



Working Smarter with Data to Optimize Onsite Monitoring

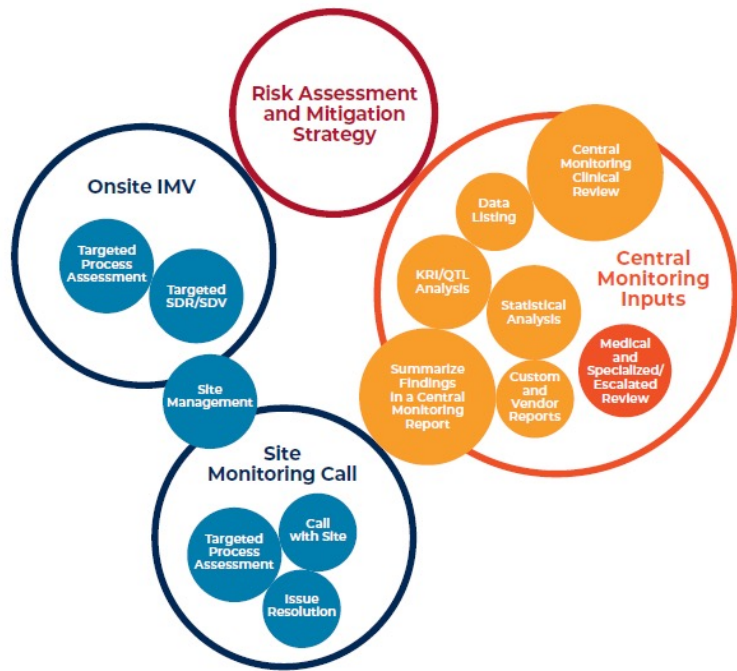
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Date

Expected Benefits of Risk-Based Monitoring (RBM)



Role of Central Monitoring in a Risk-Based Monitoring (RBM) Strategy



Review, that may include statistical analyses, of accumulating data from centralized monitoring can be used to:

ICH E6 R2 says:

Centralized monitoring is a remote evaluation of accumulating data, performed in a timely manner, supported by appropriately qualified and trained persons (e.g., data managers, biostatisticians)

Centralized monitoring processes provide additional monitoring capabilities that **can complement and reduce the extent and/or frequency of on-site monitoring** and **help distinguish between reliable data and potentially unreliable data**



— The Problem – RBM Adoption is Low, Central Monitoring Underutilized

ACRO survey revealed only 61% of trials use RBM

Why?

- Current statistical and KRI dashboard tools require a minimum amount of data (subjects/sites) to become useful leaving smaller/slow-enrolling studies (rare disease) unable to take advantage RBM benefits (~20K PhI/II studies according to Clinicaltrials.gov)
- Despite adoption of statistical tools, even in larger studies, there remains a reliance on activities like data listings reviews and 100% SDR because medical and clinical roles still require holistic patient evaluation (eligibility, medical care of subject, clinical logic, compliance, trends within a subject)
- Clinicians still prefer a patient-centric approach to monitoring

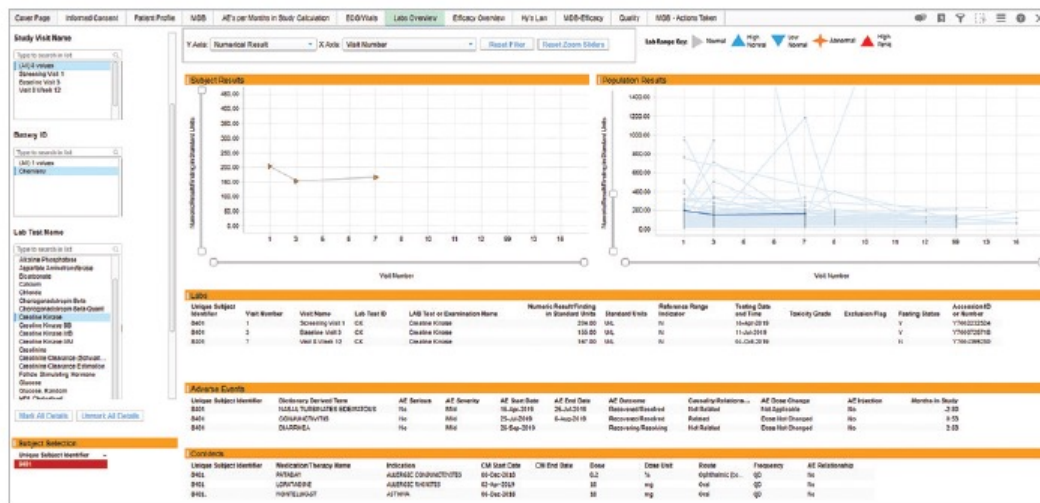
The Evolution of Patient-Centric Monitoring

Evolutions in Monitoring

Type of Monitoring	Real Time	Trending	Dynamic Views	Safety Data	Efficacy Data	Operational Performance	Population Comparison
Traditional SDR/SDV				•	•	•	
Page by Page Remote EDC Review	•			•	•		
Patient Profiles				•	•		
Safety		•	•	•			
KRI Dashboard	•		•	• <i>limited</i>		•	• <i>site population</i>
NEW CMCR Dashboard	•	•	•	•	•	•	•



The Solution – A Dynamic Dashboard



Dynamic, real-time, holistic patient evaluation including:

- Eligibility
- Medical care of subject
- Clinical logic
- Compliance
- Trends within a subject

Benefits:

- Enables RBM on small, slow-enrolling studies
- Satisfies clinicians
- Decreases standard listings by an estimated 25% (custom listings by even more)
- Study-level reviews as well

The Results – Same Data, Same Dashboard, Different Perspective/Findings

Patient Level Reviews

10 patients

(queries issued and deviations documented)

Category of finding	Count
Inclusion/exclusion criteria (including 2 ineligible subjects)	7
Concomitant Medications	13
Lab findings	19
Protocol Deviations	3
Vitals	7
Total:	49



Study Level Reviews

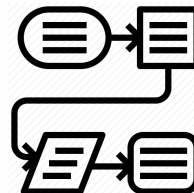
300 patients

(action items entered in CTMS for investigation)

Category of finding	Count of incidence
eDiary Compliance	34% missing
Data logic (ASQ)	7 subjects with Asthma, no ASQ 28 subjects ASQ, no asthma
Incl/Excl	10% (13) randomized subjects incomplete baseline diary 6 of 13 subjects failed second diary criteria as well (Only 1 Dev noted)
Transcription Error (low likelihood fraud)	27 subjects have duplicated all vitals
Dosing Compliance	10% all dosing used consecutive inj sites 48% all subjects have consecutive inj sites 64% non-compliant were self administrated Positive correlation with Inj Site reaction AEs.
Con Med Safety	9 subjects ongoing ranitidine
Fraud signal (low likelihood)	USA sites had 125 holiday/weekend visits, 10 sites in particular

The Challenges

- Technical
 - Collecting adequate test data
 - Standardizing output
 - Synching data delivery
- Process
 - Coordination of new SOP deployment
 - Changes to CTMS to track and report activities to plan
- Personnel
 - Change management
 - Assessing duplication across functions



Questions?