2	23	24	25 Site Visit	26 Site Visit	27	28
			Cite Fian	Cite Plan		
9	30	31	1	2	3	4
		Site Visit				

Active Closed

▼ Time

Staff

Focus is on the Tree map and risk status. Information could be derived per category by mousing, for example, the large red tree block under Patient Safety, but this user wants to take action now.



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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	De	scription	Site Number	÷	Acknowlegement Details
1	2	3	4	5	6	7					
		Site Visit		Site Visit			4	Multiple SAEs Occur	red 10001		Visit site to see if there is a problem
8	9	10	11	12	13	14	4	Drug Accountability	20002		Must be top priority at next visit
		Site Visit			Site Visit		4	New SAE Reported	30003		Follow up with site as appropriate
16	16	17	10	10	Priorie Gali	21	4	Enrollment Delay	40004		Contact site to discuss enrollment planning
15	Site Visit	Site Visit	Phone Call	19	20	21		Multiple SAEs Occur	red 50005		Visit site to see if there is a problem
		Phone Call					4	New SAE Reported	60006		Follow up with site as appropriate
22	23	24	25 Site Visit	26 Site Visit	27	28		Aging Query	70007		Contact site to discuss query resolution plan
								SAE Occurred	80008		Call the site to discuss SAE
29	30	31	1	2	3	4		Fraud Detected	90009		Immediate investigation of fraud necessary
		Site Visit						Slim Chance of Frauc	d 10010		Call site to address chance of fraud

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#### Data-Driven Monitoring

<ul> <li>Studies</li> </ul>		Stu	dies Take Action	n 🔻						
	۹		Study Number 🍦	Protocol Number/ID	Study Name	Sponsor Name	Next Interim Analysis	Database Lock	Max. Site Workload (Hours)	Max. Site Risk Score
Display All			_				_		(******)	
Study A										
Study B Study C			Study A	P123456	Respiratory Study	Pharma Co. 12	2015-03-04	2015-08-14	129.03	4.50
Study D			Study B	P1234567	Cardiovascular Study	Pharma Co. 13	2015-03-18	2015-11-27	126.96	2.98
Study E			Study C	P12345678	Dermatology Study	Pharma Co. 14	2015-03-31	2016-01-11	126.96	1.34
Study F	_		Study D	P123456789	Asthma Study	Pharma Co. 15	2015-04-10	2016-02-18	129.03	1.29

▼ Geographic Area

Q,

#### Site Status

Display All Created Initiated Active Closed

# Because the user accessed the Study page via the Tree Map, the display on the study page does not present redundant data, but rather offers a different view. If the user had accessed the study page via the Geo Map,

Studies Take Action

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▼ Time ▼ Staff

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Studies

Studies Study A Study B Study C

Study D

Study E

Study F

Geographic Area

Site Status

Site Status

▼ Time

Staff





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#### Data-Driven Monitoring



E R

Studies	Study B Take Action	1 <b>-</b>						
Studies 🔍	Study Number 🖕	Protocol Number/ID	Study Name	Sponsor Name	Next Interim Analy	sis Database Lock	Max. Site Workload (Hours)	Max. Site Risk Score
Study A							(Hours)	
Study C	Study A	P123456	Respiratory Study	Bharma Ca. 12				
Study D	Study R	P1234567	Cardiovaecular Study	Pharma Co. 12	List of mileston	as displays when for	us is nut on a single	study
itudy E itudy F	Study C	P12345678	Dermetology Study	Pharma Co. 13	and from there	a user can access the	e site list. either con	textually
	Study D	P123456789	Asthma Study	Pharma Co. 14	by focusing on a	particular mileston	e or for the overall s	study
Geographic Area				Thanna Go. Is	from the Take A	ction menu.		
	Study B Take Action	n 🔻						
Site Status	Milestone							
ite Status 🔍	Study Au	uthorization	)					
	Study Cont	tract Signed	8					
Time	CRE/Data Des	sign Started	•	0				
Staff	Cont	tract Signed		<u> </u>	90/100			
	Einal Protoc	ol Available						
	CRF Approved	by Sponsor						
	CRE Productio	n Complete		Ø				
	Reg Submis	sion Compl			79/	00		
	Reg Appr	oval Compl			6	5/100		
	IDR/EC Submic	sion Compl				58/100		
	IDP/EC Appr	sion compl.				43/100		
	Validation Brogram	ovar compi.			0			
	validation Program	tor Monting			<u> </u>	39/100		
	linvesuga Site IV	Coll Cornel				39/100		
	Site IV/	Call Compl.				20/100		
	Enrolli	ment larget		L		200/1000	1	
	Ist Subj	Ject 1st visit						
	1st Subject 1s	tTreatment						-
	Final Interim Ana	lysis Report						-
	Last Subject Las	t Treatment						•
	Last Subject (	comi. Study						
	Da	tabase Lock						•
	Anal	ysis Started						
	Analysis Table	es Complete		foot f	h him	Dec. la	Fab. 14	■
		2014 1	LLV ALLO	Nept Oc	T Nov	Dec lan	Feb Mar	Apr May III

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Third Scenario Deeplinking

User accesses the high risk score

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Studies	Stu	dies 🕨	Study B: S	lites Take	e Action	•					the	high and	affected	score	se or			
tudy B x Q		Site Number			investigator 🍦	Country	Approved CRA	Assigned CMA	Days until Max Visit Interval	Workload (Hours)	Workload Change	Risk Score	Risk Change	Data Quality	Data Timeliness	Milestone Delay	Milestone Other Triggers	Protocol Adherence
tudy A																		
tudy B tudy C		10001		Site One	Investigator One	United States	CRA One	CRA One	10 🤨	2.9	2.0	4.5	-1.0	3.0	40	4.0	3.9	4.0
tudy D		20002		Site Two	Investigator Two	United States	CRA Two	CRA Two	48	2.6	2.4	2.3	1.2	1.9	3.0	3.0	1.2	3.0
tudy E		30003	Δ	Site Three	Investigator Three	United States	CRAThree	CRA Three	-38 🔯	6.0	-2.3	2.8	2.0	2.0	3.2	3.2	40	3.2
longy 1		40004	Δ	Site Four	Investigator Four	United States	CRA Four	CRA Four	-38 👿	5.0	-1.9	2.5	1.7	2.5	1.6	1.6	0	1.6
· · · · · · · · · · · · · · · · · · ·		50005		Site Five	Investigator Five	United States	CRA Five	CRA Five	13 [	3.0	2.0	3.5	-3.0	2.0	2.0	2.0	48	2.0
Geographic Area		60006	Δ	Site Six	Investigator Six	United States	CRA Six	CRA Six	11	2.1	2.3	1.3	0	1.8	.40	.40	0	.40
Site Status		70007	Δ.	Site Seven	Investigator Seven	United States	CRA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9
te Status 0		80006		Site Eight	Investigator Eight	United States	CRA Eight	CRA Eight	17	4.0	-7.8	2.4	0	1.1	25	2.5	1.3	2.5
		90009	4	Site Nine	Investigator Nine	United States	CRA Nine	<b>CRA Nine</b>	99	2.0	4.3	3.2	-3.0	3.3	1.5	1.5	1.1	1.5
Time		10010		Site Ten	Investigator Ten	United States	CRA Ten	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0
	4	_	_						T A	_			_	-				+
Staff	Stu	dies ► Site Risk	& Category 5 4.5	Score Over	Time							٠		Color by: Risk Nam	ne Risk			
Staff	Stu	Gles P Site Risk	& Category 5. C	Score Over	Time					Ĺ				Color by: Risk Nam Site 1 Miles Site 1 Site 1 Even	ne Risk int Safety itone Delay Management G Visit Compliand it (Non-Risk)	Quality Se		
Staff	Stu	Gles P Site Risk	8 Category 5 4.5 4 3.5 2.5 2 1.5 1 0 0.5	Score Over	Time					t L		• •		Color by: Risk Narr Site 3 Patie Site 1 Site 1 Even Shape by Event Ty Actu Plan Calit Scort Cont Thershole	ne Risk int Safety itone Delay Management G Visit Compliano t (Non-Risk) rc pe ial Visit ined Visit ined Visit ined Visit is re Change fig Change d Lines: High	Quality Se		

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IMPACT® MySi	tes Home	Trial Site	Reports			Paul Finn	iey 🔅	0
ft Study B/Utah/Site 10001	l > Trial Site Visits > New Tria	al Site Visits			•	) Status:	Ongoing	Visit
TASKS INFORMATION • Trial Site Summary • Properties	Save Cancel Visit Start Date	Reset 15-Feb-2015						
Contract Personner     Locations     Recruitment     Enrolment Plan	Trial Site Time Zone Visit Start Time	(GMT-5:00) US Eastern Time (	New York)					
Event Dates     Visits     Additional	Visit End Date Visit Conducted	15-Feb-2015	1	After logging in, the user acces location in MySites from DDM	sses the contextual . No need to open			
Information     Project Subject     Visits	Cancel Visit Visit Type	Actual Visit		MySites separately and click th contextual area, in this case Sit	rrough/search for te 10001.			
ACTIONS	Primary Monitor Additional Monitors	Finney, Paul						
	Comments	planned meeting with the Pl						
							31	

# **User Preferences**

User accesses their preferences.

<ul> <li>Studies</li> </ul>	5	Studies	Study B: \$	Sites Ta	ake Action	•										Manage	Studies/Site	s
Study B x Q Study A		Site Numb	Notification er	s Site Name	Investigator 🍦 Name	Country	Approved CRA	Assigned CMA	Days until Max Visit Interval	Worklaad (Hours)	Wonidoaid Change		Risk Change	Data Quality	Data Timeliness	User Pre	eferences	
Study B Study C		10001		Site One	Investigator One	United States	CRA One	CRA One	10 闅	2.9	2.0	4.5	-1.0	3.0	40	Chudu D		
Study D		20002	<u>م</u>	Site Two	Investigator Two	United States	CRA Two	CRA Two	48	2.6	2.4	2.3	1.2	1.9	3.0	Study Pr	elerences	
Study E		30003	Δ	Site Three	Investigator Three	United States	<b>CRAThree</b>	CRA Three	-38 🚺	6.0	-2.3	2.8	2.0	2.0	3.2	Roles &	Privileges	
Study F		40004	Δ.	Site Four	Investigator Four	United States	CRA Four	CRA Four	-38 🔯	5.0	-1.9	2.5	1.7	2.5	1.6		0	
		50008	<u>م</u>	Site Five	Investigator Five	United States	CRA Five	CRA Five	13 🚺	3.0	2.0	3.5	-3.0	2.0	2.0	Logout		
Geographic Area		60006	Δ	Site Six	Investigator Six	United States	CRA Six	CRA Six	11	2.1	2.3	1.3	0	1.8	.40			
▼ Site Status		70007	Δ.	Site Seven	Investigator Seven	United States	CRA Seven	CRA Seven	38	1.9	4.0	3.1	2.0	3.5	3.9	3.9	1.7	3.9
		80006		Site Eight	Investigator Eight	United States	CRA Eight	CRA Eight	17	4.0	-7.8	2.4	0	1.1	25	2.5	1.3	2.5
Site Status 9		90006	Δ.	Site Nine	Investigator Nine	United States	CRA Nine	CRA Nine	99	2.0	4.3	3.2	-3.0	3.3	1.5	1.5	1.1	1.5
T Time		10010		Site Ten	Investigator Ten	United States	CRA Ten	CRA Ten	44	1.9	6.2	3.9	-2.9	3.5	1.0	1.0	3.0	1.0
▼ Time		•							-			-						
▼ Staff		hudion	<ul> <li>Obudu Dui</li> </ul>	Sites To	ke Action				V MA									

Studies IN Study B: Sites Take Action



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Studies User has the ability to configure their page User Preferences 🕜 🔺 X layout to optimize their working environment by Q Study B x selecting 1 of 4 appealing layouts – "essentially a Study A desk top" Study B Table Column Order & Display 4.0 Page Layout Study C 3.0 Study D Study Table Columns Study E 3.2 Study F 1.6 Site Table Columns ۸ 2.0 Table Table Geographic Area Site Information Hide .40 Site Number Hide 3.9 Site Status Notifications Hide 2.5 Visualization Visualization Site Name Hide Site Status Q Investigator Name Hide 1.5 Country Hide 1.0 Assigned CRA Hide ▼ Time Þ Assigned CMA Hide Staff Compliance Hide Days Until Max. Visit Interval Hide Workload Hide Workload (Hours) Hide Visualization Visualization Workload Change Hide Risk Hide Risk Score Hide Table Table Risk Change Hide Site Management Quality Hide Data Quality Hide Reset Cancel Set 10 12 14 16 8 Site Workload (Hours)

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▲ Studies		
Study B x Q Study A Study B Study C Study D	Page Layout	Table Column Order & Display
Study E Study F	Table Table	<ul> <li>Site Table Columns</li> <li>Site Table Column</li> <li>Site Information</li> <li>Site Information</li> </ul>
<ul> <li>▼ Site Status</li> <li>Site Status</li> <li>Q</li> </ul>	Visualization Visualization	Site Number 39 Notifications Hide 25 Site Name (hidden) Show 25 Investigator Name Hide 1.5 Country Hide 1.0
▼ Staff		Assigned CMA Hide Compliance Hide Days Until Max. Visit Interval Hide
	Visualization Visualization	Workload     Hide       Workload (Hours)     Hide       Workload Change     Hide       Risk     Hide
	Table Table	Risk Score Hide Risk Change Hide Site Management Quality Hide Data Quality Hide
		Set Reset Cancel
	1 2 4 6 8 10 Site Workload (Hours)	0 12 14 16 Recourt

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# Taking Action PAREXEL Empowering Users

### **PAREXEL Solution – Empowered to take action**

- Unification of Multiple Disparate Systems Allows insights and singular access flow to multiple systems (e.g., IMPACT, DataLabs, Clinphone). Leverage data integration for a clear view.
- **Communication/Collaboration** This is a key element to greater efficiency, return on investment, and fewer risk and workload issues. Multiple avenues in context.
- **Standardization of Products, Processes, and Measurements** Building a PAREXEL suite of products with a common look and feel aids in consistency, relevance, and quick recognition. This applies not only to devices, but to code/framework, interfaces, and interaction quality.
- **Feedback** Provide a consistent avenue for recorded feedback so that PAREXEL can move with the needs, wants, and desires of internal and external customers (e.g., user interviews, usability testing, surveys). This process decreases many stop gaps, including circumventing the prescribed tool or process.
- Dynamic Modularity One size doesn't fit all, whether in a mobile or office scenario. Understanding what the consumer wants and values leverages the quality and key strengths of users.
- Sophisticated Technology Concepts Combine rather than add to current devices requirements. For example, remove scanners and provide device to access data and scan. Phone? Tablet? Laptop? They all have scanning ability that can be integrated.

### **Collaboration/Contact Scenarios in DDM**

- CRA sees that there has been a significant change in a site and needs to contact COL.
- CRA sees changes in several sites that will necessitate need to change travel plans/or to request help for visiting the site contact the COL or possibly LM.
- CRA has a notification showing in DDM that the monitoring plan requires an email to COL, or other team members the ability to initiate that email from within DDM would be very helpful.
- If the CRA could have IMs, and possibly invite multiple participants (CMA/COL/ maybe even PL or LM), this would be very efficient; there is the potential for quicker resolutions.
- The PQL (Project Quality Lead) will also have access to DDM for a study they are responsible for. There could be times when the ability for them to contact a CRA/COL directly would potentially save a lot of "email questions" regarding decisions the CRA has made for site visits, etc.
- COL should have ability to contact CRA/CMA directly from the tool this is actually a feature that will be used very frequently; the COL will frequently reach out to CRA/CMA with specific questions/actions needed regarding the sites.

# **CRA Mobility Needs**

A highly tailored, modularized, intelligent mobile solution that provides CRA's with the right tool at the right time for trial management.



Analytics and trend analysis

# Let's Talk Site Investigator

Site Investigators have a competitive nature. They like to achieve or even over achieve. Engaging this mindset and their strengths is important.

They want their sites to:

- Be the fastest
- Have the fewest queries
- Have the lowest screen failure rates

A Site Investigator's dashboard would:

- Be a time saver for sites
- Have actionable links to open queries
- Provide insight into their site's performance



### **Process to Success**

#### **Human-Centered Product Design & Development**



