

Optimizing our Protocol Management System Data and Aiding Research-Portfolio Decisions through Use of Custom Dashboards

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BACKGROUND

- As the medical community continues to embrace digital transformation, it is important that institutions leverage new technologies which optimize real-time reporting and aid research portfolio decisions.
- At Memorial Sloan Kettering Cancer Center (MSK), the Protocol Activation and Human Research Protection Program Unit recognized that data could be utilized for real-time dashboard reporting to aid our review process and to help in the following key areas of interest:
 - Institutional scientific prioritization of research
 - Principal investigator (PI) performance
 - Annual review reporting as mandated by federal regulations
- Additionally, we lacked a way for investigators and their departments to review their individual and cumulative portfolios.

GOAL

- To create Tableau dashboards with real-time visualization of protocol metrics that are already captured in our homegrown institutional Protocol Information Management System (PIMS).
- Utilize metrics to allow investigators and leadership a comprehensive look at our research portfolio, which could help departments streamline resources and aid our protocol review and activation process.

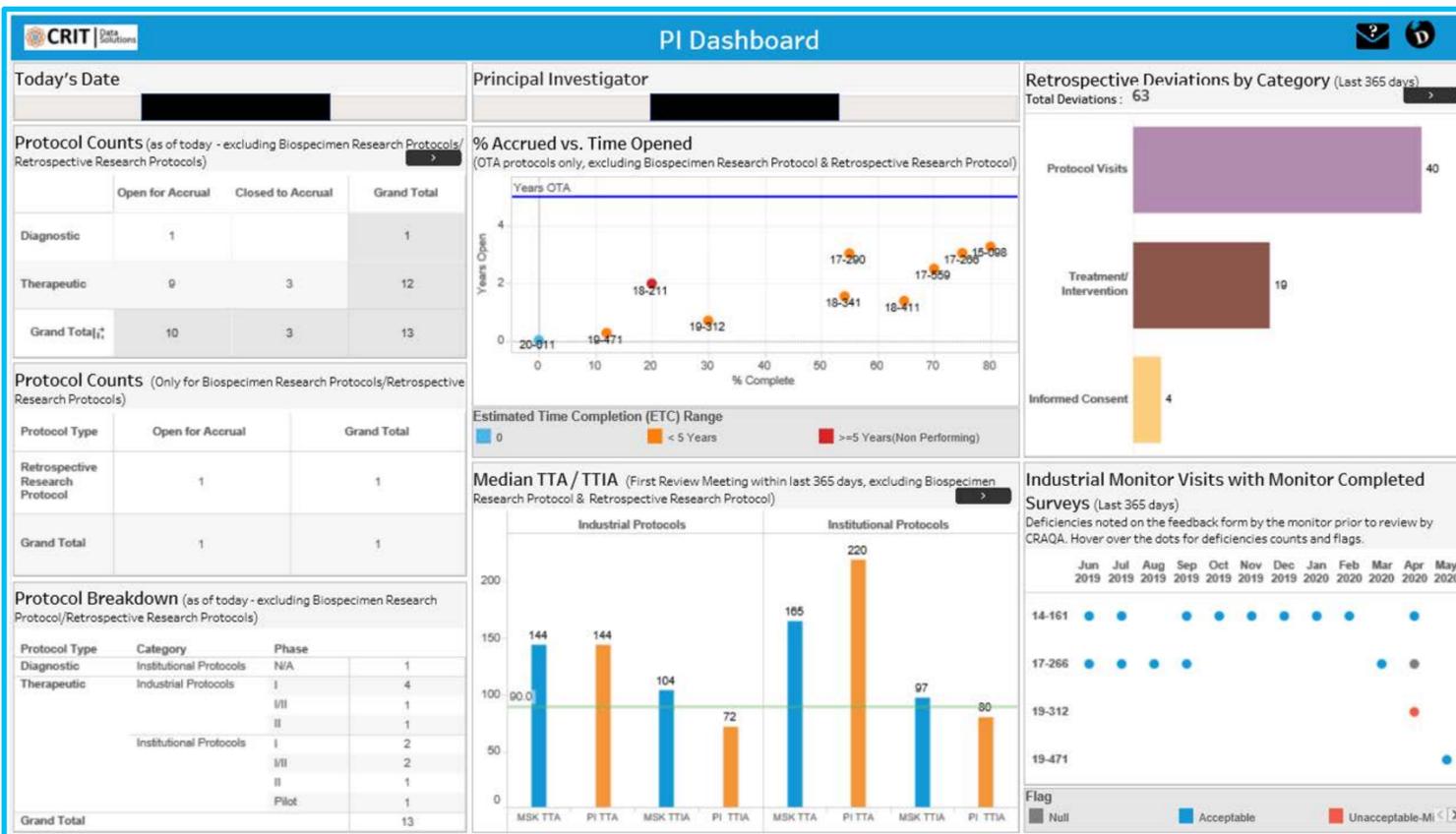
METHODS

- After identifying which metrics were the most informative to users, we collaborated with MSK's Clinical Research Informatics and Technology group to find an effective way to visualize the data.
- The development process included:
 - Creating detailed specifications prior to development
 - Working closely with developers to realign expectations throughout development
 - Extensive quality assurance review with comparison to raw data

Department/Service Portfolio Dashboard (DSP) →

- The Department/Service Portfolio dashboard (DSP) allows services to visualize their research portfolio by showing volume at each stage of a protocol's life cycle, from submission to closed to accrual.
- Volume is broken down by protocol category (e.g., industrial) and type (e.g., therapeutic) allowing Service Chiefs and Department Chairs a comprehensive look at their active portfolio when managing new proposals.
- The DSP indicates the time it takes protocols to move through the activation process (and ultimately provide patients the benefit of new treatments) using two metrics: Time To Activation (TTA) and Time To IRB Approval (TTIA), defined as time from first review to when a protocol is opened to accrual or IRB approved, respectively.
- The DSP shows a Year-Over-Year median TTA and TTIA comparison for the service and all MSK.
- The DSP includes a count of protocols with accrual performance notices issued by our Protocol Review and Monitoring System (PRMS), which can alert leaders of accrual problems.

Department/Service Portfolio												more info				
Institutional Trials: TTA/TTIA Medians				Industry Trials: TTA/TTIA Medians				National Group and Other Externally Peer Reviewed Trials: TTA/TTIA Medians				Department/Service (Multiple values)				
MSK Current Median TTIA	97	▼		MSK Current Median TTIA	104	▼		MSK Current Median TTIA	49	▲		Median Key ▼ Lower than previous year ▲ Higher than previous year = Equal to previous year [<>] No previous value for comparison [X] No current value [-] No comparison made				
This Department/Service TTIA	51	▼		This Department/Service TTIA	64	▼		This Department/Service TTIA	56	▲						
MSK Current Median TTA	165	▼		MSK Current Median TTA	144	▼		MSK Current Median TTA	81	▼						
This Department/Service TTA	123	▼		This Department/Service TTA	119	▼		This Department/Service TTA	81	=						
Median days for protocols in current pipeline	100	-		Median days for protocols in current pipeline	170	-		Median days for protocols in current pipeline	7	-						
Protocol Count by Category and Type: Therapeutic and Non-Therapeutic																
Protocol Category	Protocol Type	Pre PAC	PAC	Department	Research Council	IRB	Approved Budget/Contract	Pending Pending Activati..	Open To Accrual	Closed To Accrual	Totals	Protocol Type	Open To Accrual	Closed To Accrual	In Pipe line	Totals
Industrial Protocols	Therapeutic	0	0	3	4	3	0	1	63	62	136	Non-Therapeutic	9	8	0	17
Institutional Protocols	Therapeutic	0	0	3	1	0	1	1	52	29	87					
	Non-Therapeu..	0	0	0	0	0	0	0	9	8	17	Therapeutic	136	107	23	266
National Group and Ot..	Therapeutic	0	0	1	0	0	0	0	21	16	38					
Not Described	Therapeutic	1	3	0	0	0	0	0	0	0	4	Grand Totals	145	115	23	283
	Non-Therapeu..	0	0	0	0	0	0	0	0	0	0					
	Not Described	0	0	0	0	0	0	0	0	0	0					
Grand Totals		1	3	7	5	3	1	2	145	115	282	Number of Non-Performing Protocols				
Protocol Count by Category and Type: Biospecimen and Retrospective																
Protocol Category	Protocol Type	Pre PAC	PAC	Department	Research Council	IRB	Approved Budget/Contract	Pending Pending Activati..	Open To Accrual	Closed To Accrual	Totals					
Institutional Protocols	Biospecimen Research Prot..	0	0	0	0	2	0	1	17	4	24	11				
	Retrospective Research Prot..	0	0	0	0	0	0	1	52	3	56					
Not Described	Not Described	0	0	0	0	0	0	0	0	0	0					
Grand Totals		0	0	0	0	2	0	2	69	7	80					



← PI Metrics Dashboard (PMD)

- The PI Metrics Dashboard (PMD) provides reviewers from departmental and PRMS committees with visual aids to evaluate the performance of a PI's active trials, which informs the committees' review determination. The PMD allows the PI to evaluate his/her own performance and department chairs to evaluate their service's performance.
- The PMD provides the following PI-specific metrics:
 - Protocol volume
 - Median TTA/TTIA
 - Accrual details
 - Retrospective deviations
 - Monitoring visit deficiencies

FUTURE DIRECTIONS

- The two dashboards are being rolled out to our research community to allow PIs to self-evaluate and Service Chiefs or Department Heads to assess their own groups.
- We will also explore new ways to integrate the dashboards into the review process to aid institutional committee reviewers in assessing new proposals from PIs and services with extensive portfolios.