
COVID-19 and Clinical Trials: The Medidata Perspective

Release 7.0

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What's New/What's Significantly Updated in Release 7.0

- New: Metrics on new patients entering trials by country/region and therapeutic area by month
- Updated: Regulatory Response
- Updated: The Race for a Vaccine
- Updated: Summary table of the current vaccine clinical trials for COVID-19
- Updated: Graphical Representation of COVID-19 Vaccination Trials
- Updated: Summary

Insights to Ongoing Data Capture in Clinical Trials

Medidata is continuously monitoring the global impact of COVID-19 on clinical trials. Our first data and insights impact report was released on March 23, with subsequent releases on April 3, April 17, May 4, May 18, June 15 and now July 13. At the beginning of the pandemic, we were looking at year-over-year changes to understand and grasp the magnitude of COVID-19 on the impact on clinical trials in terms of trial activity, across geographies and therapeutic areas (TAs). As reported in Release 6.0, we had started to see a leveling off of the impact and regional fluctuations. Now that we have several months of data, we are pivoting to help the industry better understand the changes over time at the geographic and TA level, and enable real-time decision making. We are focusing the below analysis on trial activity as measured by the average number of new patients entering trials per study-site. We expect COVID-19 to continue to impact trials, at different times and with varying force across the globe. With that in mind, we will continue to highlight insights from Medidata's cross-industry data.

Globally, as of the end of June, we are seeing a ~30% drop in new subjects entering trials, using October 31 as the pre-COVID-19 baseline. This compares to a ~70% drop globally in April. As mentioned above, there is large variability in the extent and timing of recovery within geographic regions, as COVID-19 cases continue to fluctuate in geographic regions, and policies are adapted over time.

Within Europe itself, we see a varied picture (see Figure 1). Italy, France, Spain are all hovering around the pre-COVID-19 baseline, with COVID-19 case rates significantly down compared to their April highs. Germany is still ~23% from its end of October baseline. All of these four countries were starting to see an improvement in new patients added in May, continuing into June. The UK is trailing behind, with new patients added to trials just starting to pick up in June after a steep decline over the last few months and a COVID-19 case rate for June per 100k at ~3-4.5x that of the aforementioned European countries.

In Asia, we have seen some fluctuations, with China beginning to recover in March while at the same time India and Japan were starting to face an increasingly negative impact and are just starting to slowly recover as of June (see Figure 2).

The US saw the most significant impact on new subjects entering trials in April, with a small recovery in May and a continued improvement in June (see Figure 3), although based on a re-emergence of the virus in most states in late June and early July we expect to see that impact in next month's update.

From a TA perspective at the global level, peak impact on new patients entering trials occurred in April (see Figure 4). Cardiovascular and Oncology trials have recovered globally with new patients being added to study-sites at a rate similar to pre-COVID-19. Cardiovascular trials had experienced close to a 90% drop in April vs. October levels for new subjects entering trials. Oncology trials, as indicated in prior releases, have been the least impacted, but during the peak nonetheless saw an impact of >40% on new patients entering trials versus October. Lagging behind are CNS, Dermatology and ID/Anti-Infectives trials, even with the recent uptick in COVID-19 trials.

The differing impact on TAs and geographic regions, as well as the continued fluctuations, underscore the need to continue to track impact real-time at a granular level, so that we can enable companies to make the best decisions on when and where to focus efforts, help them continue to run their trials and get treatments to patients.

Figure 1:
 New patients entering study-sites: Europe

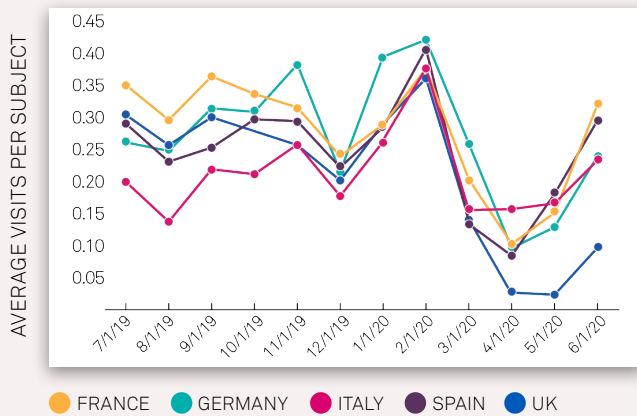


Figure 2:
 New patients entering study-sites: Asia

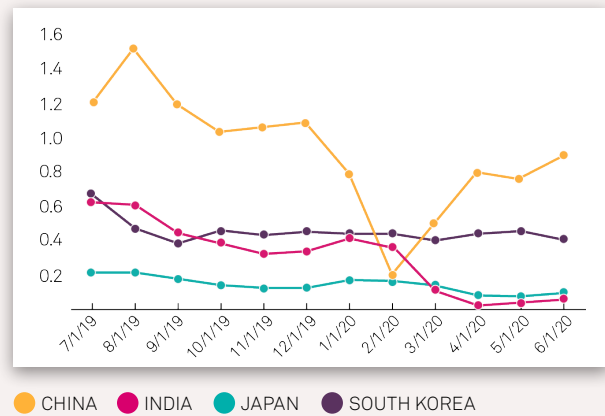


Figure 3:
 New patients entering study-sites: Global vs. US vs. China

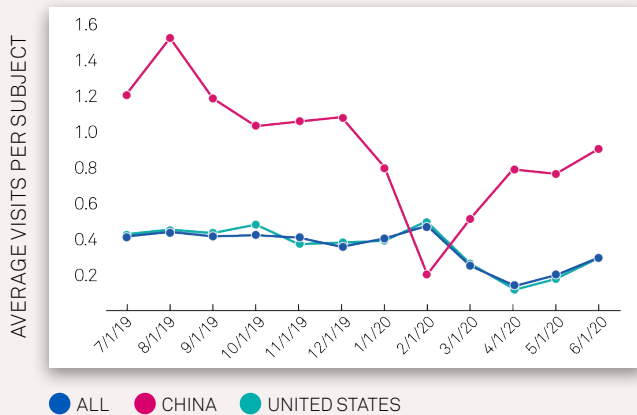
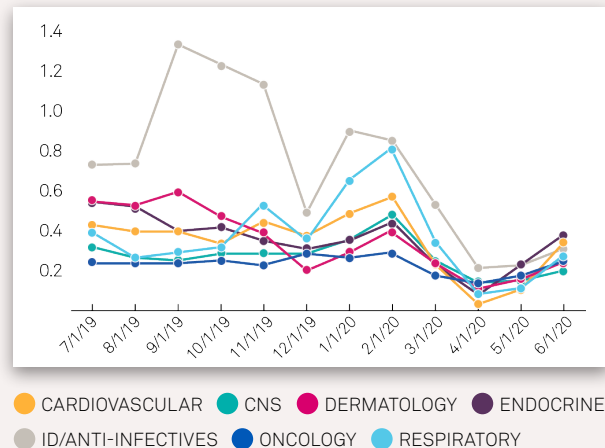


Figure 4:
 New patients entering study-sites by TA (global)



Regulatory Response

Over the past months multiple authorities, including those below, have issued emergency guidance on trial conduct amidst COVID-19. Technology enablement topics including those in Figure 2 and many other topics including protocol deviation management, investigational product handling, protocol amendments, ethics committee review, etc are common areas of discussion by the authorities. As these are updated frequently and are not uniform in scope, duration, and approach, see the applicable guidance for specific expectations. The FDA have recently updated their guidance this month to provide further advice regarding informed consent.

Figure 2: Key Technology Topics Addressed by Regulatory Authorities

Authority w/Link	Monitoring	eConsent	Telemedicine / decentralization	Direct IP Shipment to Patients
Europe EMA (v3 28Apr)	✓	✓	✓	✓
U.S. FDA (02Jul)	✓	✓	✓	✓
U.K. MHRA (21May)	✓			✓
Germany BfArM (v3)	✓		✓	✓
France ansm (20May)	✓		✓	✓
Netherlands CCMO (26May)	✓			✓
Ireland HPRA (v6 28May)	✓			✓
Italy AIFA (7Apr)	✓		✓	✓
Denmark Jul 02: Sundhedsstyrelsen v 6.0)	✓		✓	✓
Switzerland swissmedic (v2.2 15Jun)	✓	✓	✓	✓
Japan PMDA (27May)	✓	✓	✓	✓
South Korea MFDS (26Mar)				✓
Canada Health Canada (3Apr)	✓	✓	✓	✓
Australia DoH (9Apr)	✓	✓	✓	✓
Singapore HSA (27Mar)	✓		✓	✓
China CDE (30Apr- Draft)	✓	✓	✓	✓
Turkey TMMDA (31Mar)	✓		✓	
Taiwan FDA (28May)				

Frequently discussed topics include telemedicine/decentralization (see FDA Question 19), consent and eConsent (See FDA FAQ 10 & 11), expectations on electronic records/signatures rules (See FDA FAQ 23), and remote monitoring including remote source data verification (rSDV). Note that while the US FDA, UK MHRA, Australia DoH, Health Canada, and Singapore HSA suggest rSDV is possible, the EMA leaves it as an option in very limited circumstances ([Section 11 and Annex](#)) and some outright discourage it including Germany and France. Centralized monitoring activities are suggested by most regulators, however.

The regulatory appetite for making COVID flexibilities extend beyond the pandemic is uncertain but there is reason to believe change is possible. For instance, US FDA Commissioner Hahn's June 1 [remarks](#) "The COVID-19 Pandemic — Finding Solutions, Applying Lessons Learned" indicated a desire to make some of the changes (i.e. accelerated receptiveness to trial decentralization, master protocols, real world evidence) endure beyond the pandemic.

For additional information on the global regulatory responses to the impact of COVID-19 on clinical studies, visit Medidata's blog [here](#).

Impact to Medidata Customers, Patients and Trials

Real-time and detailed reporting and analytics are critical for sponsors and CROs to assess the day-to-day impact of the pandemic on a trial at the patient, site and country level and so they can quickly implement changes to mitigate the risk of trial failure.

Rapid and safe implementation of protocol amendments is vital to address both site closures and the fact that trial participants no longer receive or have access to the investigational product. Inaccessible sites mean that alternative, remote approaches to drug supply, monitoring study conduct, compliance, patient safety and data quality are needed. The more trials can be safely "virtualized," the more likely they will be able to successfully proceed.

Large pharmaceutical (Pfizer, Bristol Myers Squibb and Eli Lilly)¹ and smaller biotechnology companies (Moderna Therapeutics², Iveric Bio³, Aslan⁴, Provention Bio⁵ and Addex⁶) have announced that they are modifying their R&D plans. Typical modifications in certain trials are some form of temporary delay in site activation and/or patient enrollment. The impact of COVID-19 on trial success is already an issue, as evidenced by Aveo Pharmaceuticals Inc., which cited COVID-19 as a reason for the study failure of ficlatuzumab in acute myeloid leukemia.⁷ These growing examples of trial delays or stoppages by biopharma companies to mitigate the cost and impact of the pandemic dramatically highlight the need for rapid, innovative solutions to help trials successfully start, continue, and finish.

¹ <https://www.fiercebiotech.com/biotech/covid-19-prompts-pfizer-to-stop-enrollment-most-studies>. Accessed April 4, 2020

² <https://www.fiercebiotech.com/biotech/covid-19-causes-moderna-to-pause-a-clutch-clinical-trials>. Accessed April 4, 2020.

³ <https://www.fiercebiotech.com/biotech/iveric-bio-latest-to-be-hit-by-covid-19-as-it-delays-a-key-trial>. Accessed April 19, 2020

⁴ <https://www.fiercebiotech.com/biotech/covid-19-outbreak-prompts-provention-to-pause-diabetes-trial>. Accessed April 19, 2020

⁵ <https://www.fiercebiotech.com/biotech/covid-19-outbreak-prompts-provention-to-pause-diabetes-trial>. Accessed April 19, 2020

⁶ <https://www.fiercebiotech.com/biotech/swiss-bio-addex-halts-parkinson-s-test-as-trial-delays-tick-up-covid-19-disruption>. Accessed April 19, 2020

⁷ <https://www.reuters.com/article/brief-aveo-oncology-and-biodesix-to-disc/brief-aveo-oncology-and-biodesix-to-discontinue>. Accessed April 4, 2020

The impact of the pandemic on sites was well documented by a survey of over 1,000 clinical site personnel performed by Medidata in late April 2020. Not unexpectedly, the survey results clearly and dramatically show that most sites are feeling the negative impact of the pandemic on current and future trials, specifically around delays in patient enrollment and recruitment. They also are concerned about the impact of trial delays and cancellations on their financial well-being. Over two-thirds of respondents indicated that they have halted, or will soon halt, patient recruitment for ongoing trials, a third are halting randomization, and about half are now delaying or will be delaying their studies. Sites have shown flexibility and ingenuity in adopting new approaches. Over half of sites are switching site patient visits to virtual ones and/or are using telemedicine to interact with patients. The detailed results of the survey can be reviewed [here](#).

Other COVID-19 clinical trial impact surveys (mostly focused on oncology trials) by the Cancer Research Institute, IQVIA⁸ and The American Society of Clinical Oncology⁹ demonstrated similar results.

From the patient's perspective, a recent survey of its Phase III patients by a Canadian CRO found that amid the changes COVID-19 has brought to its sites, patients were still committed to continuing their trials. When asked how the CRO could further support its patients, many mentioned medication deliveries and the option to have study visits in traditional, virtual, and hybrid forms, but what was most important was "someone asking us if we are okay."

There were a variety of different ways patients wanted to stay engaged – updates on COVID-19, updates on their research trial, opportunities to ask questions about their trial, opportunities to discuss difficulties they are facing, etc. What was most important to them was "being informed, I can make better decisions" and "more awareness always is good – it provides hope."¹⁰

The Race for a Vaccine

The future of global public health is dependent on the scientific and medical communities' ability to develop readily available, accurate, and rapid virus and antibody tests and to discover highly effective vaccines to further prevent spread of the virus as well as mitigate the likelihood that it will reappear. As of July 10, according to the World Health Organization, there are 139 vaccine (9 more than last month) candidates in preclinical development and 21 (11 more than last month) unique candidate vaccines for COVID-19 in 31 clinical trials (16 more than last month).¹¹ An abridged summary of these 21 vaccines in clinical evaluation is outlined in Figure 5 and represented graphically in Figure 6.

⁸ <https://www.nature.com/articles/d41573-020-00093-1>

⁹ <https://www.asco.org/sites/new-www.asco.org/files/content-files/blog-release/pdf/2020-asco-covid19-clinical-trial-site-survey-manuscript.pdf>

¹⁰ https://www.clinicalleader.com/doc/what-patients-are-telling-sites-about-trial-participation-during-covid-0001?utm_source=OneSignal&utm_medium=pushnotification&utm_campaign=6-3-20

¹¹ <https://www.who.int/who-documents-detail/draft-landscape-of-covid-19-candidate-vaccines>. Accessed July 10, 2020.

Figure 5: The 21 COVID-19 Vaccines in Clinical Development

Platform	Type of Candidate Vaccine	Developer	Current stage of clinical evaluation/regulatory status - Coronavirus candidate
Inactivated	Inactivated + alum	Sinovac	Phase 3 NCT04456595 Phase 1/2 NCT04383574 NCT04352608
Non-Replicating Viral Vector	ChAdOx1-S	University of Oxford/AstraZeneca	Phase 3 ISRCTN89951424 Phase 2b/3 2020-001228-32 Phase 1/2 PACTR202006922165132 2020-001072-15
Non-Replicating Viral Vector	Adenovirus Type 5 Vector	CanSino Biological Inc./ Beijing Institute of Biotechnology	Phase 2 ChiCTR2000031781 Phase 1 ChiCTR2000030906
RNA	LNP-encapsulated mRNA	Moderna/NIAID	Phase 2 NCT04405076 Phase 1 NCT04283461
DNA	DNA plasmid vaccine with electroporation	Inovio Pharmaceuticals/ International Vaccine Institute	Phase 1/2 NCT04447781 NCT04336410
DNA	DNA plasmid vaccine	Cadila Healthcare Limited	Phase 1/2 CTRI/2020/07/026352 (not yet recruiting)
Inactivated	Inactivated	Wuhan Institute of Biological Products/Sinopharm	Phase 1/2 ChiCTR2000031809
Inactivated	Inactivated	Beijing Institute of Biological Products/Sinopharm	Phase 1/2 ChiCTR2000032459

Platform	Type of Candidate Vaccine	Developer	Current stage of clinical evaluation/regulatory status - Coronavirus candidate
Protein Subunit	Full length recombinant SARS CoV-2 glycoprotein nanoparticle vaccine adjuvanted with Matrix M	Novavax	Phase 1/2 NCT04368988
RNA	3 LNP-mRNAs	BioNTech/Fosun Pharma/Pfizer	Phase 1/2 2020-001038-36 NCT04368728
DNA	DNA Vaccine (GX-19)	Genexine Consortium	Phase 1 NCT04445389
DNA	DNA plasmid vaccine + Adjuvant	Osaka University/ AnGes/ Takara Bio	Phase 1 JapicCTI-205328
Inactivated	Inactivated	Institute of Medical Biology , Chinese Academy of Medical Sciences	Phase 1 NCT04412538
Non-Replicating Viral Vector	Adeno-based	Gamaleya Research Institute	Phase 1 NCT04436471 NCT04437875
Protein Subunit	Native like Trimeric subunit Spike Protein vaccine	Clover Biopharmaceuticals Inc./ GSK/Dynavax	Phase 1 NCT04405908
Protein Subunit	Adjuvanted recombinant protein (RBD-Dimer)	Anhui Zhifei Longcom Biopharmaceutical/ Institute of Microbiology, Chinese Academy of Sciences	Phase 1 NCT04445194
Protein Subunit	Recombinant spike protein with Advax™ adjuvant	Vaxine Pty Ltd/Medytox	Phase 1 NCT04453852
RNA	LNP-nCoVsaRNA	Imperial College London	Phase 1 ISRCTN17072692
RNA	mRNA	Curevac	Phase 1 NCT04449276
RNA	mRNA	People's Liberation Army (PLA) Academy of Military Sciences/ Walvax Biotech.	Phase 1 ChiCTR2000034112
VLP	Plant-derived VLP	Medicago Inc./ Université Laval	Phase 1 NCT04450004 (not yet recruiting)

Figure 6: Graphical Summary of COVID-19 Vaccine Candidates by Phase



Medidata Solutions to Assist Sponsors/Partners, Patients and Trials

Medidata has solutions that can be immediately leveraged by our customers to both better understand the impact of the pandemic on their trials, and to mitigate the challenges of patients unable to visit sites for their drugs and protocol-directed clinical and patient-reported data capture.

There are **four** main categories of challenges facing clinical trials. The following is a high level summary of these challenges and the solutions that Medidata is prepared and ready to provide:

CHALLENGE 1: UNDERSTANDING THE EVOLVING SITUATION

Solutions:

- Study/sponsor level metrics and dashboards to understand impact on enrollment, patient visits, data collection, query response rates, and additional metrics to help diagnose risk areas
- Industry-wide dashboards and analysis to understand trends globally and areas of greater or lesser disruption

CHALLENGE 2: RECONSIDERING TRIAL DESIGN TO ENABLE DATA CAPTURE

Solutions:

- Shift to more virtualization – reduce patient visits; minimize site burden
- Shift site mix to lower-impacted countries/regions
- Consider synthetic controls to reduce patient enrollment needs

CHALLENGE 3: MAINTAINING QUALITY AND SUPPLY

Solutions:

- Centralize data oversight and monitoring activities, bringing identification of patient anomalies earlier in the process and away from onsite identification
- Closely monitor patient volume and drug supply to minimize supply disruptions

CHALLENGE 4: ACCELERATING STUDY START UP

Solutions:

- Sponsors focused on developing vaccines against, and treatments for COVID-19, must safely and effectively accelerate study start up times through faster investigator budgeting, so cures and treatments can get to market faster

Details on New and Adapted Medidata Solutions

The following tables provide details about the Medidata’s solutions available now to assist with your trial challenges. Since some aspects of the four challenges are not mutually exclusive, some solutions may be applicable to more than one challenge.

CHALLENGE 1: UNDERSTANDING THE EVOLVING SITUATION

Acorn AI Intelligent Trials

CHALLENGE

Understanding the country/site/disease area impact across the industry, and developing risk mitigation and recovery plans.

***New Medidata Solution**

SOLUTION

Trial Impact Analytics*: COVID-19 tracking and forecasting powered by 6,000 active and 20,000 overall industry trials

Real-Time Situation Tracking: inform critical decisions by monitoring the impact of COVID-19 on enrollment, data collection and visits

- Standard reports to track impact of COVID-19 for customer and across the industry
- Trends and YoY comparisons, updated weekly
- Views at study, portfolio, country, region, and site level

Impact Forecasting: track leading indicators of slowdown and recovery to plan ahead

- Overlay trends in COVID-19 testing and infection rates with impact on trials
- Identify markers of recovery at a country and region level

CHALLENGE 2: RECONSIDERING TRIAL DESIGN TO ENABLE DATA CAPTURE

Rave eCOA

CHALLENGE

Provide ways for missed or risked visit forms to be remotely filled out by patients on existing studies.

SOLUTION

Medidata's eCOA solution can be used to convert site-based data forms to remote data forms. If study modifications are made to accommodate this approach, patients can download the patient cloud app from the app store and provide urgent data forms as needed for missed visits. Any Rave EDC study using eCOA can have additional data forms pulled into the eCOA app and made available to patients. Any Rave EDC studies not using eCOA can add eCOA to the project and immediately begin converting forms to remote-enabled forms.

myMedidata/ Rave Virtual Trials

CHALLENGE

Quantify the impact of trial participants with COVID-19 symptoms on ongoing research studies.

SOLUTION

In late April, Medidata and 3DS launched the **COVID-19 Symptom Tracker*** as part of **myMedidata*** (the Medidata Patient Portal), which will be used as a remote patient symptom tracker. This Tracker will function as a registry (in an MVP version) and will allow sites to remotely monitor and report symptoms of patients in their trials. Learn more about myMedidata and the COVID-19 Symptom Tracker [here](#).

*New Medidata Solution

Acorn AI Synthetic Control Database / Trial Design

CHALLENGE

Improving understanding of safety in experimental treatments (e.g., chloroquine) that are now under review for cross-indication use.

SOLUTION

Support research by providing aggregated data, e.g., Synthetic Control Database (SCD) to support understanding of expected and unexpected AEs for products being studied for COVID-19. These drugs are already marketed with a mature safety profile, but an SCD might improve the analyses above what published literature can provide. In addition, historical trial data can be compared against real-world data from claims or EMRs to provide confidence and validation in trial design, better understand inclusivity of patients populations to better reflect real world clinical practice, and potentially decrease sample size requirements for event-driven trials.

Closing out on-going studies given barriers completing visits.

Leveraging historical clinical trial data to augment or replace control arms of trials that are in danger of high dropout or unfulfilled enrollment due to COVID-19; reduce scientific uncertainty to advance to the next phase, reduce patient enrollment burden or increase statistical power.

Rave Coder

CHALLENGE

The coronavirus pandemic has prompted an urgent need for a harmonized, standardized approach to coding and reporting the infection as a global health issue.

SOLUTION

MedDRA Maintenance and Support Services Organization (MSSO) has released an updated version of MedDRA 23.0 with new COVID-19 terms and revisions. The updated MedDRA dictionary will allow organizations to capture, share and analyze scientific and medical information for pre-marketing and post-marketing data. Approximately 70 new COVID-19 related terms and revisions were implemented including new High-Level Term (HLT) Coronavirus infections to group relevant COVID-19 infection terms in System Organ Class Infections (SOC) Infections and infestations.

The updated MedDRA 23.0 dictionary is now available to clients using Rave Coder.

CHALLENGE 3: MAINTAINING QUALITY AND SUPPLY

Rave RBQM

CHALLENGE

As shelter-in-place requirements have relaxed and travel restrictions are lifted, the on-site monitoring activities that were placed on pause have resumed. Despite these changes to travel restriction, historical monitoring activities have not yet returned to what was seen pre-COVID. Challenges are seen with limited onsite capacity, limited site staff, safety precautions, and increased demand for onsite monitoring visits sites has resulted in a limited number of days that CRAs are allowed onsite.

Therefore, sponsors and CROs must quickly determine the current risks to subject safety and data integrity with as little impact to the site as possible

SOLUTION

The industry has traditionally relied heavily on on-site monitoring including significant amounts of Source Data Review (SDV) to ensure subject safety and generate quality data. This approach is highly resource intensive, costly, and has been found to have minimal impact on the quality of the clinical investigation when compared to less resource-intensive approaches.

It's well supported that 100% SDV has a negligible effect on data quality. A reduced SDV methodology has been increasingly encouraged by TransCelerate & global regulatory authorities. Applying a risk-based approach to reduced SDV enables sponsors and CROs to quickly navigate monitoring backlog resulting in earlier indications of potential subject safety, data quality issues, and study risks.

Medidata has enabled targeted source data verification through a new COVID-19 focused offering, **TSDV Critical***, to support sponsors and CROs in delivering quality data in a time effective and cost efficient method:

- Regulatory supported method for identifying critical data to perform reduced SDV
- Targeted critical data to focus attention
- Fully auditable solution
- Elimination of manual CRA determination of monitoring requirements
- Real-time reporting capabilities for sponsor and CRO oversight responsibilities
- Cost effective method for reduction in labor intensive onsite monitoring activities

Medidata offers consulting services to support a streamlined implementation process:

- COVID-19-specific Risk Management
- Streamlined Block/Tier plan based on study risk
- TSDV best practices guide
- Sample text for inclusion with monitoring (functional) plan for:
 - Supporting a reduced SDV approach
 - Guidance on training for monitors

***New Medidata Solution**

CHALLENGE

Restrictions of access to sites by staff and patients has affected the investigators' ability to maintain medical oversight. This has impacted, among other key processes, completion of trial assessments, completion of trial visits, and the provision of Investigational Medicinal Products (IMPs).

***New Medidata Solution**

Travel restrictions have impacted the ability of site staff and monitoring resources to perform oversight responsibilities to ensure subject safety and data quality.

***New Medidata Solution**

SOLUTION

As the monitoring landscape continues to evolve, ongoing risk assessment should be performed and corresponding modifications to existing risk control mechanisms and monitoring strategies a risk assessment should be performed to continually assess the risk to trial participants, data quality, and data efficacy. To support industry in performing risk evaluations, Medidata is offering at no charge a **Risk Assessment Template*** to support the development and documentation of monitoring strategies by collecting critical to quality data, mitigation strategies, and risk control mechanisms.

A revised version of the Risk Assessment Template, based on revised regulatory guidance can be accessed [here](#).

Rave CSA Critical* (Centralized Statistical Analysis) is a customized solution to support sponsor oversight responsibilities by incorporating next-generation analytical tools and algorithms into a quickly implemented solution (<2 weeks go-live) providing:

- Real-time data availability for proactive early data oversight
- Focused Key Risk Indicators (KRI) on areas of greatest risk
- Remote management of site processes to mitigate risk
- Detection of data patterns and anomalies
- Automated insights into subject safety, data integrity, and site performance
- Mitigation of risk due to site monitoring and patient visit disruption

These allow for increased efficiency in data review and centralization of review activities and risk/issue detection - a critical capability that can maintain and support sponsor oversight responsibilities and allow earlier access to data and enhance key decisions making capabilities.

Medidata Remote Source Review*

CHALLENGE

As a result of global restrictions, sponsors are experiencing an inability to adequately monitor their active studies on site, and may not be able to manage critical document acquisition and source document review (SDR) activities. Some have turned to less secure, antiquated, risky tools to manage these critical documents such as fax, email, video and file sharing software.

Without the ability to securely manage these documents, patient safety and data integrity are at risk and studies may not progress.

Regulatory guidance allows for sponsors to find ways to perform critical document management and SDR remotely via a secure cloud-based viewing portal in certain regions, excluding EMEA.

*New Medidata Solution

SOLUTION

Following FDA Guidance, Medidata has tailored its Rave imaging workflow tool to enable clients to rapidly and remotely deploy a method to assist monitors in their critical document acquisition, workflows, and Source Document Review. **Medidata Remote Source Review*** is a streamlined and quick-to-implement solution (2 weeks go-live) that helps fill the gap when studies have critical timelines and no secure option to collect, de-identify, manage, review and verify critical study documents. Easy to get started with no software to download, is available at no cost to the sites, and can be used as a primary solution or alternative for sites

Medidata Remote Source Review:

- Acquires documents, via secure browser-based uploads, routes and manages document workflows to support source document review and verification remotely
- Is a 21 CFR Part 11 compliant system that includes the ability to de-identify and redact Personally Identifiable Information (PII) and Protected Health Information (PHI)
- Mitigates risk due to site monitoring and patient visit disruption for some studies with no secure option to manage critical documents

Rave EDC and Rave RTSM

CHALLENGE

Patients can't get to the site for dispensation - sites are open but do not have supply for dispensation.

*New Medidata Solution

Patients can't get to the site for dispensation but the site is open.

SOLUTION

Direct to Patient Supply Management*

Rave RTSM can now be configured to send investigative product directly from the Depot to the patient's home. Upon registering a dispensing visit, Rave RTSM sends a shipment request notification to the depot including the SubjectID, and the depot can send the dispensed items straight to the subject's home or office.

Sites can process dispensation through Rave EDC as a visit and send the drug to the subject via a courier. Rave EDC could be updated to store the courier tracking number (collected as text data). Adding a new field would require a migration in Rave EDC.

CHALLENGE

Sites are closed and patients need a dispensation.

Subjects are able to have an onsite visit but future visits are questionable.

Supply chain concerns make sites want to have more buffer stock on hand or less (depending on if the concern is availability of drug or availability of shipments).

SOLUTION

Subjects may be transferred to sites that are open, or if site users are able to work remotely they can register a visit in Rave EDC that is configured in RTSM to be Direct to Patient and have the dispensed items shipped from the Depot to the patient's home.

Multiple dispensing visits can be made in Rave EDC at the same time, providing additional IMP for the subject. If this will become standard, DND dates should be updated so that the drug does not expire over the longer time period between dispensations. Our Services team can provide specific steps that can be utilized to ensure off-cycle/unscheduled visits can be conducted without issue.

Supply plans can be instantly adjusted by end users to meet the changing needs of individual study sites. To ensure that the site is stocked with additional drug to service a larger number of visits, the maximum buffer can be increased or the long window extended. Alternatively, a supply plan can also be adjusted to maintain less inventory by shortening the long window or reducing the maximum buffer. The site can also be deactivated for shipping in the case of a closed site or dispensations occurring from alternate sites.

CHALLENGE 4: ACCELERATING STUDY START-UP

Rave Grants Manager COVID IIS*

CHALLENGE

Budgeting for the investigator-initiated studies (IIS) is different from a normal trial. IIS trial budgets are typically built as small cost buckets, with the sites (not the sponsor) indicating what the costs are and what they want the Sponsor to pay. This approach causes delays in getting approval from the sponsor as a more granular activity level budget is needed. The sponsor will also need reliable data to verify that the costs are fair.

SOLUTION

Medidata has developed a COVID19 vaccination study budgeting solution, **Rave Grants Manager COVID IIS**, to help investigator-initiated studies develop detailed trial budgets for patient, procedure and site costs. Leveraging Medidata's deep fair market value data and our clinical trial budgeting expertise, Sponsors can streamline the budget build process for their sites.

CHALLENGE

With COVID-19 investigator-initiated studies, there are budget negotiation delays due to the gap between the site's and sponsor's individual cost benchmarks. Disparate data sources for clinical procedure activities and other direct costs at the investigator and site-level can undermine decision-making. There is a need for an independent industry benchmark.

Compliance and auditing risks. Lack of internal COVID-19 related data to establish FMV to ensure Sponsors are not overpaying or underpaying sites.

* New Medidata Solution

Rave EDC and Rave RTSM

CHALLENGE

COVID-19 studies need to be up and running quickly.

SOLUTION

Rave Grants Manager COVID IIS enables Sponsors to negotiate investigator-initiated studies quickly using a single, reliable fair market value data source as well as a complexity analyzer. The complexity analyzer calculates benchmarks with industry averages, along with a site's work effort required by the procedures, visits and protocol. This helps sponsors determine fair site payments based on relative study complexity.

Medidata's deep fair market value data provides auditable defensible rates. An audit trail of negotiation activity is retained for reference and compliance with fair market value regulations.

SOLUTION

Rave RTSM with basic EDC forms can be up and running in two weeks for a randomization only study and three weeks with basic trial supply management. Medidata has had multiple COVID-19 studies go from kick-off to live in 3 weeks or less with randomization and trial supply management.

Summary

At this point in the COVID-19 pandemic, the situation is both dynamic and dramatically inconsistent. In the US, where north of 40 states are experiencing surges, the pressure to re-open economies is overriding public health concerns. New epicenters appear almost daily, but testing and tracing continue to lag, contributing to and exacerbating an already-challenging situation. The impacts of reopening too soon quickly became apparent, with frightening predictability. The wide variance in reaction across local state and federal governments about proper preventive measures is leading to more confusion, less trust and more virus. And virus prevention has now become a divisive cultural issue.

While healthcare providers have more information and tools to manage the sickest patients, healthcare systems across the country are at – or over – capacity. To add more complexity, the increasing focus on vaccines has activated the already-active anti-vaccination movement, presenting a new threat. Elsewhere we see countries begin a return to a new normal, though with the necessary flexibility to reinstate shut-downs as new cases appear.

What to Watch: In the clinical trials ecosystem, we continue to see impacts on patient recruitment and retention as at-risk patients maintain quarantine while vaccines and therapies are in development.

The response to these challenges has been the increased use of and reliance on solutions like remote monitoring and trial virtualization. Interestingly and importantly, these may not be transitory solutions to an immediate problem; rather they may more and more become the standard.

We are committed to providing this data to our stakeholders, along with relevant updates from a regulatory perspective. And you can count on us to continually innovate to identify new solutions designed to help further clinical research.

About Medidata

Medidata is leading the digital transformation of life sciences, creating hope for millions of patients. Medidata helps generate the evidence and insights to help pharmaceutical, biotech, medical device and diagnostics companies, and academic researchers accelerate value, minimize risk, and optimize outcomes. More than one million registered users across 1,500 customers and partners access the world's most-used platform for clinical development, commercial, and real-world data. Medidata, a Dassault Systèmes company (Euronext Paris: #13065, DSY.PA), is headquartered in New York City and has offices around the world to meet the needs of its customers. Discover more at www.medidata.com and follow us [@medidata](https://twitter.com/medidata). The Operating System for Life Sciences™.

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