



An Industry-wide Effort to Develop and Implement Standardized Clinical Trial Performance Metrics to Drive Time, Cost and Quality & Enhance Partnership Performance ... UPDATE!

Pam Howard
VP, Planning and Analysis
ICON CLINICAL RESEARCH

e Clinical Forum Spring Workshop ♦ May 3-5, 2010 ♦ Paris, France



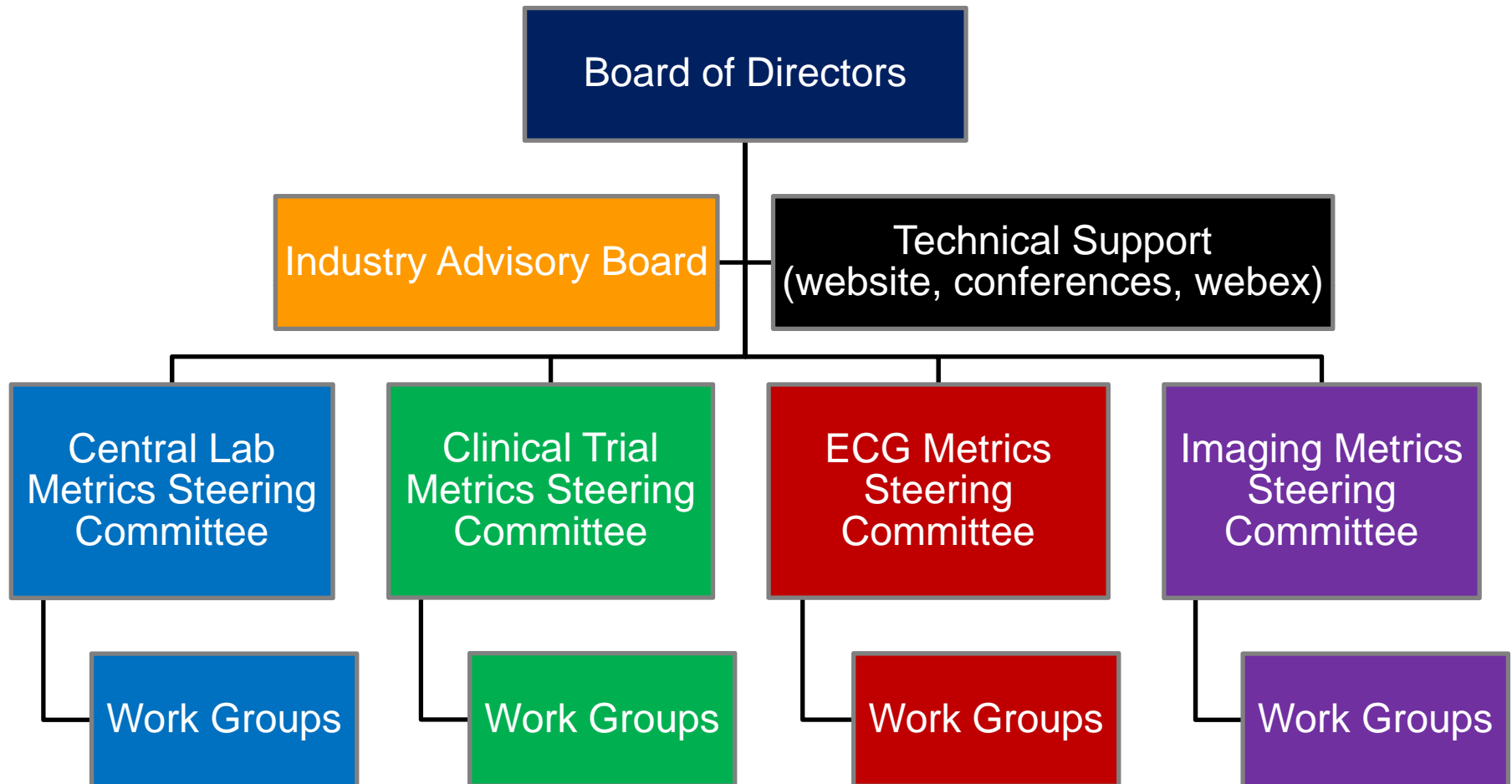
- Metrics Champion Consortium (MCC) Overview
- Clinical Trial Performance Metrics Initiative
- Process Improvement WG
- Industry Benchmarking Database for Clinical Trial Metrics
- Q&A

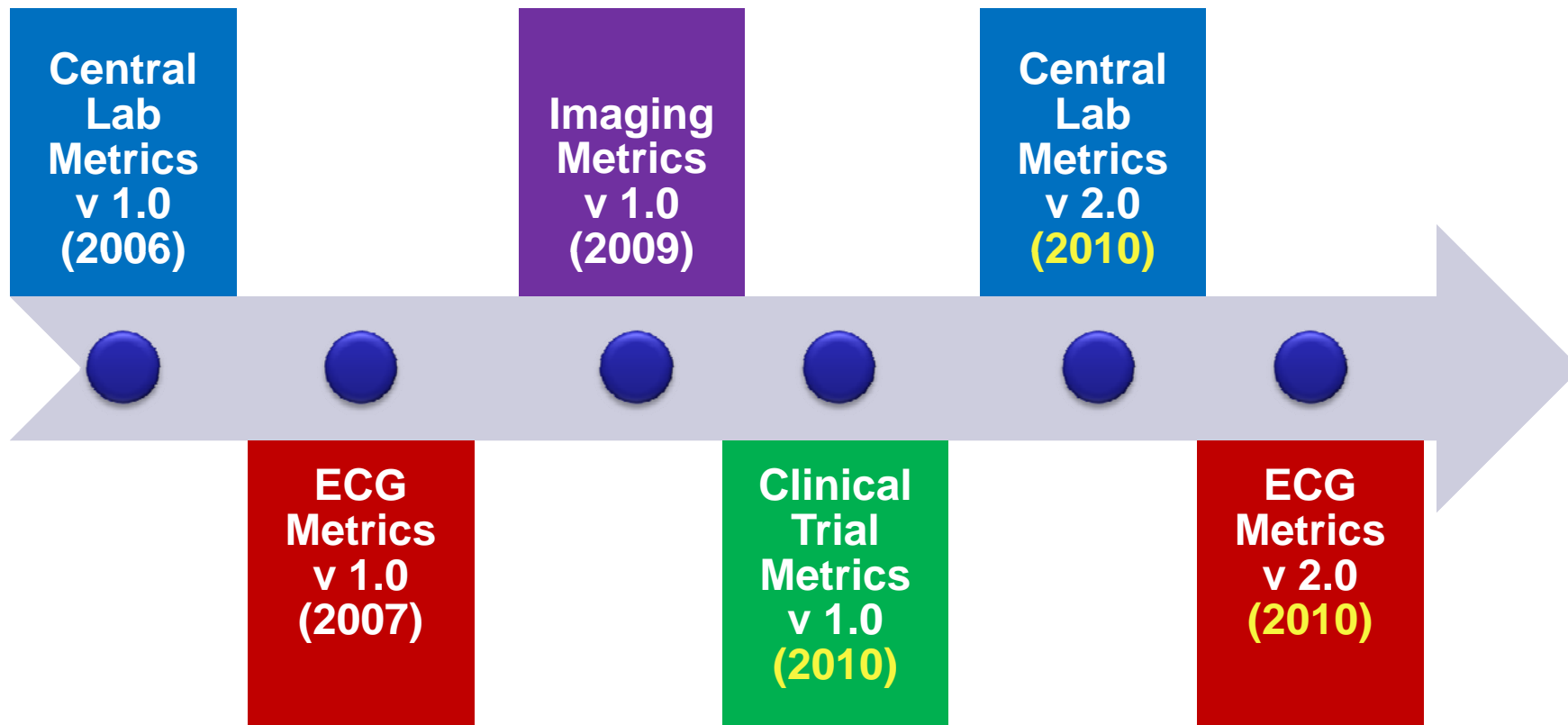


MCC Overview



The Metrics Champion Consortium (MCC) is a not-for-profit organization comprised of biotechnology, pharmaceutical and service provider organizations who 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.



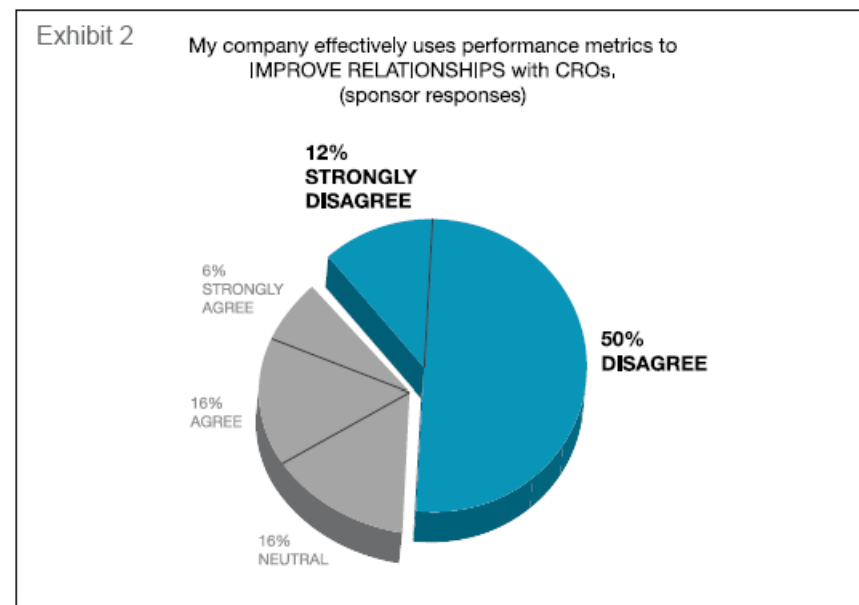
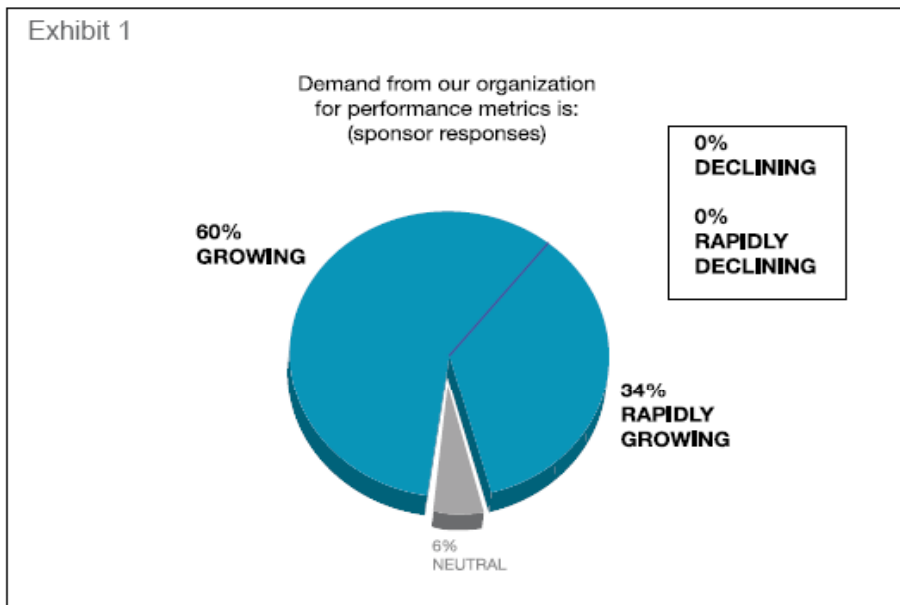




MCC Clinical Trial Performance Metrics



94% of Sponsors reported that demand from their organizations for performance metrics was growing or rapidly growing

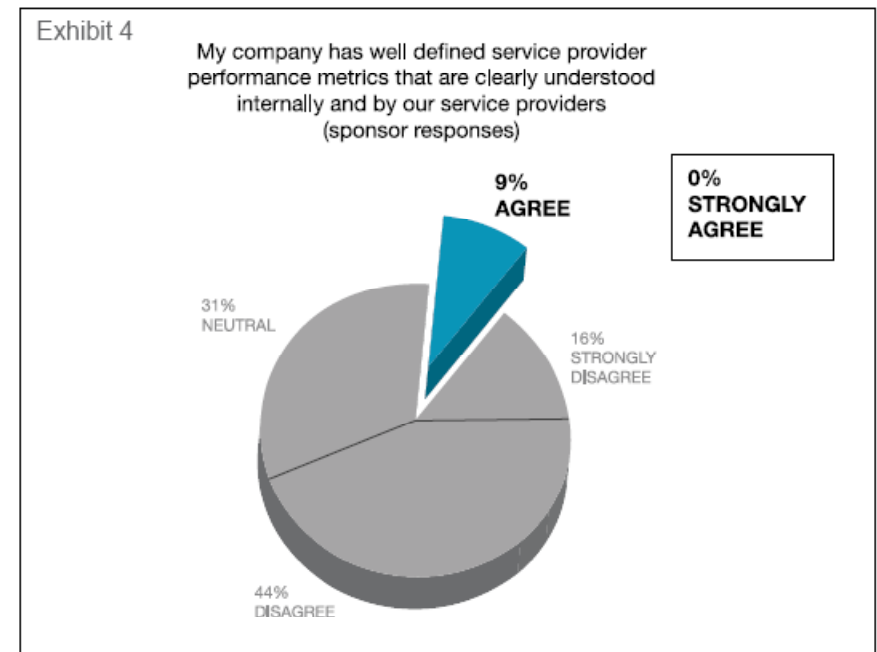
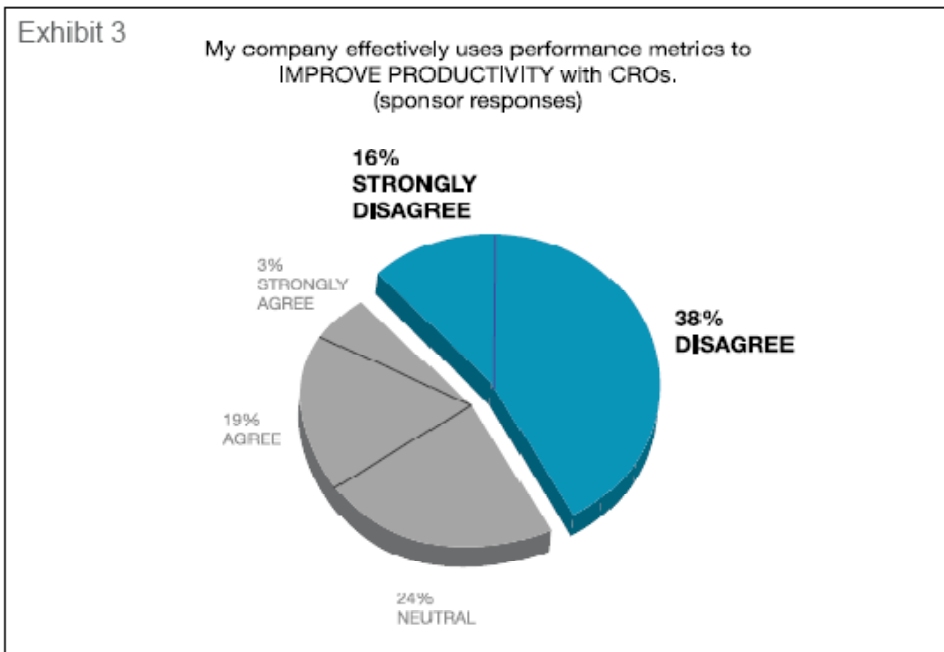


62% of Sponsors reported that they did not routinely use performance metrics to help *improve relationships* with CROs

Source: MCC Survey 2007

Industry Players Not Utilizing Metrics to Potential

54% of Sponsors reported that they did not routinely use performance metrics to *improve productivity* with CROs

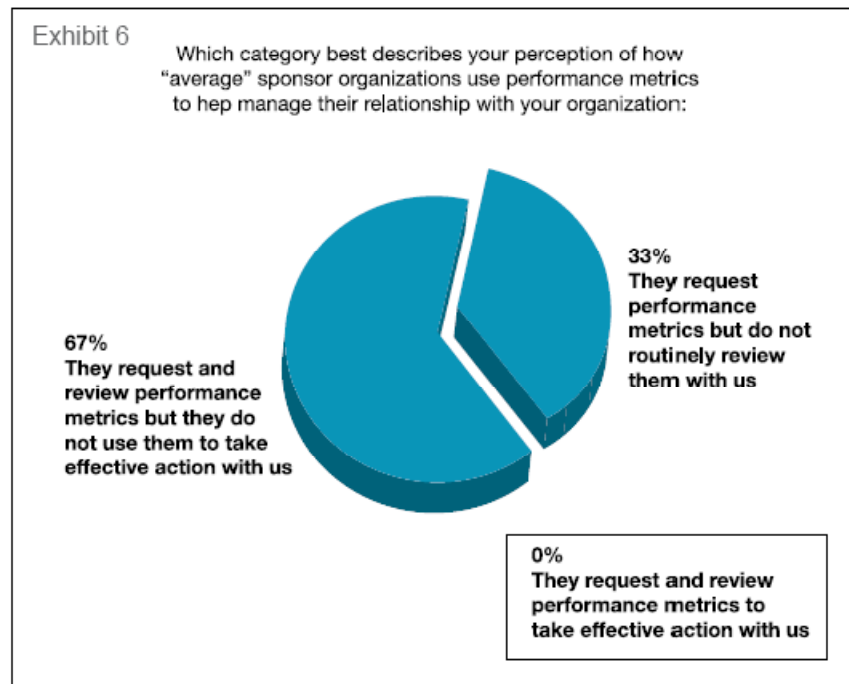
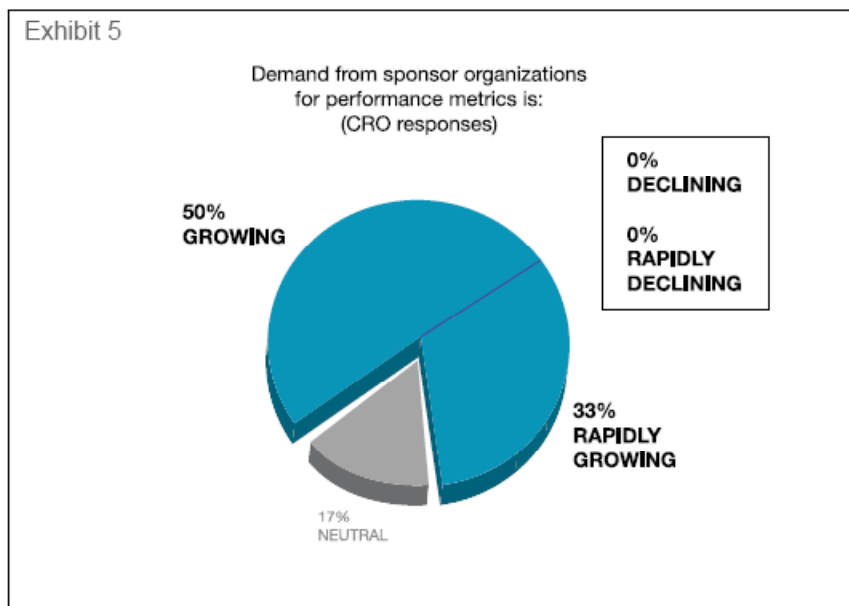


9% of Sponsors reported having well-defined, clearly understood performance metrics currently in place

Source: MCC Survey 2007

Industry Players Not Utilizing Metrics to Potential

83% of CROs reported that the demand for performance metrics was growing (50%) or rapidly growing (33%) among Sponsor companies



0% CROs reported that Sponsor companies request and review performance metrics to take effective action with them

Source: MCC Survey 2007





Clinical Trial Metrics Steering Committee (over last 2 years)

- Cory Gutterman / Abbott
- Ed Cannon / AstraZeneca
- Jennifer Holmes & Holly Hankins / Eli Lilly
- Colleen McCoy / Genentech
- Keith Dorricott / i3
- Pam Howard / ICON Clinical Research
- Kathe Balinski / Mederex
- Magaly Woolard / Merck
- April Davis / Perceptive Informatics
- Lorraine Waring / Pfizer
- Julie Szabo / PharmaNet
- Bryan Haas / PPD

Proposed Metric - Qualities

- Well defined
- Be measurable
- Be high level – but allow for further analysis
- Leading Indicator - Lagging Indicator
- Provide a benefit to Sponsor and Service Provider
- Add Value
- Relationship metrics will be added in future version

Cycle Time (CT): Measures how long it takes to complete a task (i.e. # of days)

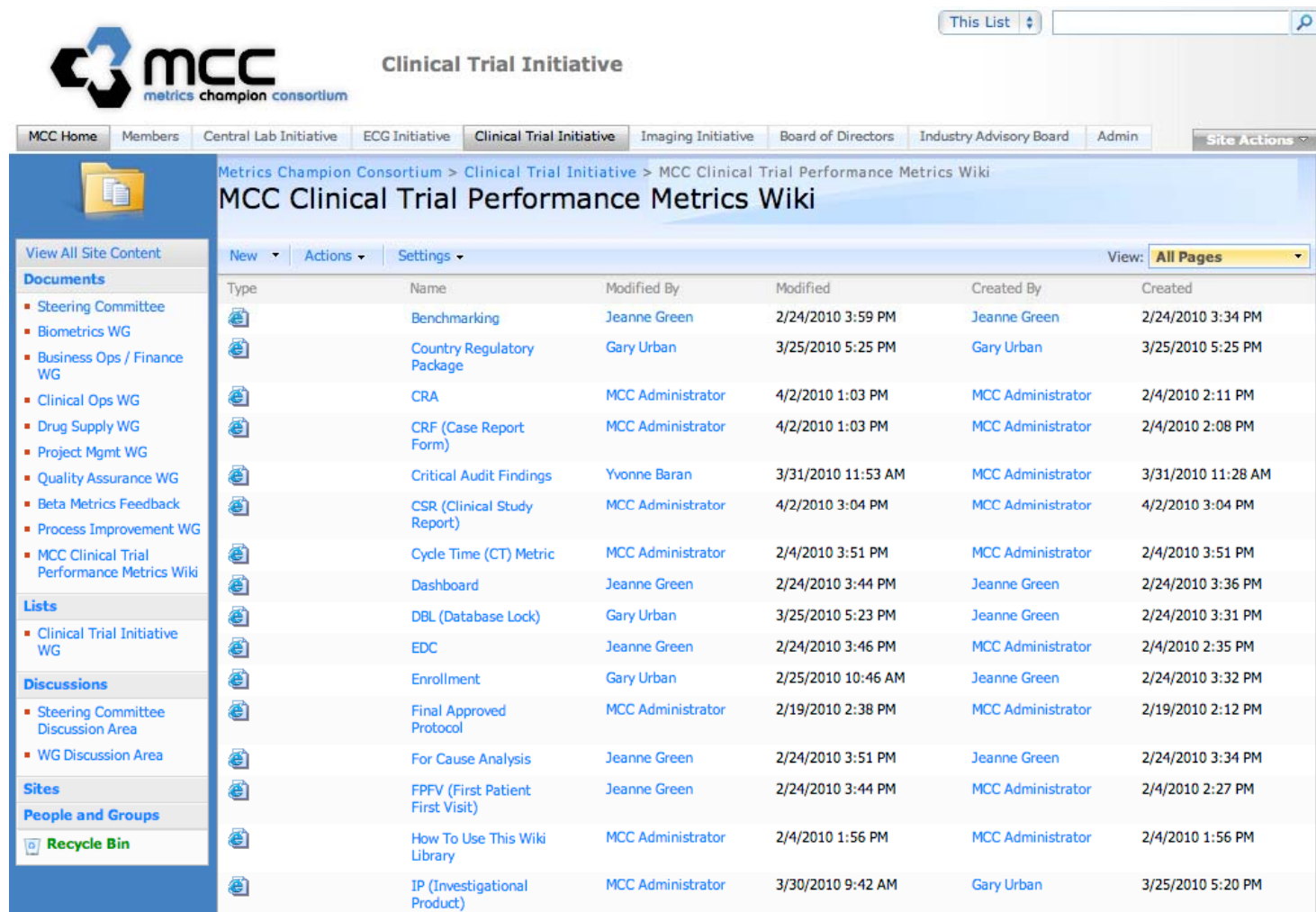
Timeliness (T): Measures whether a milestone was achieved on-time (i.e. within agreed upon turnaround time)

Quality (Q): Measures the number of errors in completing a task or completion of quality-related activity

Efficiency / Cost (E): Measures the resources required to complete a task

Metric #	Metric Type	Metric Title	Category	Metric Indicator	Part of Study
		Definition	Formula / Example	Reporting Detail	
				Unit of Measure	
		Business Driver(s) / Benefit Statement	Additional Analysis on a "for cause" basis	Reporting Frequency	Target
Companion Metrics					

Metric #	Metric Type	Metric Title	Category	Metric Indicator	Part of Study
7	CT	Protocol approval to first site activated	Site Selection and Activation	LEADING Indicator	Study Startup
Definition (see Wiki for detailed definitions)		Formula / Example		Reporting Detail	
Number of calendar days from the date the final approved protocol is released to the Project Team to the date of first site activated (trial level, country level) See MCC Wiki for definitions		Formula: X-Y=Duration to first site activated X =Date of First Site Activated Y= Date of Protocol Approval Example: Protocol Approved April 13 and First Site Activated August 1; [1 Aug - 13 Apr] = 109 calendar days		By trial level By country Unit of Measure Calendar days	
Business Driver(s) / Benefit Statement		Additional Analysis on a "for cause" basis		Reporting Frequency	Target
Leading indicator for protocol issues, site performance, CRO performance, regulatory approvals, etc. Increased understanding of geographical differences in site activation. The adherence to plan for site activation is a leading indicator for site activation performance. Key project management indicator of adherence to project plan.		Analysis of reasons for delay include: - timelines for ethics approvals/ signed site agreement and regulatory approval - monitoring resource availability - protocol amendments		Bi monthly during site selection phase	+/- 14 calendar days per contract, by geography (Green) Within 14 – 28 calendar days per contract by geography (Yellow) > 28 calendar days per contract by geography (Red)
Companion Metrics		Metric # 5 - Site Assessment Quality Score, Metric #6			



The screenshot shows the MCC Clinical Trial Performance Metrics Wiki interface. At the top, there is a navigation bar with the MCC logo and the text "Clinical Trial Initiative". Below this is a secondary navigation bar with tabs for "MCC Home", "Members", "Central Lab Initiative", "ECG Initiative", "Clinical Trial Initiative" (selected), "Imaging Initiative", "Board of Directors", "Industry Advisory Board", and "Admin". A "Site Actions" dropdown menu is also visible.

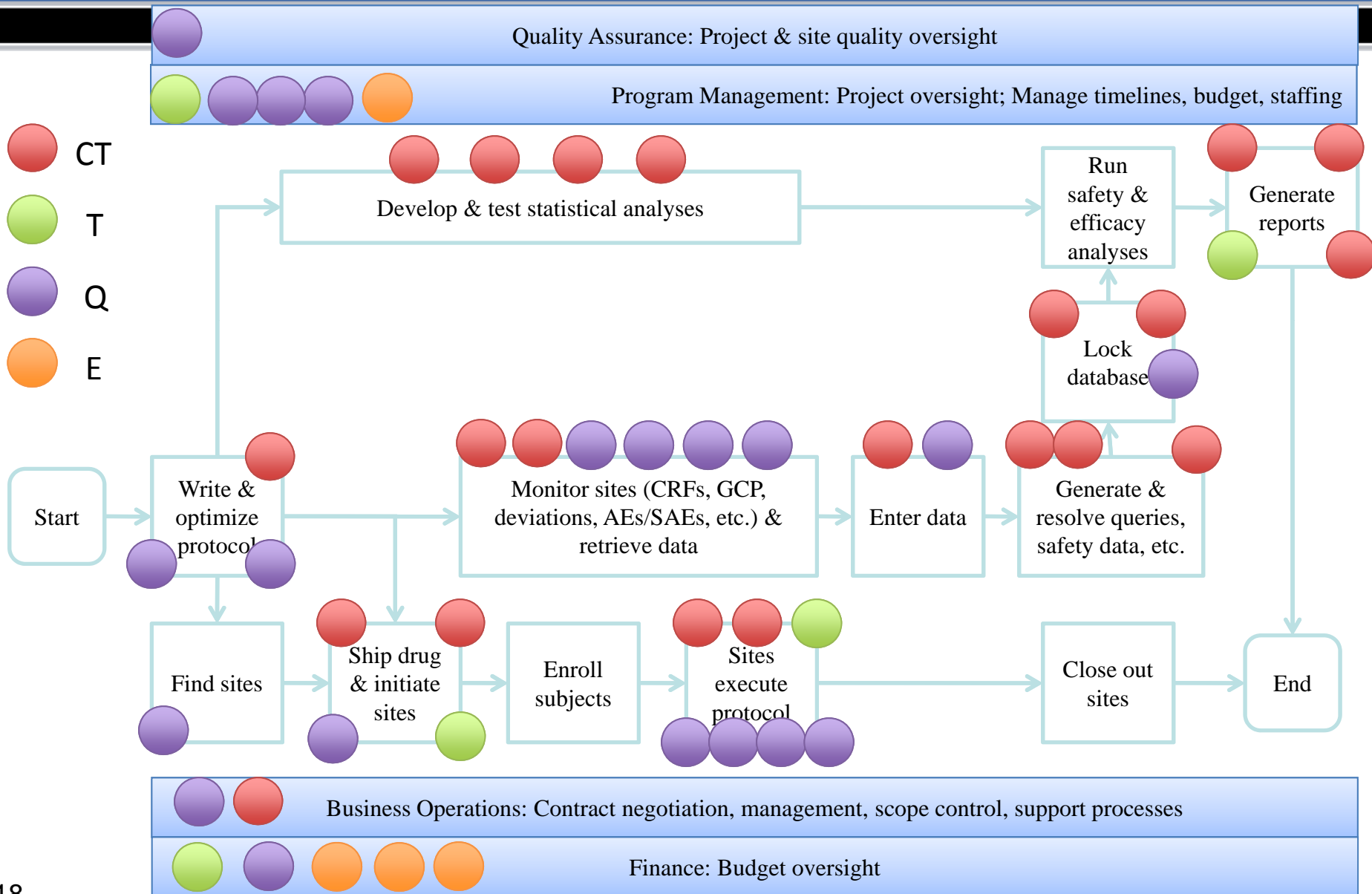
The main content area displays the title "MCC Clinical Trial Performance Metrics Wiki" and a breadcrumb trail: "Metrics Champion Consortium > Clinical Trial Initiative > MCC Clinical Trial Performance Metrics Wiki". Below the title, there are tabs for "New", "Actions", and "Settings", and a "View: All Pages" dropdown menu.

The main content is a table listing various documents. The table has columns for Type, Name, Modified By, Modified, Created By, and Created. The data is as follows:

Type	Name	Modified By	Modified	Created By	Created
	Benchmarking	Jeanne Green	2/24/2010 3:59 PM	Jeanne Green	2/24/2010 3:34 PM
	Country Regulatory Package	Gary Urban	3/25/2010 5:25 PM	Gary Urban	3/25/2010 5:25 PM
	CRA	MCC Administrator	4/2/2010 1:03 PM	MCC Administrator	2/4/2010 2:11 PM
	CRF (Case Report Form)	MCC Administrator	4/2/2010 1:03 PM	MCC Administrator	2/4/2010 2:08 PM
	Critical Audit Findings	Yvonne Baran	3/31/2010 11:53 AM	MCC Administrator	3/31/2010 11:28 AM
	CSR (Clinical Study Report)	MCC Administrator	4/2/2010 3:04 PM	MCC Administrator	4/2/2010 3:04 PM
	Cycle Time (CT) Metric	MCC Administrator	2/4/2010 3:51 PM	MCC Administrator	2/4/2010 3:51 PM
	Dashboard	Jeanne Green	2/24/2010 3:44 PM	Jeanne Green	2/24/2010 3:36 PM
	DBL (Database Lock)	Gary Urban	3/25/2010 5:23 PM	Jeanne Green	2/24/2010 3:31 PM
	EDC	Jeanne Green	2/24/2010 3:46 PM	MCC Administrator	2/4/2010 2:35 PM
	Enrollment	Gary Urban	2/25/2010 10:46 AM	Jeanne Green	2/24/2010 3:32 PM
	Final Approved Protocol	MCC Administrator	2/19/2010 2:38 PM	MCC Administrator	2/19/2010 2:12 PM
	For Cause Analysis	Jeanne Green	2/24/2010 3:51 PM	Jeanne Green	2/24/2010 3:34 PM
	FPFV (First Patient First Visit)	Jeanne Green	2/24/2010 3:44 PM	MCC Administrator	2/4/2010 2:27 PM
	How To Use This Wiki Library	MCC Administrator	2/4/2010 1:56 PM	MCC Administrator	2/4/2010 1:56 PM
	IP (Investigational Product)	MCC Administrator	3/30/2010 9:42 AM	Gary Urban	3/25/2010 5:20 PM

On the left side of the interface, there is a sidebar with a "View All Site Content" link and several sections: "Documents" (listing various working groups like Steering Committee, Biometrics WG, etc.), "Lists" (listing Clinical Trial Initiative WG), "Discussions" (listing Steering Committee Discussion Area, WG Discussion Area), "Sites", and "People and Groups". At the bottom of the sidebar is a "Recycle Bin" link.

MCC Clinical Trial Performance Metrics v 1.0 DRAFT



Quality Assurance: Project & site quality oversight

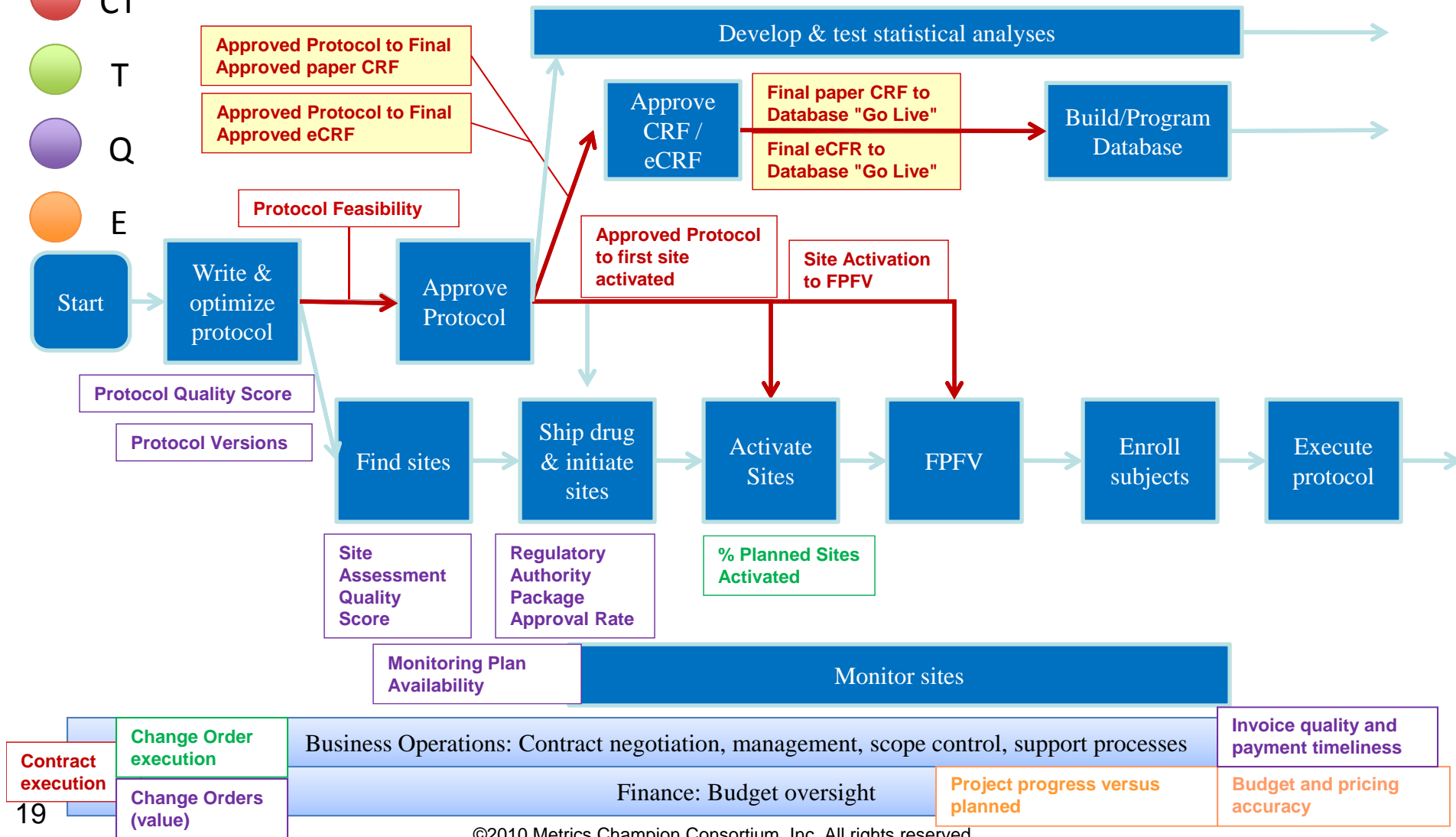
Program Management: Project oversight; Manage timelines, budget, staffing

CT

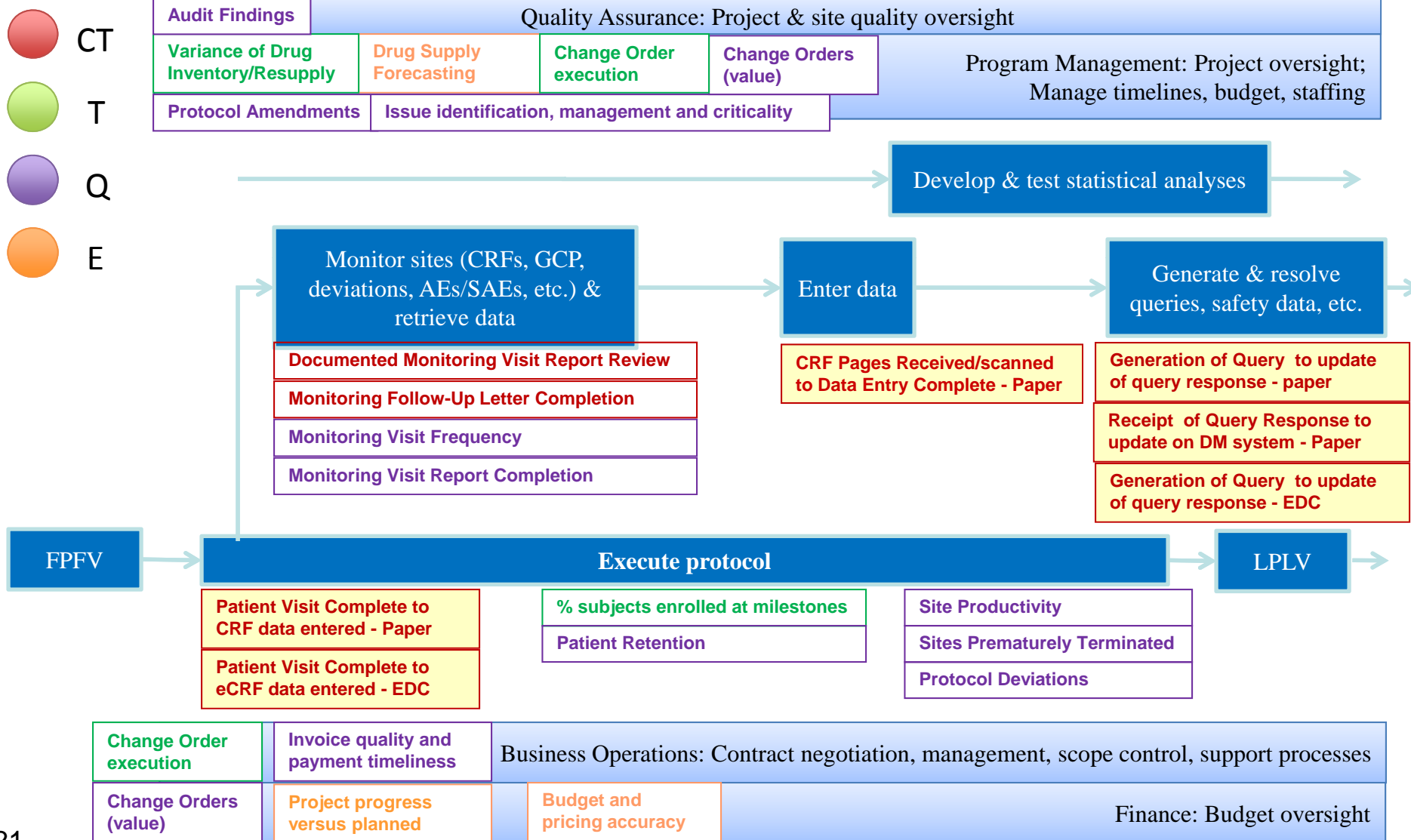
T

Q

E



<i>Metric Title</i>	<i>Metric Type</i>	<i>Target</i>
Final Approved Protocol to Final Approved eCRF	Cycle Time	15 calendar days
Final Approved Protocol to Final Approved paper CRF	Cycle Time	35 calendar days
Final eCFR to Database "Go Live"	Cycle Time	42 calendar days
Final paper CRF to Database "Go Live"	Cycle Time	42 calendar days



<i>Metric Title</i>	<i>Metric Type</i>	<i>Target</i>
Patient Visit Complete to eCRF data	Cycle Time	7 calendar days
Patient Visit Complete to paper CRF data entered	Cycle Time	7 calendar days
CRF Pages Received/scanned to Data Entry Complete (Paper)	Cycle Time	7 calendar days
Generation of Query to update of query response (EDC)	Cycle Time	3 calendar days
Generation of Query to update of query response (Paper)	Cycle Time	3 calendar days
Receipt by DM of Query Response to query update on DM system (Paper)	Cycle Time	3 calendar days

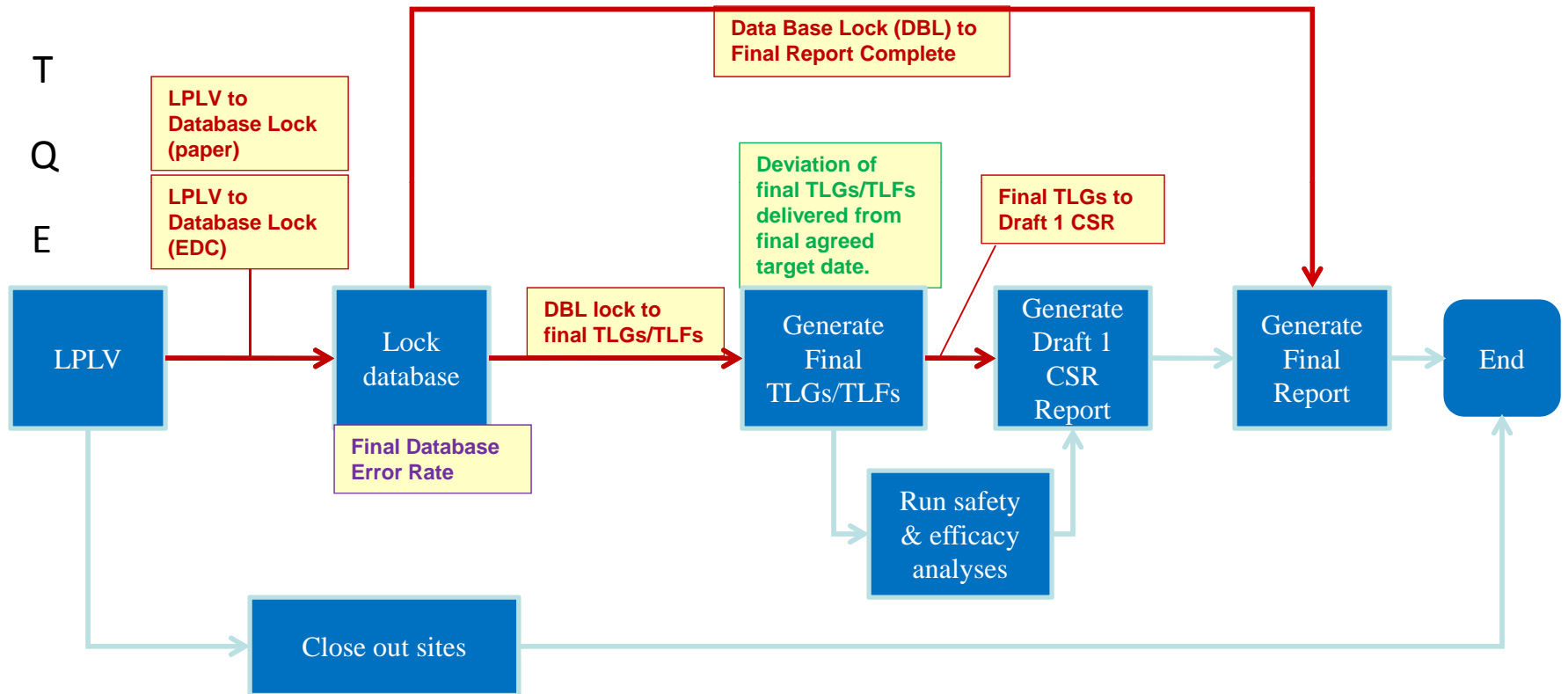
Quality Assurance: Project & site quality oversight

Change Order execution

Change Orders (value)

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

- CT
- T
- Q
- E



Change Order execution

Invoice quality and payment timeliness

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

Change Orders (value)

Project progress versus planned

Budget and pricing accuracy

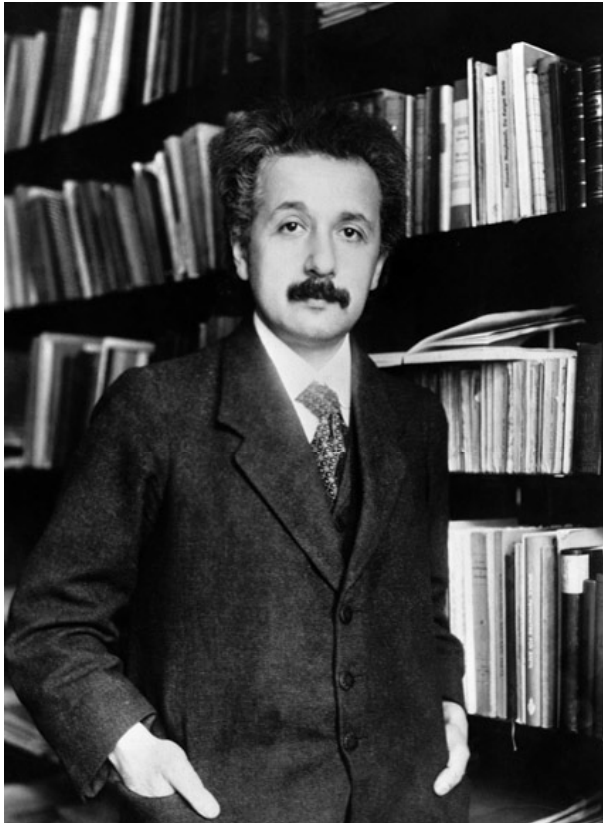
Finance: Budget oversight

<i>Metric Title</i>	<i>Metric Type</i>	<i>Target</i>
LPLV to Database Lock (edc)	Cycle Time	21 calendar days
LPLV to Database Lock (paper)	Cycle Time	35 calendar days
Database Lock to final TLG/TFL (Tables, Listings and Graphs/Table Figure Listing)	Cycle Time	14 calendar days
Final TLGs to First Draft CSR complete	Cycle Time	21 calendar days
Database Lock to Final CSR Complete	Cycle Time	84 calendar days
Final Database Error Rate	Quality	0.1% to 0.5%
Deviation of final TLGs delivered from final agreed target date.	Timeliness	< = 0 days (Green) 1 to 2 days (Yellow) > 2 days (Red)



Process Improvement Work Group



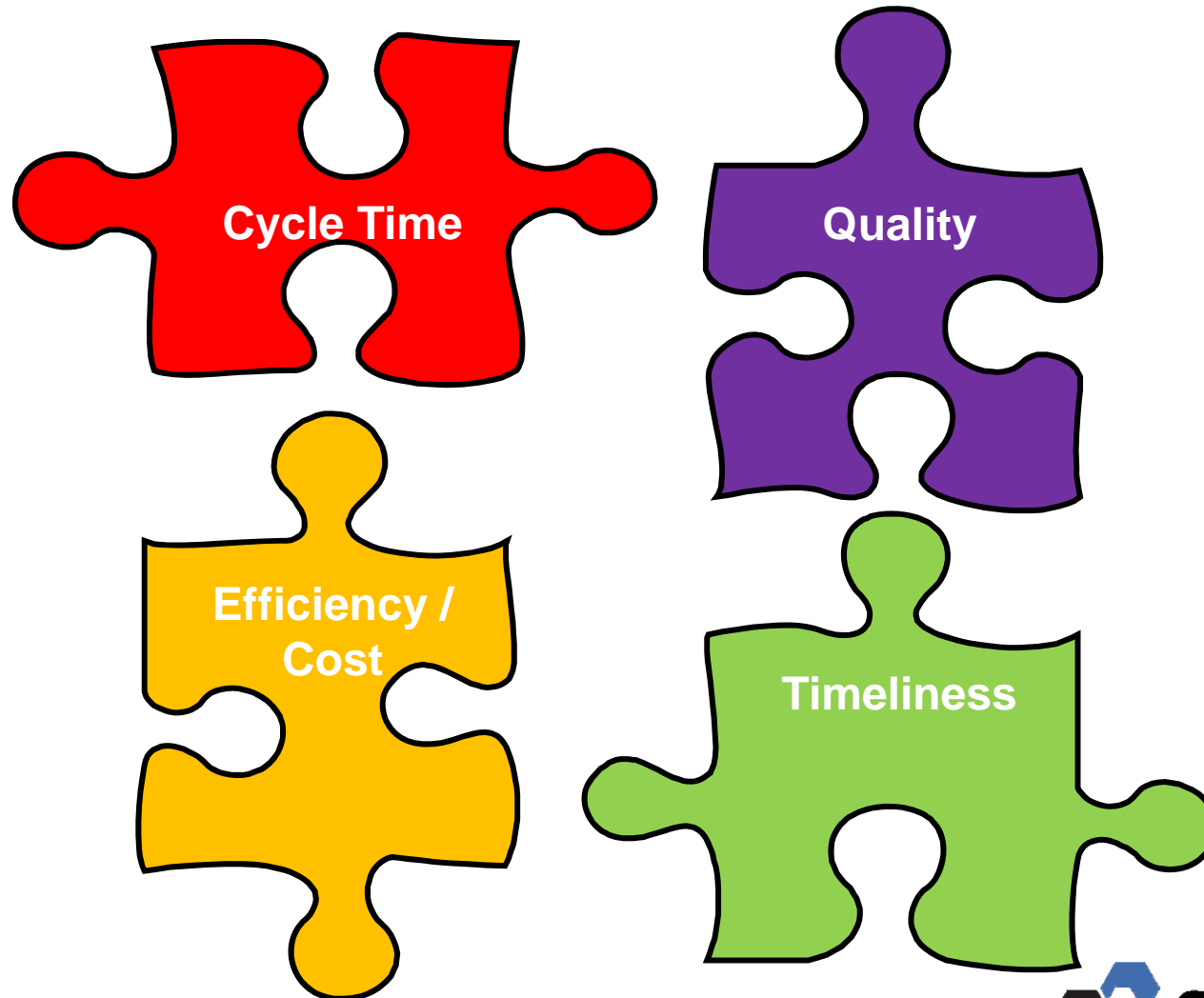


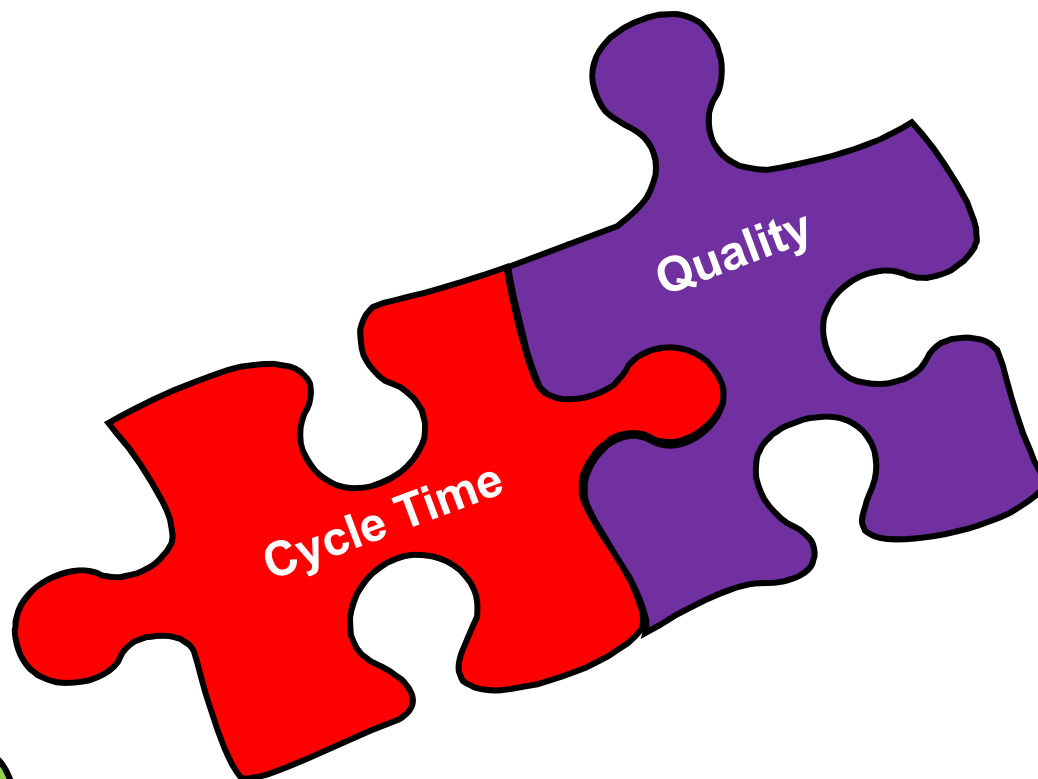
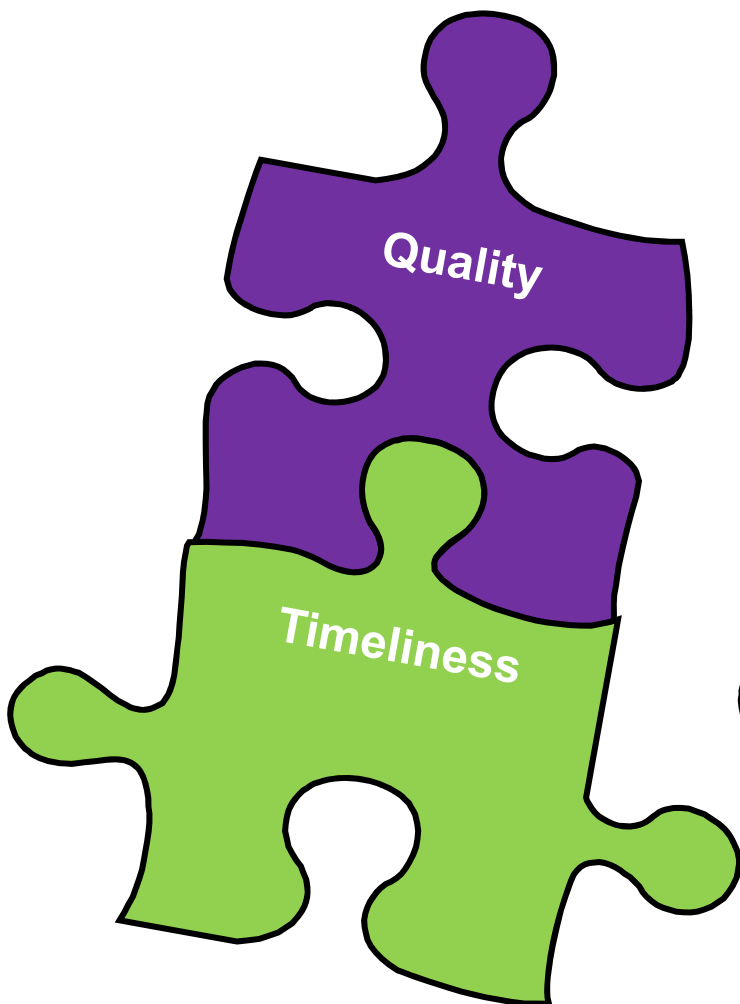
“Not everything that can be counted counts and not everything that counts can be counted.”

Albert Einstein

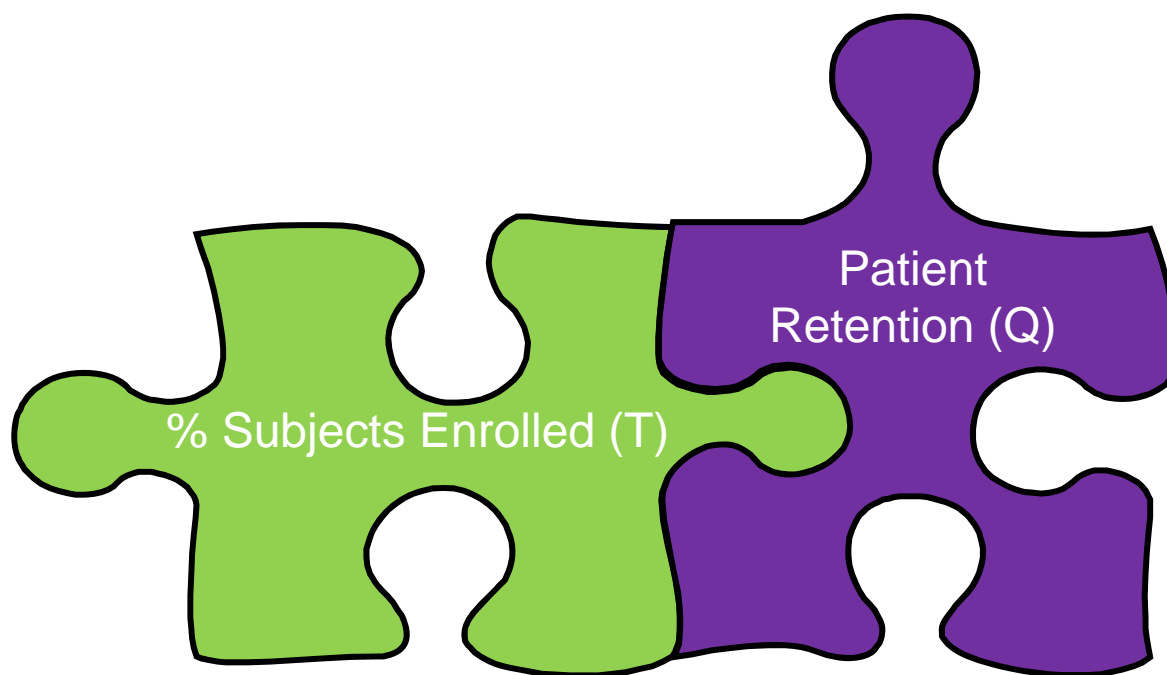
- Reviewed all MCC Clinical Trial Performance Metrics (beta version) re: value for process improvement
- Conducted focused review of Study Start-up activities:
 - created new quality measures
- Developed guidance paper on “How to Use Metrics”:
 - Using the data for improvement and learning
 - Pitfalls eg.
 - Sub-optimization
 - Reacting to common cause variation
 - Losing sight of the final outcome
 - More is not always better
 - How to collect data and report

Types of MCC Performance Metrics





Example of MCC Patient Screening and Recruitment Companion Metrics



- Focused on study start up process –

**High Quality
Protocol**

+

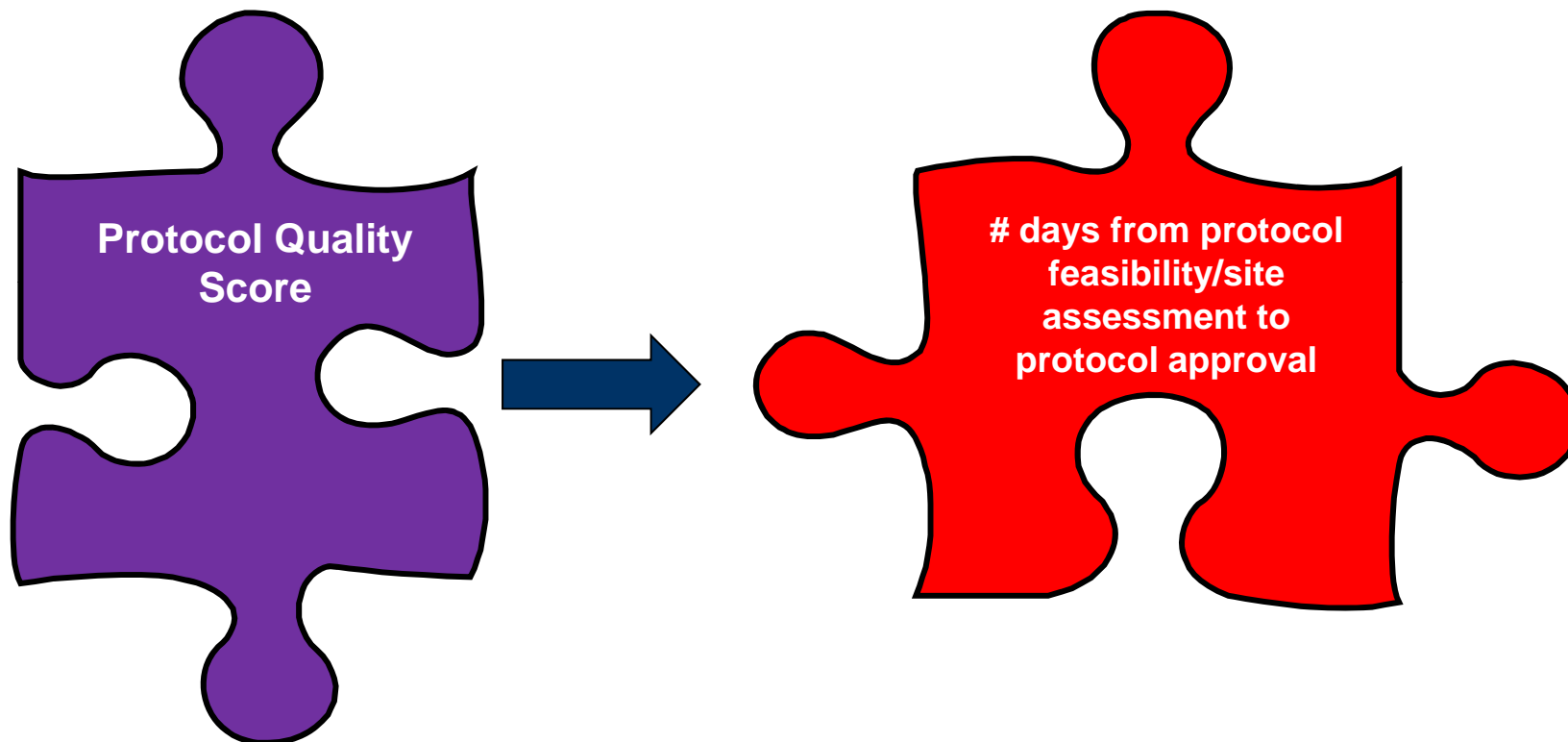
**Good Site
Selection**

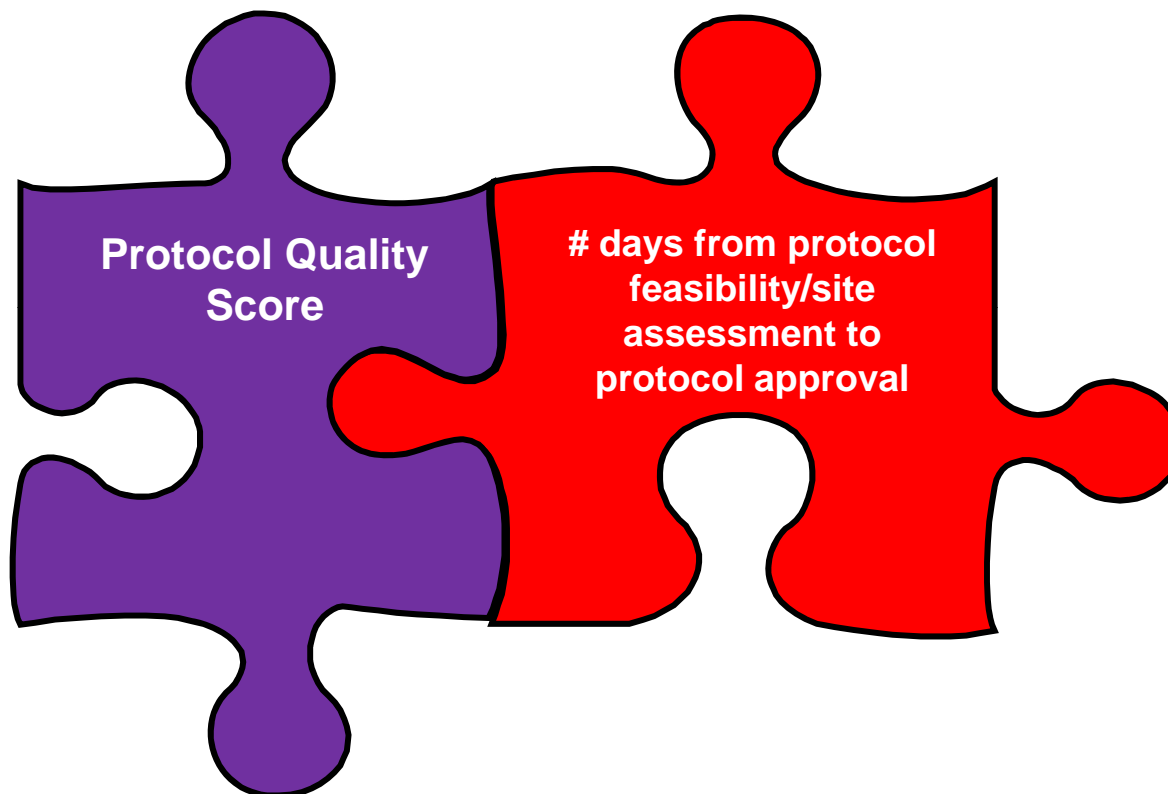
=

**High Chance of
Successful Trial**



- Concerned that focusing only on cycle-time is likely to sub-optimize
- Defined two new metrics:
 - Protocol Quality
 - Site Selection Quality







Protocol Team answers 7 questions about the thoroughness of addressing:

1. Regulatory requirements/obligations
2. Dosage/formulation
3. Protocol design reflecting clinical practice
4. Study schedule
5. Screening is balanced
6. Procedures is reasonable
7. Protocol-specific equipment and materials availability

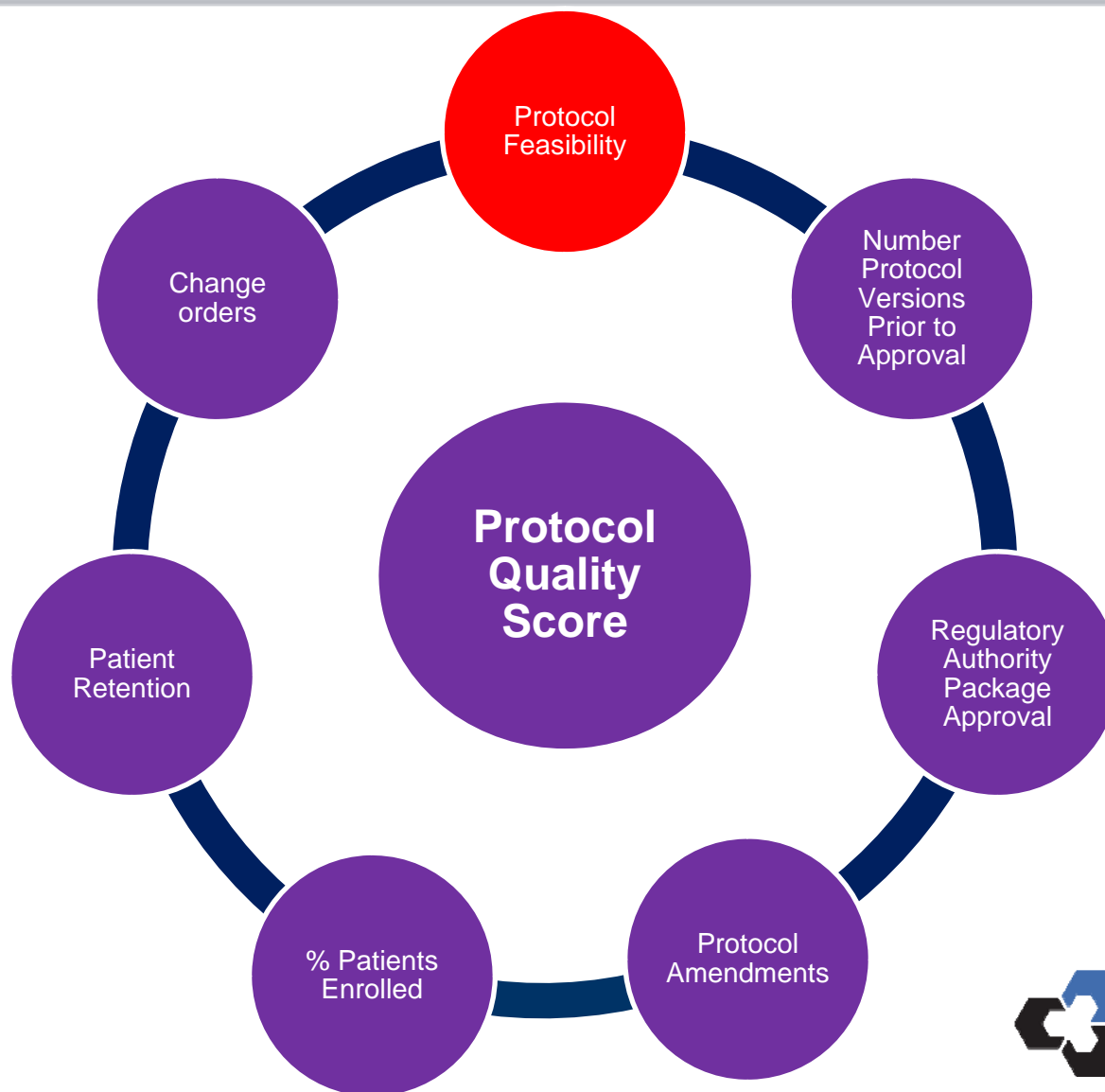


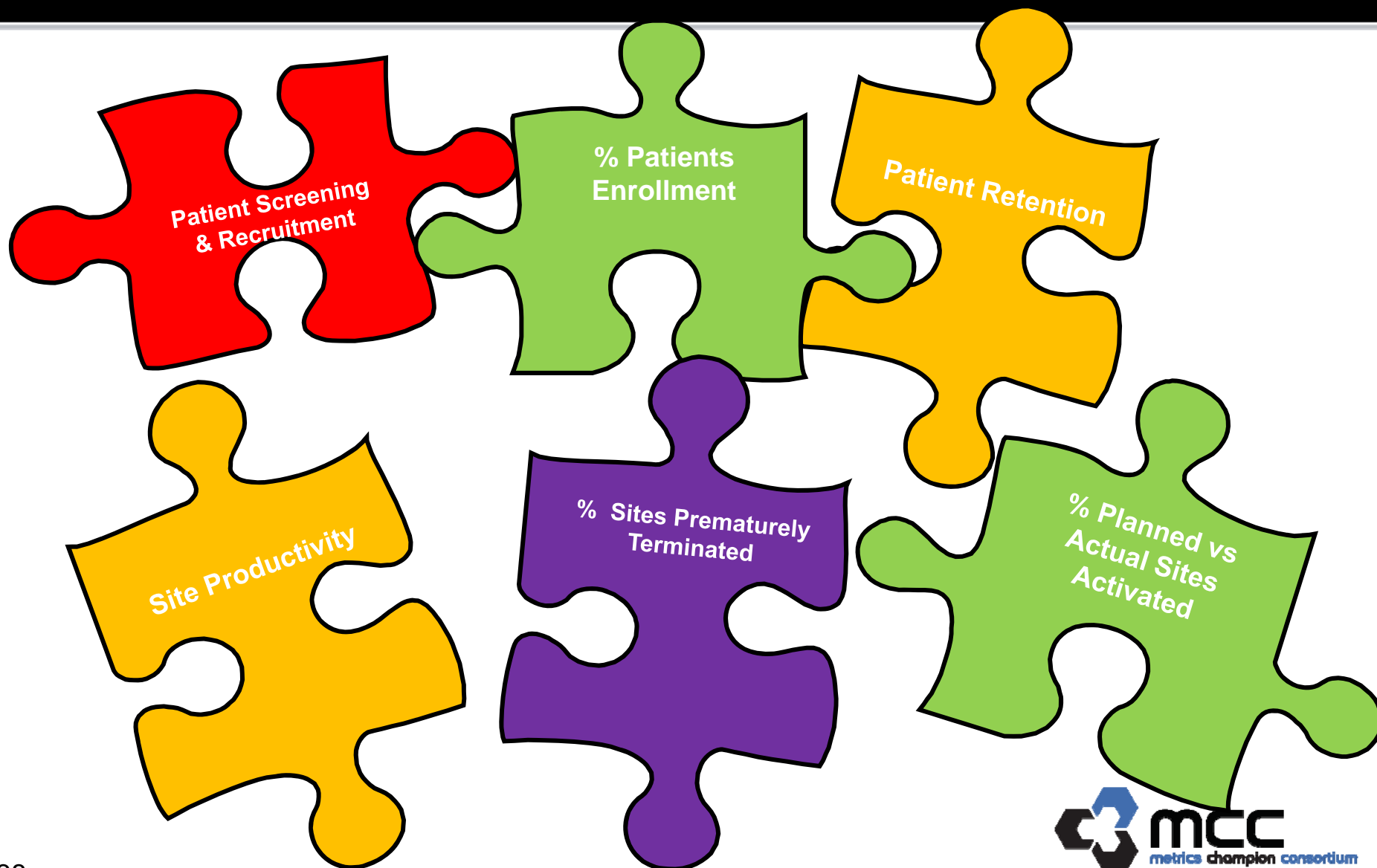
Scoring System

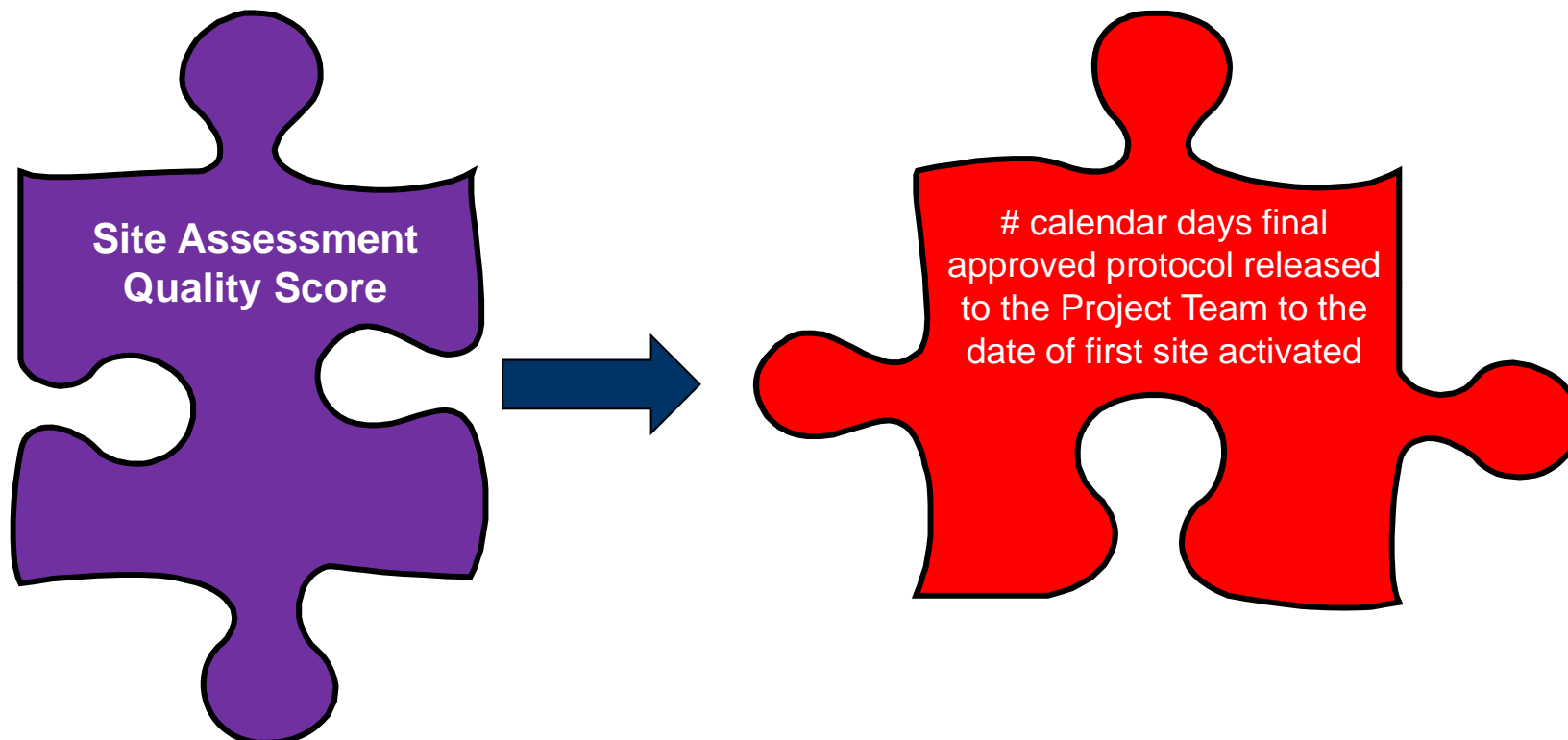
Score	Survey Type	Data Source	Protocol Mod
0	Didn't address this question		
1-3	Protocol synopsis & written feedback	Countries/regions only	None
4-6	Near-final protocol & brief interview	Some sites in some countries	Key mods only
7-9	Near-final protocol & extended interview	Some sites in all countries	All mods made
10	Protocol identical to previous. No risk		

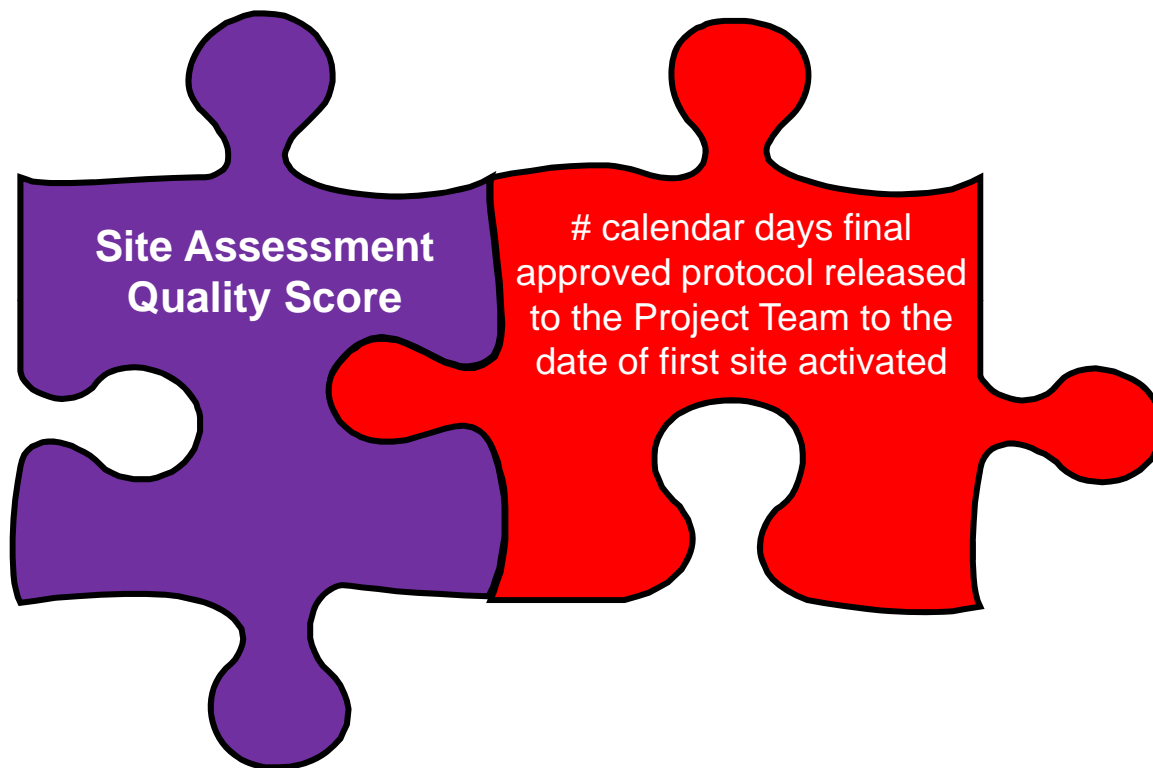
- Difficult to measure – but important for success
- Feedback on Protocol Quality metrics very positive:
 - Of 6 teams, 4 rated it as 9 or 10 out of 10 for recommending use to colleagues
 - “I think this tool is extremely helpful and hope that teams will adopt it.”
- Current discussions ongoing on piloting and validating this metric

MCC Plans to Validate Protocol Quality Score









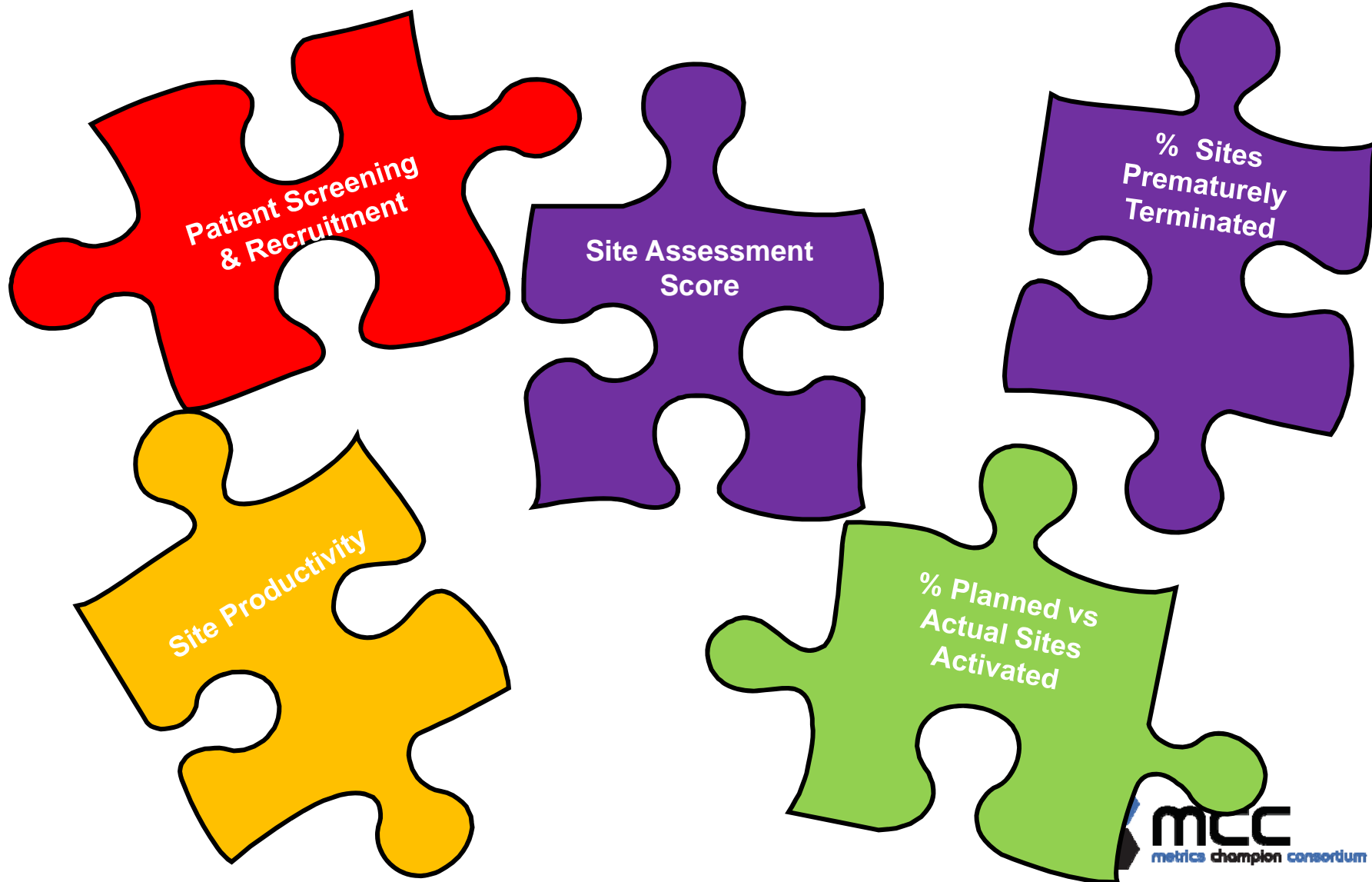
Criteria are weighted and then each site assessed:

1. Proven ability to enroll subjects for this or a similar indication
2. No competing studies that impact this site
3. Appropriate standard of care
4. Investigator with relevant interest, background and experience
5. Experienced staff
6. Good facilities (including physical & electronic infrastructure)
7. Patient population is accessible and protocol appropriate
8. Can meet study start-up timelines within ethical & legal requirements
9. Proven ability to produce high quality data & is responsive to queries (paper or edc)
10. Site uses recruitment and retention plans

Scoring:

1. Team weights the 10 criteria
 - 1 = Least important for success in this protocol
 - 3 = Key to success for this protocol
2. Key Opinion Leader sites can be excluded from the rating
3. Team scores each site as yes or no for each of the criteria
4. Spreadsheet generates % score for each site
5. Overall weighted score is generated
6. This can then be modified by excluding sites
7. Overall weighted score is also calculated per country
8. Aim is to get a high score with the requisite number of sites

Site Assessment Score Can Be a Companion Metric for Other MCC Metrics



MCC Plans to Validate Site Assessment Score



- Difficult to measure – but important for success
- The act of measuring should modify behaviour:
 - Is the team doing what is needed to get the best protocol?
 - Does a site lack skills and need specific training?
 - Have I got enough high quality sites in country X?
- Interest in developing additional Quality Scoring Approach for CRFs and CSRs

This is a paradigm shift for industry and difficult to measure, nevertheless, key to improving overall performance and compliance.



Industry Benchmarking Database





- MCC Board of Directors issued RFP to seek services of experienced metrics database vendor
- MCC is establishing an Alliance Partnership with CMR International, a Thomson Reuters business
- The Alliance Partnership, with the guidance of MCC Members, is developing the database repository reporting platform utilizing Spotfire Analytics software

- MCC Clinical Trial Performance Metrics (version 1.0) include:
 - distinct metrics for paper vs edc processes
 - key terms defined in online MCC Wiki
 - companion metric designations
 - 2 new quality scoring measurements (Protocol development and site assessments)
 - MCC Metrics Guidance Paper
- MCC – CMR International Alliance Partnership will provide MCC Sponsor & CRO Members the opportunity to participate in MCC Member Blinded Metrics Database