



Lab, ECG and Imaging Metrics Adoption, Implementation and Updates

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Agenda

- MCC Overview
- Metric Initiative Updates
 - MCC Clinical Trial Metrics Initiative
 - MCC Central Lab Metrics Initiative
 - MCC ECG Metrics Initiative
 - MCC Imaging Metrics Initiative
- Central Lab Case Study (Julie DeBus-Levy)
- Panel Discussion



Building Partnerships Around Standardized Performance Metrics

A group of biotechnology, pharmaceutical and service provider organizations helped form a not-for-profit organization, the Metrics Champion Consortium (MCC), where member organizations work collaboratively to develop and implement standardized performance metrics aimed at improving the efficiency and effectiveness of managing and tracking resources needed to successfully run clinical trials.



Mission

The mission of MCC is to develop, through a collaborative process, performance metrics within the Biotechnology and Pharmaceutical industry with the intent to ***jointly*** encourage performance improvement, effectiveness, efficiency, and appropriate levels of controls for both Sponsors and Service Providers in support of the drug development process.

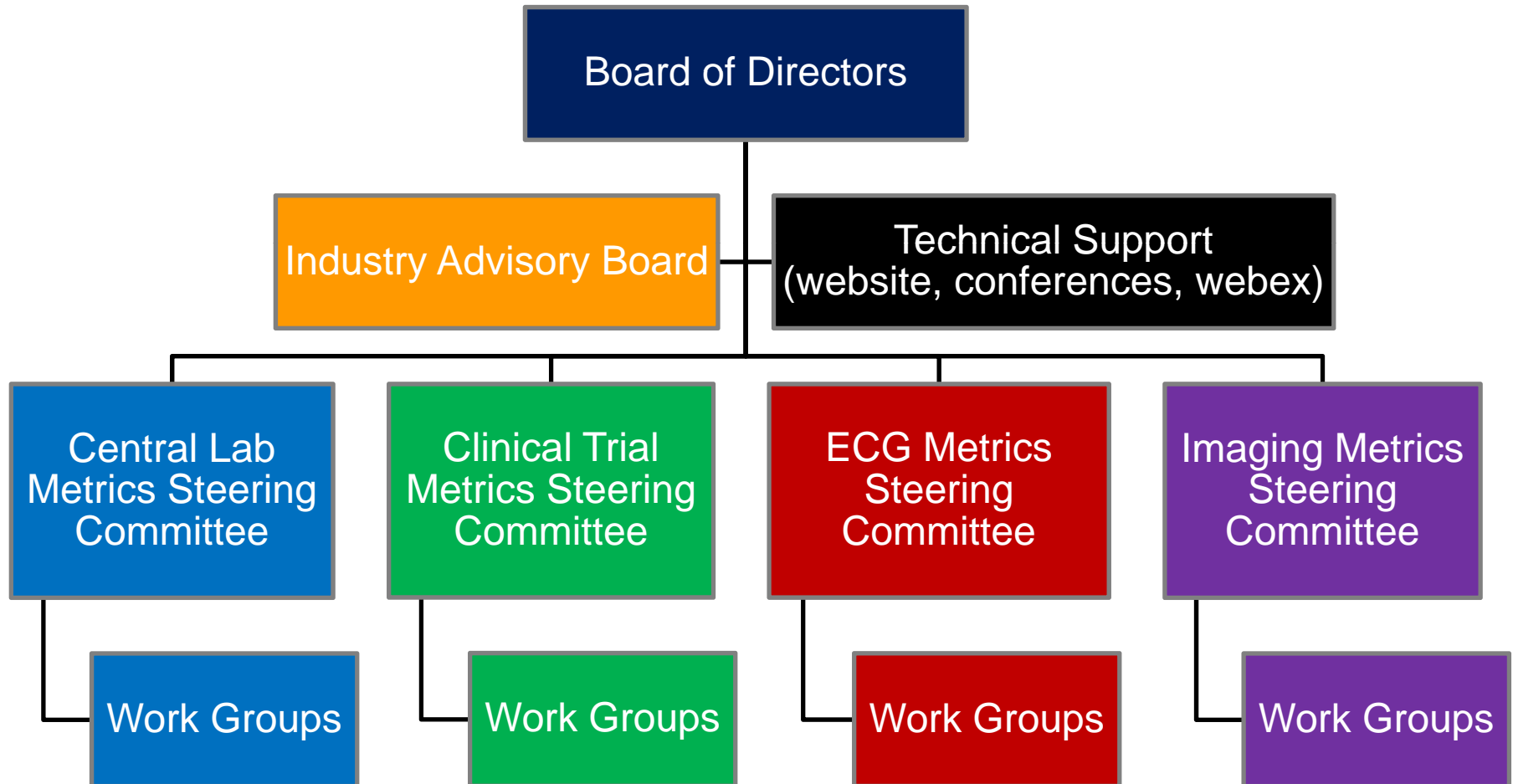


MCC Goals

- Key service areas will have defined sets of performance metrics that are utilized by sponsor/service provider partnerships to manage clinical trial performance
- Entire industry actively participates in metrics creation and change management processes
- Constructive conversations are generated between all parties because of metrics
- Sponsors and service providers grow more productive as a direct result of MCC initiatives

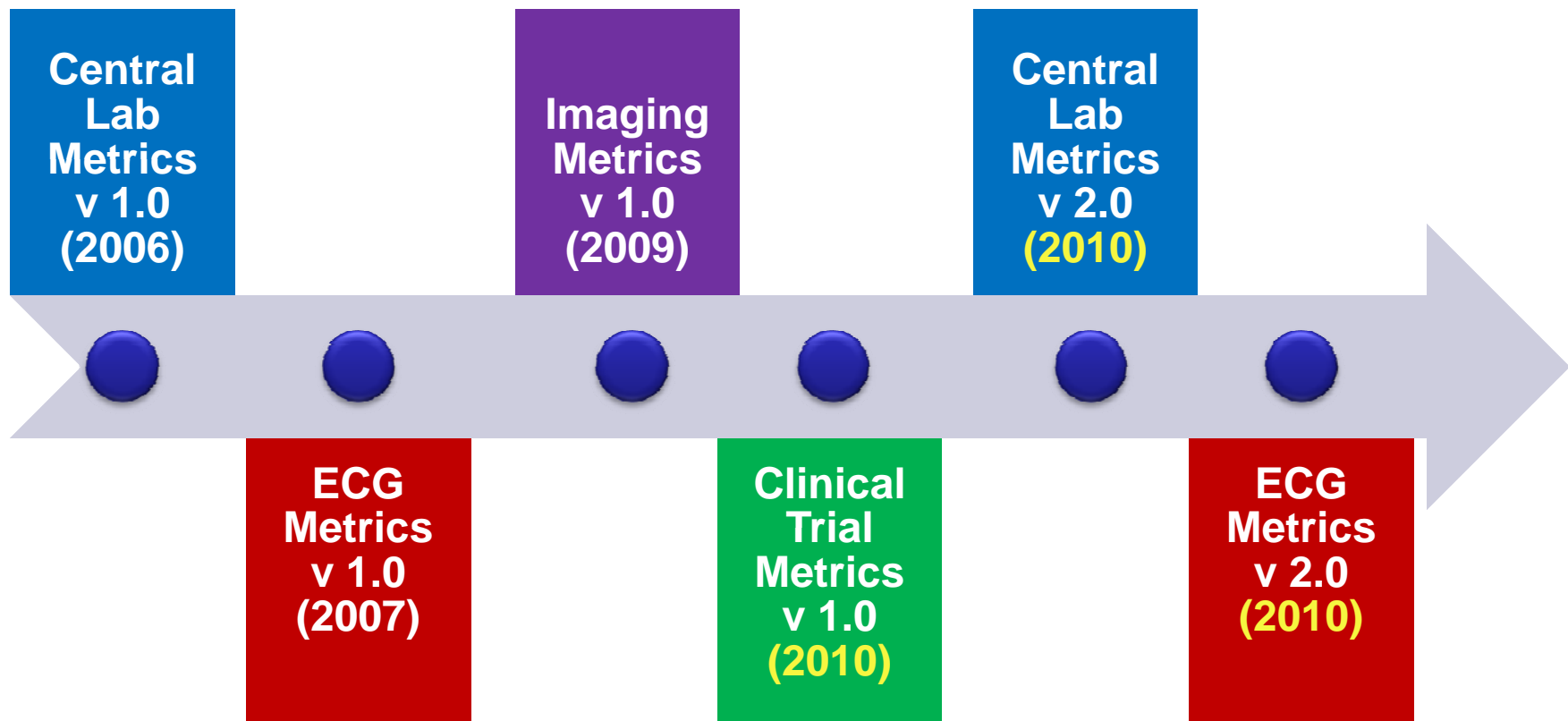


Organizational Structure





Metrics Development Timeline

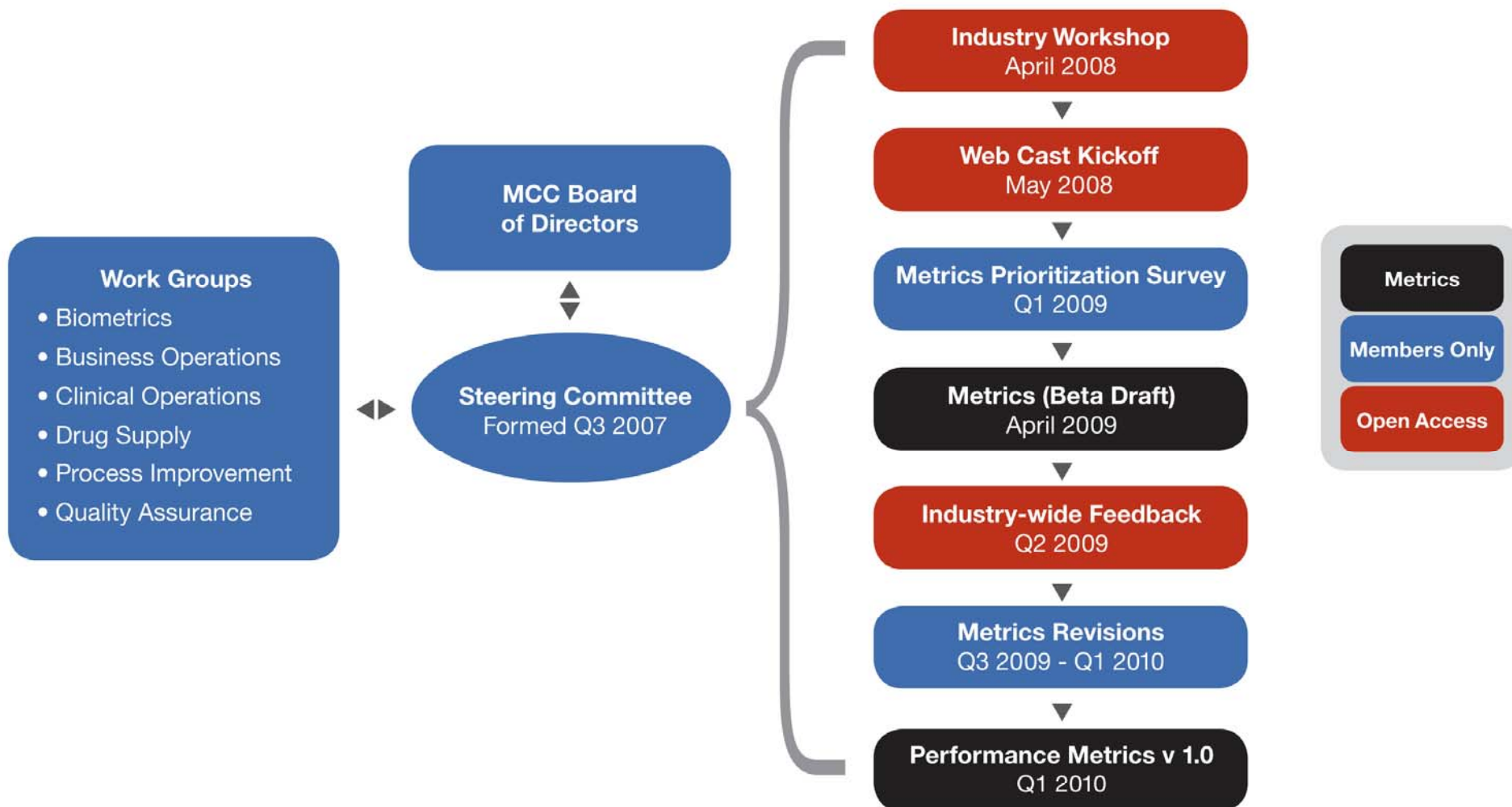




MCC Metric Initiative Updates



MCC Clinical Trial Metrics Development Process



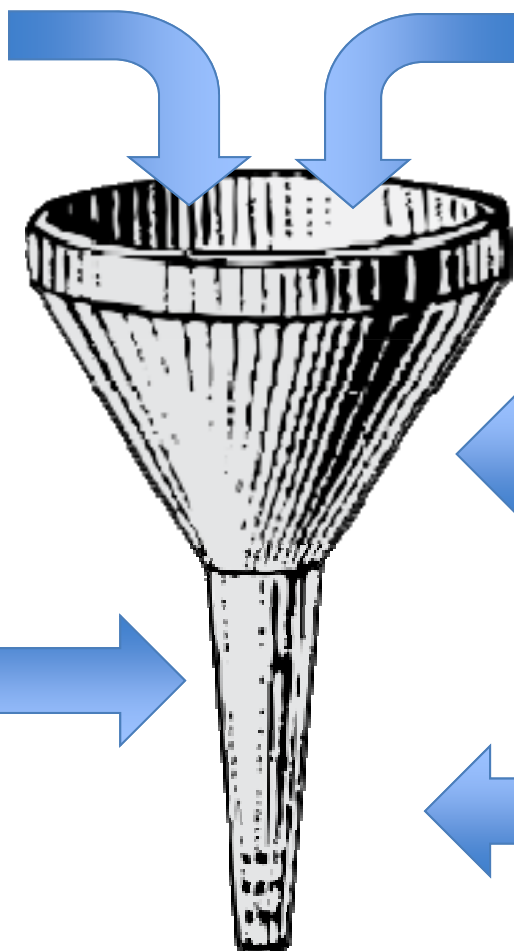
Each working group was asked to:

- Develop a list of key metrics
- Create metrics that can be **key indicators** of performance
- Clearly define measurement criteria

MCC Clinical Trial Metrics Development Process

Brainstorm Metrics Lists

Existing Metrics Lists



Process Mapping
Screening & Metrics
Mapping Tool

Industry Feedback

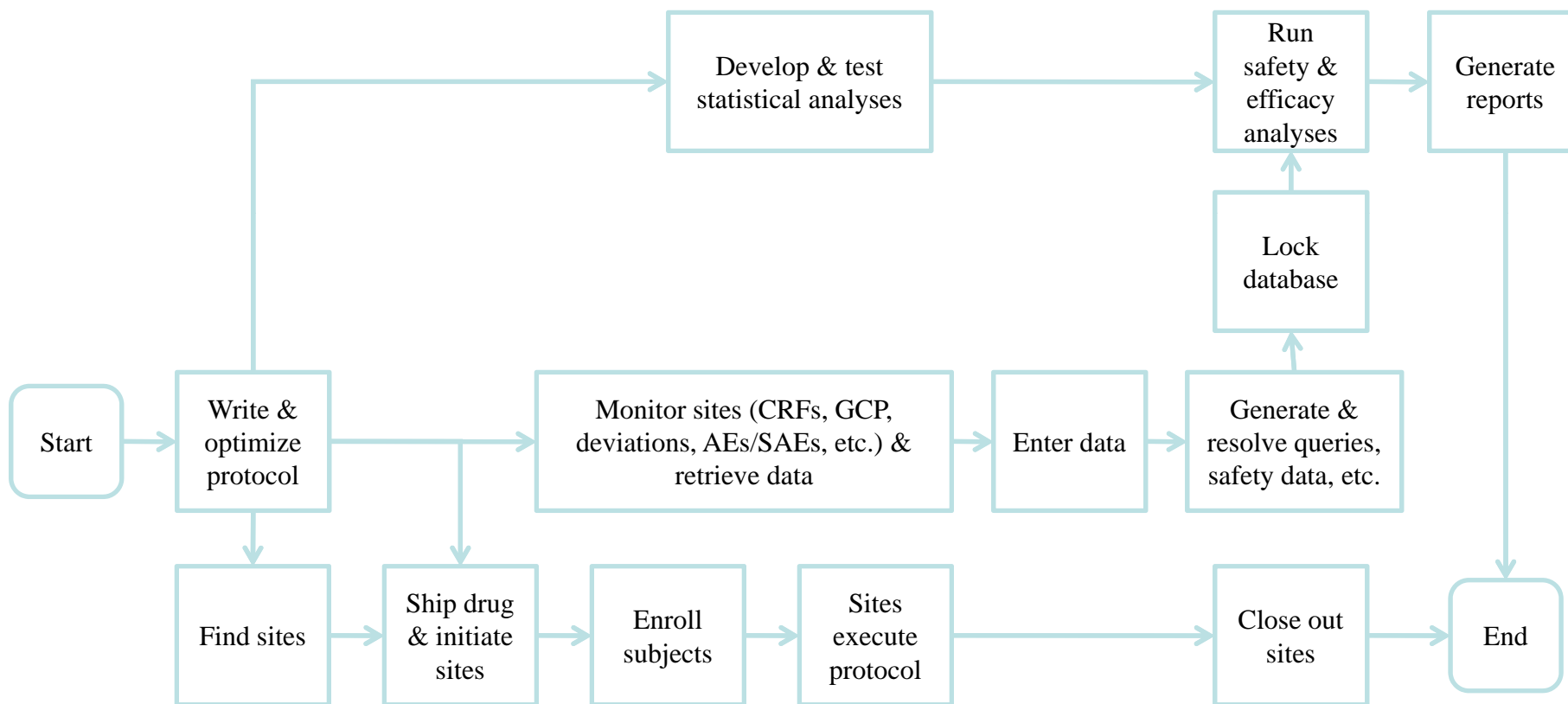
Revisions and
Enhancements

Metrics version 1.0

Typical Trial-Level Process

Quality Assurance: Project & site quality oversight

Program Management: Project oversight; Manage timelines, budget, staffing



Business Operations: Contract negotiation, management, scope control, support processes

Finance: Budget oversight



Metrics Mapping Tool

Process/Task Definition Form

Process/Task Name: CRF Data Completed and Entered Group 4a		<i>REVIEWED</i>	
Process/Task Objective: Ensure that CRF Data is entered into the correctly and within an acceptable cycle time.			
Pharma Inputs - Final Protocol - CRF Design or required fields - CRFs	Suppliers DM Bios MW CRF Designer PM	Subtasks in This Process/Task Beginning Boundary: Paper: CRF Received by Data Management Site. EDC: Patient Visit completed and/or source docs completed	Products - CRFs - Discrepancies - Listings
Supplier Issues - Poor CRF design - Volume of CRFs to enter - Complexity of CRFs		Subtasks Paper: - Receipt and logging - Scanning/imaging/indexing - Pre-entry processing - 1 st pass entry - 2 nd pass entry - Verification EDC: Viewing Patient Visit Complete Source documents/worksheets collected Entry of data into EDC system Screen/page submitted to EDC system	Customers Data Coordinators Sponsors
CRO Inputs - CRF Design - CRFs - Retrieval Plan - Training - Data entry guidelines - Obvious corrections / self-evident corrections	Suppliers Sponsor Bios MW CRF Designer PM	Factors that drive cost/cycle time Lack of standardization of CRFs Training and experience of data entry personnel Systems, WAN, and response time CRF design	Metrics (T, CT, Q, E) <ul style="list-style-type: none"> • % of paper pages completing 2nd pass entry within target (T, E) Sub-processes: Time from receipt to scanning (CT) Time from scanning to ready for entry (CT) Time from ready for entry to 1st pass entry (CT) Time from ready for entry to 2nd pass entry (CT) • % of eCRFs entered into within target after patient visit (CT) • # of discrepancies generated per CRF (Q) • Query Rate (Q) to be expanded on • Pages double entered/hour/FTE (E) not sure this is universal...is this a single company standard only?
Supplier Issues Poor CRF design		Ending Boundary: Paper: 2 nd pass entry complete EDC: eCRF submitted to	

Each MCC Clinical Trial Performance Metric has the following components:

Metric Type	Metric Title	Category	Definition	Formula / Example	Additional analysis on a "for cause" basis:	Metric Indicator	Reporting Detail	Unit of Measure	Reporting Frequency	Target	Business Driver(s) / Benefit Statement	Comments
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Metrics Type = Cycle Time(CT), Timeliness(T), Quality(Q), Efficiency(E)

Metrics Indicator

- Leading Indicator = End user will use metric to identify opportunities to affect change in the current trial.
- Lagging Indicator = End user will use metric to identify opportunities to affect change in future study trials.

Reporting Detail = Examples of how the data might be reported (i.e. by country, by site, etc.)

Target = Threshold level to prompt further review & discussion



Clinical Trial Performance Metrics (beta version)

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Metric #	Metric Type	Metric Title	Category	Metric Indicator
1	CT	Contract finalization and execution timeliness	Contract Execution	LAGGING Indicator

Definition	Formula / Example	Reporting Detail
Time from initial written authorization of work/project award to full contract or work order execution. The total number of calendar days from the initial written authorization of work/project award of a project to having the contract or work order fully executed by all parties.	Formula: Total N of calendar days from initial written authorization/project award to last signature on the contract / work order / LOI; # of changes to initial SOW during negotiation process; # of review cycles between the parties; # of days from contract award to first executed agreement (e.g. LOI, LOA, Contract). Specific Example: CRO is notified of project award on November 15, 2007 and the contract is finalized on May 21, 2008. Calendar days = 188 days	
		Unit of Measure
		Total N days (calendar)

Business Driver(s) / Benefit Statement	Additional Analysis on a "for cause" basis	Reporting Frequency	Target
Business Drivers include: single function, multi-function or full service outsourcing as well as the relationship between the parties; new, repeat or preferred provided. You will be informed of whether there is conceptual agreement on the project requirements by measuring the number of days it takes for a service provider to finalize the work plan and associated costs, obtain legal agreement for contractual terms and by measuring the numbers of days it takes for full contract execution, the number of review cycles throughout negotiation process (contract, SOW and budget) to reach agreement and the number of changes made to the SOW. Lengthy negotiations may be a result of poor scope clarity and/or misunderstanding between the parties regarding work being outsourced. In addition, you can extrapolate that as the relationship matures and the parties agree on the use standard units of measure or milestones, that the number of change orders related to lack of SOW clarity will decrease and the negotiation time will occur in an expedited timely manner.	Additional analysis on a "for cause" basis: Number (N) of sequences/rounds of negotiation/ review of the agreement between the parties.	Once	MSA: 6-8 wks (45-60 days) No MSA: 8 - 12 wks (60 - 120 days)





Clinical Trial Performance Metrics (Beta version)

Metric	Metric Title	Metric Indicator
1	Contract finalization and execution timeliness	LAGGING Indicator
2	Final Approved Protocol to Final Approved CRF	LAGGING Indicator
3	Cycle Time protocol approval to first site activated	LEADING Indicator
4	Investigator Site Reg pack approval rate	LEADING Indicator
5	Cycle time from final Protocol Approval to First Patient-First Visit (all sites)	LEADING Indicator
6	% Planned Sites Activated	LEADING Indicator
7	Drug Onsite at Initiation	LEADING Indicator
8	Drug Supply Planning	LEADING Indicator

Metric	Metric Title	Metric Indicator
9	Cycle time from Site Activation to First Patient First Visit	LAGGING Indicator
10	Site Productivity	LEADING Indicator
11	Screen Failure Rate	LEADING Indicator
12	Correct Drug Inventory & Resupply	LEADING Indicator
13	% Patients randomized	LEADING Indicator
14	Patent Retention rate	LEADING Indicator
15	% Sites Prematurely Terminated	LAGGING Indicator
16	Audit Findings	LAGGING Indicator

LAGGING INDICATOR = End user will use metric to identify opportunities to affect change in the future study trials.

LEADING INDICATOR = End user will use metric to identify opportunities to affect change in the current trial.





Clinical Trial Performance Metrics (Beta version)

Metric	Metric Title	Metric Indicator
17	Final CRF/eCFR to Database "Go Live"	LAGGING Indicator
18	CRFs Received to Data Entry Complete - Paper	LEADING Indicator
19	Patient Visit Complete to eCRF data entered - EDC	LEADING Indicator
20	Data discrepancies generated by automated edit checks	LAGGING Indicator * *Could be LEADING Indicator if reported on a monthly basis
21	Receipt of Query Response to Database Update Time	LEADING Indicator
22	QC Rounds Required to Meet Target Error Rate	LAGGING Indicator
23	LPLV (last patient, last visit) to Database Lock	LAGGING Indicator

Metric	Metric Title	Metric Indicator
24	SAP Finalization to Final Pre-lock Blinded TLGs	LAGGING Indicator
25	TLGs delivered within target date	LAGGING Indicator
26	Determination of project progress versus planned	LEADING Indicator
27	Invoice and payment timeliness	LEADING Indicator
28	Issue identification, management and criticality	LAGGING Indicator
29	Measure of true change orders and timeliness of execution	LAGGING Indicator
30	Budget and pricing accuracy	LAGGING Indicator

LAGGING INDICATOR = End user will use metric to identify opportunities to affect change in the future study trials.

LEADING INDICATOR = End user will use metric to identify opportunities to affect change in the current trial.



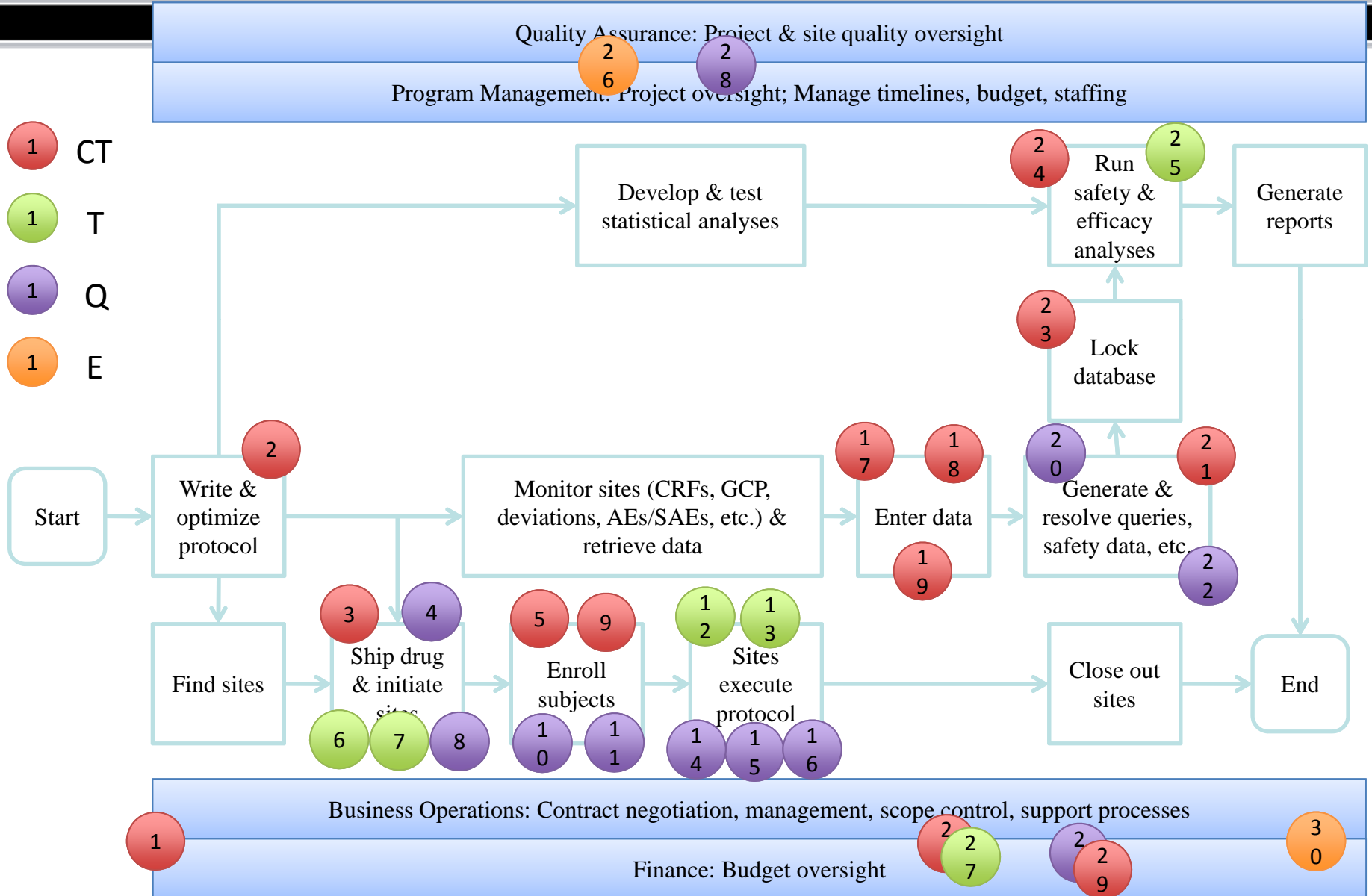
Type of Metrics

- Cycle Time (CT) 13
- Timeliness (T) 6
- Quality (Q) 11
- Efficiency (E) 2

Total 30*

* Note: Metrics 27 & 29 each have 2 metrics

Metrics Distribution



- Gathered industry feedback via workshops and online survey tool
- Reconvened work groups to view industry feedback and revise metrics, where needed

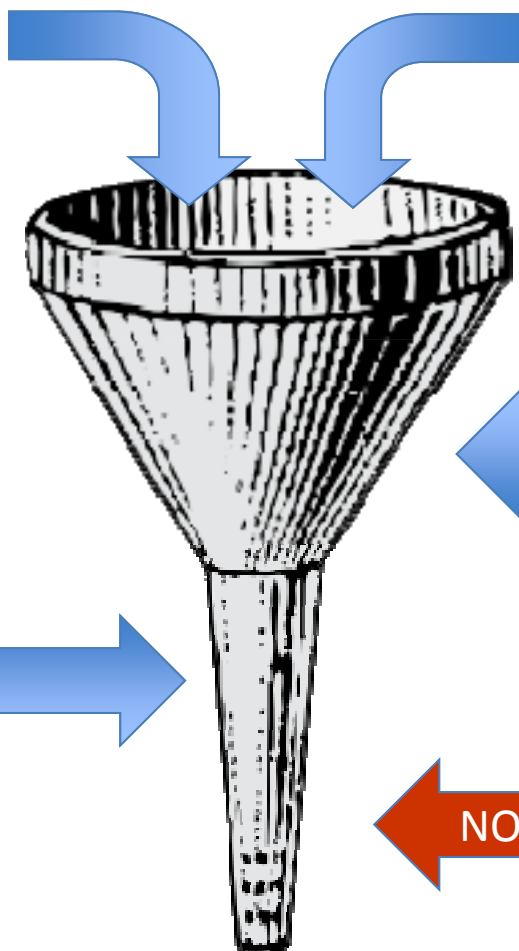
- Process Improvement WG (formed Oct '09) tasked with following purpose:
 - Review Beta metrics to ID significant gaps in coverage of the clinical trial process
 - Assess each proposed metric to:
 - ❖ determine how it could be used for process improvement
 - ❖ ensure data formats support process improvement activities
 - Create *How to use the metrics for process improvement* guidance paper

- Identified several areas in need of additional metrics (i.e. site monitoring)
- Conducted in-depth review of study initiation process and determined:
 - Cycle time metrics need to be combine with Quality metrics to avoid sub optimization
 - Quality metrics not readily available
- Developed new quality metrics for site selection & protocol writing

MCC Clinical Trial Metrics Development Process

Brainstorm Metrics Lists

Existing Metrics Lists



Process Mapping
Screening & Metrics
Mapping Tool

Industry Feedback

Revisions and
Enhancements

NOW

Metrics version 1.0
4/2010

Finalize Clinical Trial Metrics version 1.0 (Q1)

- **Metric Development Work Groups** – hold WebEx meetings to finish metric development process
- **Process Improvement Workshop** – conduct a special workshop for MCC members at ExL Pharma Lean Sigma and Kaizen for Life Sciences R&D Conference (3/22/10)

Release Clinical Trial Metrics version 1.0 (Q2)

- **Launch Metrics version 1.0** – conduct work shop at IIR Partnerships in Clinical Trials conference
 - Announce metrics v 1.0
 - Discuss implementation process

Support Implementation of Clinical Trial Metrics v1.0 (Q3/4)

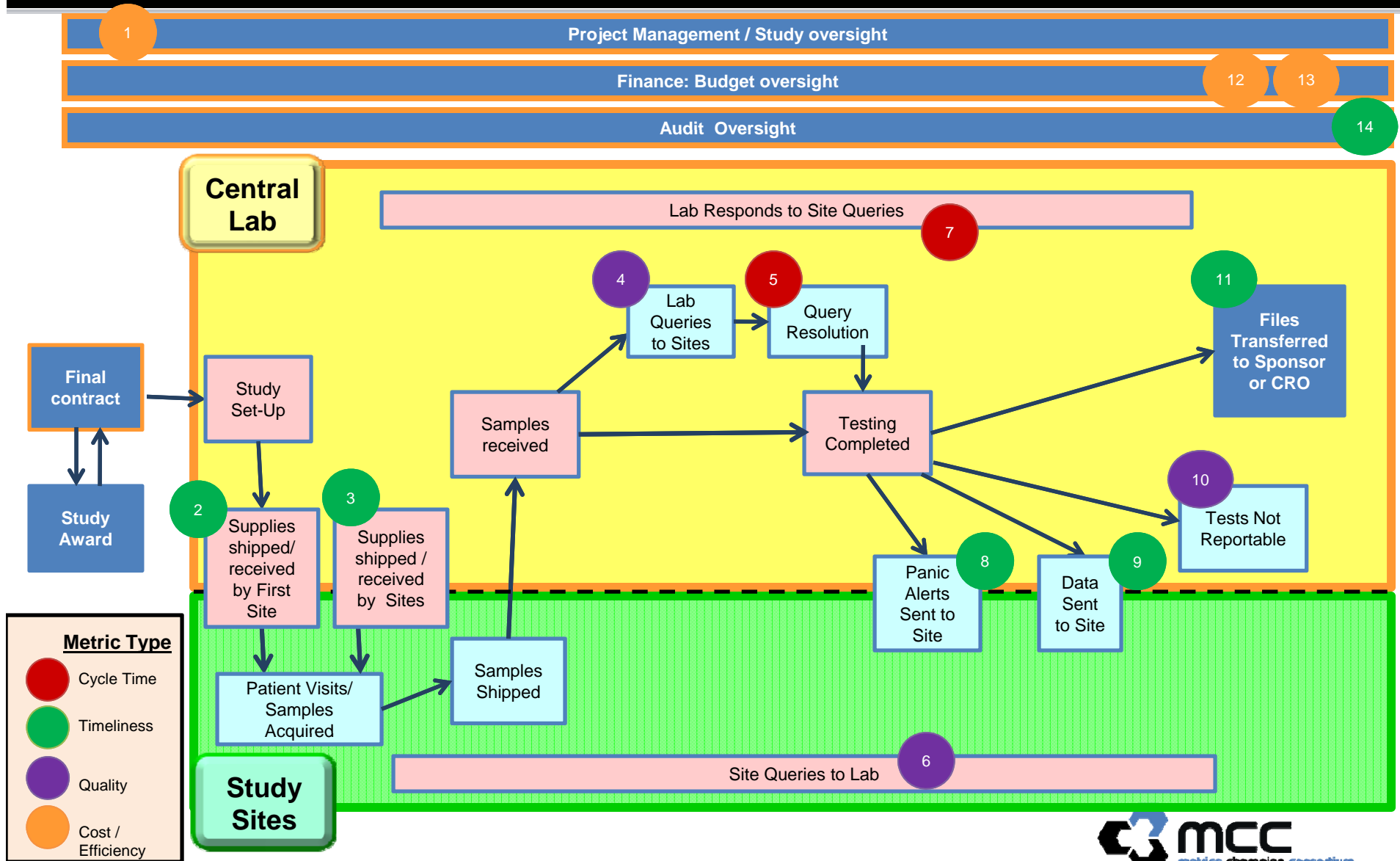
- **Launch Implementation WG (June 2010)** – hold monthly WebEx meetings to support implementation and foster shared learning among MCC members.
 - ❖ Develop implementation case studies
 - ❖ Plan to conduct survey in Q4

2009 Initiative Accomplishments

Version 1.0 of metrics in use for over 3 years

- Continued to support roll out of metrics across industry
 - Industry conferences (USA and Europe)
- Launched Central Lab Metrics Data Reporting Tool WG
 - Exploring how metrics are being used and reported
- Conducted Implementation WG meetings
- Developed “Welcome Packet” to educate MCC members about Central Lab Metrics

- Expand Steering Committee Leadership team
- Develop and release updated version of MCC Central Lab Metrics (version 2.0)
- Develop Sponsor / Central Lab Case Studies
- Promote use of MCC Central Lab Metrics throughout the Industry



Metric	Metric Type	Metric Title
1	Cost / Efficiency	Project management turnover
2	Timeliness	Percentage first supplies shipped on time to the first site for first patient
3	Timeliness	Percentage first supplies shipped on time for all sites (all regions)
4	Quality	Percentage of queries from central laboratory to site based upon requisitions received
5	Cycle Time	Average turnaround for resolution of queries from central laboratory to site
6	Quality	Percentage of queries from site to central laboratory based upon requisitions received with average turnaround time
7	Cycle Time	Average turnaround time on queries from site to central laboratory
8	Timeliness	Percentage of panics that had both 1 st attempt made and were successfully communicated to the sites within the defined turn around times

Metric	Metric Type	Metric Title
9	Timeliness	Percentage specific test(s) reported within expected turnaround time
10	Quality	Percentage tests not reportable
11	Timeliness	Percentage on time accepted file transfers
12	Cost / Efficiency	Plan, Forecast and Actual Financial Report
13	Cost / Efficiency	Comparison of budgeted and actual transportation costs by region and/or country
14	Timeliness	Percentage of audit findings closed within sponsor and central laboratory agreed upon timeframe

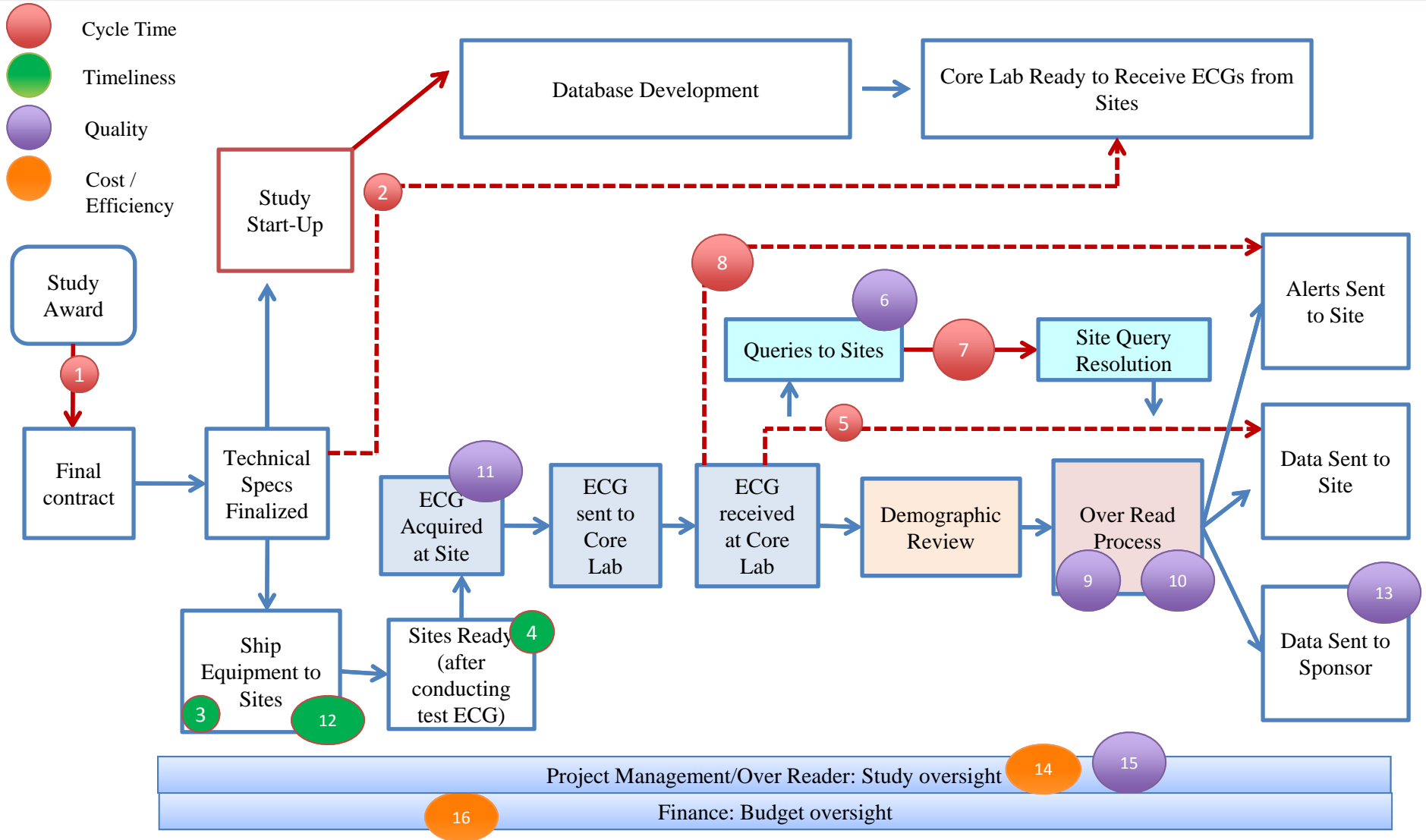
2009 Initiative Accomplishments

Version 1.0 of metrics in use for over 2 years

- ECG Vendors have implemented MCC metrics
 - All can provide most metrics
- More sponsors are using the metrics and becoming involved in MCC
- Continuing to pursue reader and signal quality metrics

- Expand Steering Committee Leadership team
- Develop and release updated version of MCC Central Lab Metrics (version 2.0)
- Develop additional Sponsor / ECG Case Studies (released new case study this week)
- Promote use of MCC ECG Metrics throughout the Industry

MCC ECG Clinical Trial Process DRAFT

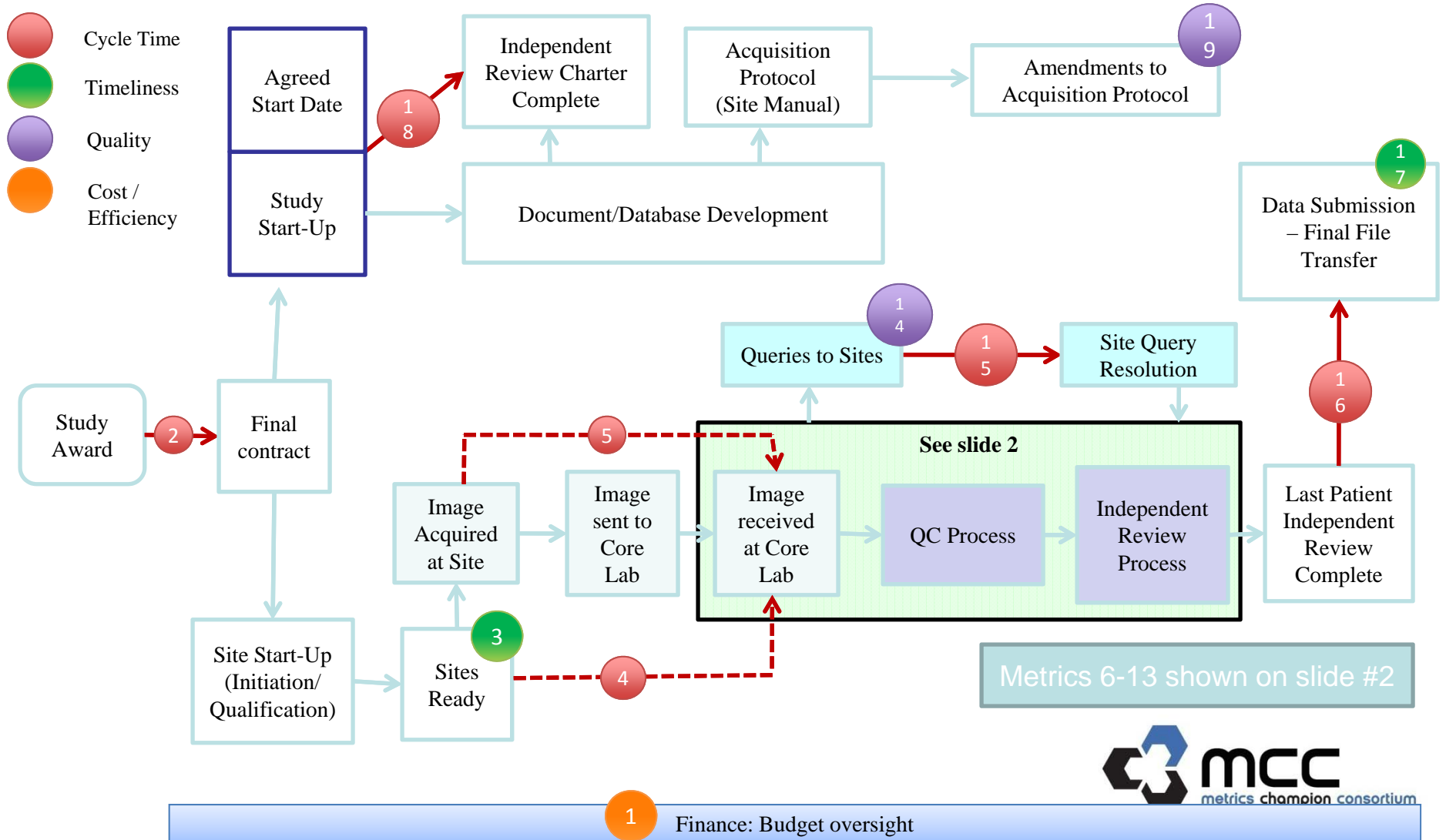


2009 Initiative Accomplishments

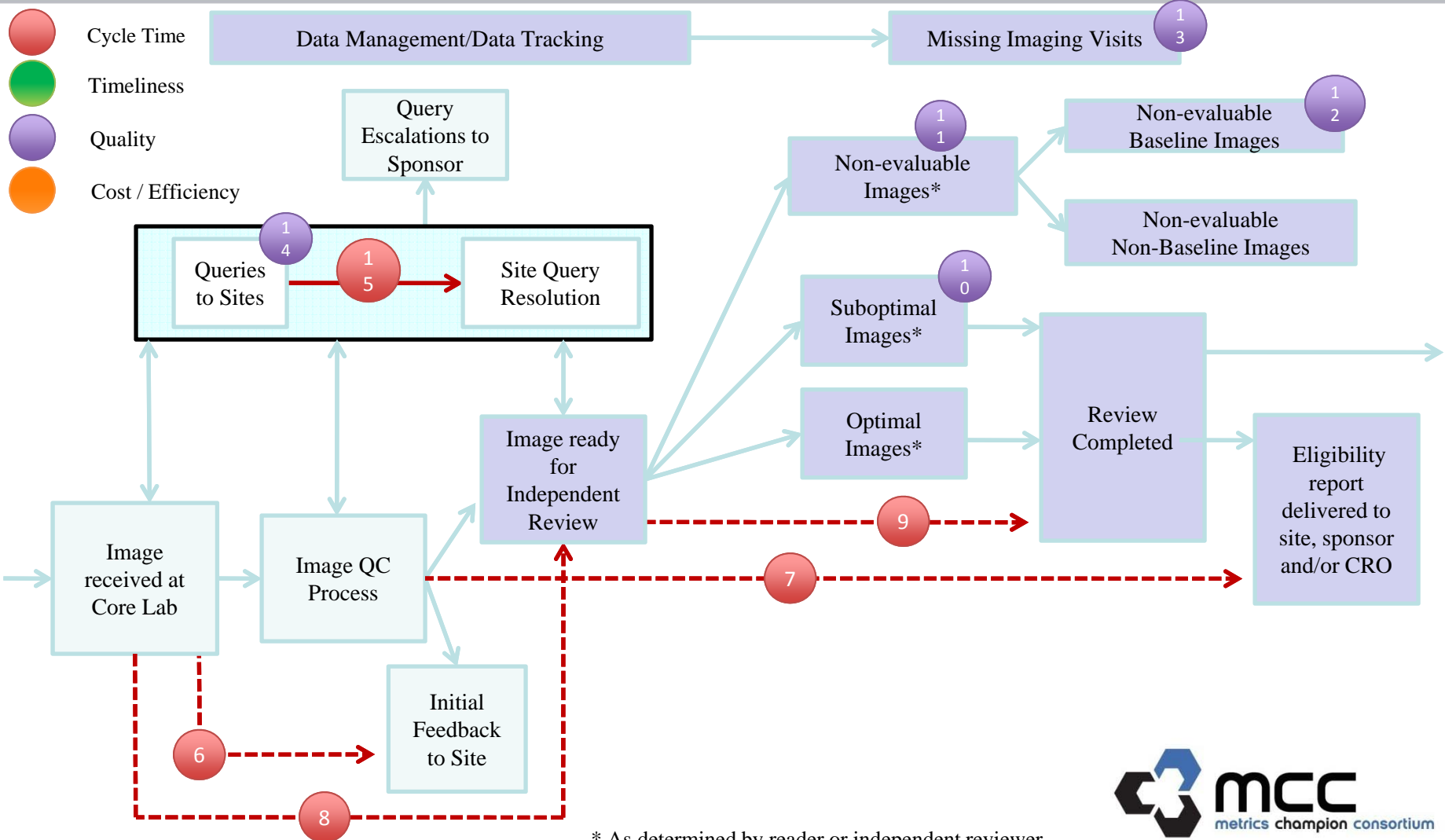
- Released Imaging Metrics version 1.0 (January 2009)
- Focused on implementation - Imaging Core Labs programmed data reporting systems
- Launched monthly Implementation WG
 - Reviewed each metric to determine how vendors are defining and reporting metrics
 - Novartis Implementation Case Study (July 2009)
 - Work in progress ... Imaging Clinical Trial Process Map with Metrics

- Implementation WG – reconvene monthly WebEx meetings to support implementation and foster shared learning
 - Assess status of metrics implementation efforts via online Sponsor and Core lab survey (current activity)
 - Develop MCC “Welcome Packet”
 - Create “How to Use the Metrics” white paper
 - Share case studies
- Clinical WG – may reconvene work group to revisit reader variability and/or adjudication metrics

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* As determined by reader or independent reviewer



Conclusions

- MCC metrics initiatives accomplished much in 2009:
 - Central Lab and ECG metrics initiatives shared case studies and supported metrics implementation
 - Imaging metrics initiative released metrics version 1.0
 - Clinical Trial metrics initiative released beta metrics for review and will launch version 1.0 in Q1 2010
- Board of Directors is selecting alliance partner to build blinded industry database



Conclusions

- MCC metrics initiatives 2010 plans:
 - Central Lab and ECG metrics initiatives will release updated versions of the MCC metrics
 - Imaging metrics initiative will support implementation of metrics version 1.0 released in 2009
 - Clinical Trial metrics initiative will release version 1.0 in Q1 2010
- Contact Linda Sullivan (lsullivan@metricschampion.org) for additional information about MCC membership.



MCC Lab Metrics Case Study

Julie DeBus-Levy

Manager, Outsourcing and Contracts

ABBOTT LABORATORIES





Group Discussion

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