medidata joins DASSAULT SYSTEMES

6 Expert Tips to Succeed as an Emerging Biotech Company

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Hajime founded Emanate Life Sciences to help increase the likelihood of clinical trial success for small and mid-sized biotech, pharma, and medical device companies. He enjoys sharing his knowledge and experience to support other life science organizations.

Featured in tips

- Own your study URL
- Evolve your data management team's skill sets
- Pick the right CRO

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Featured in tips

- Embrace the FDA
- Pick the right CRO

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Featured in tips

- Evolve your data management team's skill sets
- Anticipate hidden costs
- Pick the right CRO
- Own your study URL

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Featured in tips

- Evolve your data management team's skill sets
- Strive for better study performance

Emerging Biopharma and Biotech (EBPs) drive the majority of trials and innovation in life sciences.

CONSIDER THE FOLLOWING

- **64% of FDA-approved drugs in 2018** originated from Emerging Biopharma (EBPs)
- **73% of late-stage research** is managed by EBPs[1]
- **65% of all clinical trials were run by EBPs,** more than larger companies across all phases

However, they are restricted by lean resources, limited access to sites and patients, lack of integrated systems, and risk of uncertain funding.

The median time for EBPs to launch new drugs is estimated to be 16.6 years, over 30% slower than other segments.[2]

How can emerging biotech companies stay ahead of other segments and still succeed? Medidata partnered with industry's top consultants to create a nine-part MasterClass webinar series, providing EBPs with key insights and practical advice to avoid study pitfalls and be on the path to success. This eBook summarizes and compiles these learnings as expert tips to help power the decisions that will accelerate your study's success.

IMPORTANT NOTES

- All tips are created equal and none is more important or less valuable than another. For ease of reference, they are listed in alphabetical order.
- If you're interested in hearing the industry consultants speak, the webinar series is always available on-demand **here**.

1. Biotechs getting bigger in late-stage R&D, leaving Big Pharmas behind: report Fierce Biotech, April 2019
2. IQVIA Institute, Emerging Biopharma's Contribution to Innovation, June 2019

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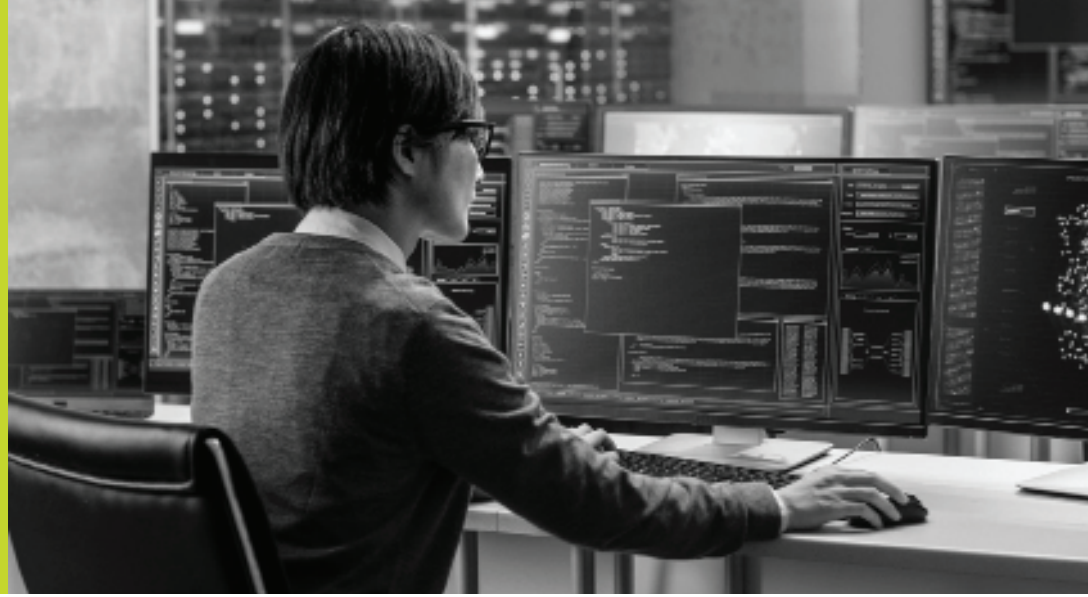
Tip 1: Anticipate hidden costs

End goals need to be set from the beginning. Failing to start with the goal, vision, or end in mind for each study often leads to slower, costlier outcomes, and the danger of creating the need to be rescued.



Smaller biotech companies do not have the budget of a larger pharma, so need to be better prepared for unanticipated costs that might hit in the trial journey. While accounting for such costs, you need to consider the bandwidth you have available within the company: skill sets you may have to cover any gaps; your team's prior experience; technical platforms needed for the trial; and so on.

More often than not, poor communication among teams is one of the main culprits of hidden costs.

- Leadership teams don't always communicate their goals related to go-live with the teams working on getting the protocol, database, or sites ready. It's critical for leaders to understand that the database build or site initiations should occur only when the protocol is completely ready. If amendments are made to the protocol after the database is live or CRF (Case Report Form) is finalized, this can result in change orders costing the teams very dearly.
- At the same time, data management teams need to ensure a thorough understanding of a finalized protocol and clarify any ambiguities beforehand so as to not raise concerns during the actual building of the database. Even small changes to the protocol can cause a trickle down effect resulting in large numbers of changes and unanticipated cost. In addition, changes in team personnel can result in steep learning curves, increasing the overall cost of the trial.

Further, apropos of what we're currently facing, the COVID-19 pandemic is an example of a very unique situation contributing to unanticipated expenses in the form of lockdown costs, unimaginable even three months ago. Arranging for patients to get to sites or for trained nurses to visit patients to perform necessary assessments are adding huge costs for many companies.

> A good rule of thumb is to set aside **at least 10%-15% of your budget** for such unanticipated situations.

Tip 2: Embrace the FDA

Embracing the FDA means understanding that they have a tough job to do and your company is one out of thousands. It's important to note that the FDA is in the business of approving better drugs, not more drugs.

Involving them early in the discussion of your development program can ensure higher confidence in clinical trial success. It takes time, skill, and experience to effectively communicate and positively engage with the FDA. By being open and forthcoming with them, you are giving them a chance to provide commentary that will offer a glimpse into what they are thinking.

Work through CDER (Center for Drug Evaluation and Research), which serves smaller biotech companies as an ombudsman, to help navigate the FDA and point you to the right places on the FDA website. When connected with the right office/division, you will be assigned a primary contact to further help answer your questions.

The best outcomes come from questions that are detailed, with context, broken down into three parts:

- **Part 1** focuses on whether the FDA agrees with the context in which the question is posed
- **Part 2** asks if the FDA agrees with your approach and to provide comments if it doesn't.
- **Part 3** to ensure you're not limiting one question to just one answer, it may be prudent to ask if you proceed with your approach if the agency does agree with it.

The best outcome of involving the FDA in your communication is to get invited to a face-to-face meeting rather than a telephone meeting, written response to your questions or, worse, being denied a meeting.

The FDA has prescribed essentially three types of meetings, **Types A, B, and C,** and officially these should occur at predefined points.

The **type A** meeting is to discuss an urgent issue when it is necessary to resolve something that is critical or unexpected that may have come up, e.g. a clinical hold or a dispute resolution. However, for the most part, meetings will be **type B** and that means that they are anticipated and on schedule. Anything outside of that will be a **type C** meeting. It's best to over-anticipate what the FDA will ask and then hopefully not be too surprised later.

Most communication needs to be done electronically as specified in the eCTD (Electronic Common Technical Documents). While this is a time-consuming technicality, it is FDA protocol. While module 1 is region-specific, module 2 is used to provide an overall summary of the remaining modules, including module 3 reference quality information, module 4 non-clinical and finally, module 5 reference clinical information.

PDUFA (Prescription Drug User Fee Act) comes into play when the drug or biologic application is submitted. According to this, statutorily, the FDA is bound to a time clock, so by setting your time expectations appropriately, you can keep the FDA on your side.

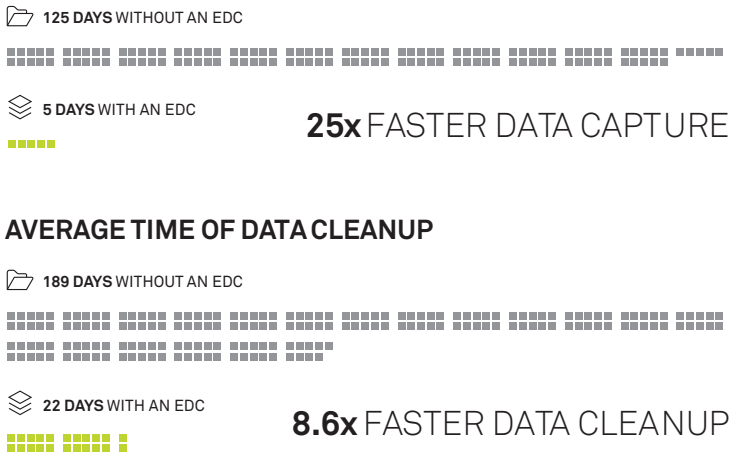
There are many sources where you can find official information that will inform you of the FDA's policies, including:

- Guidance documents
- MAPPS (Manual of Policies and Procedures)
- Many more on the FDA website

It serves everyone well to have one or more people always reviewing and becoming familiar with these resources to stay abreast of the FDA's latest updates.

Tip 3: Evolve your data management team's skill sets

Despite having faster data compared to a paper-based process, data managers still seem to be struggling when it comes to saving time. EDC alone hasn't impacted downstream processes.



This can be attributed to key shifts in the industry.

- There's been an explosion in the data sources and types of data we're seeing in clinical trials. A recent study showed that nearly 97% of companies expect to use more clinical data from a variety of sources. Data is being collected in several different places - EDC, IXRS for dosing info, ePRO/eCOA for quality of life and other questionnaires, imaging, safety, eConsent, eSource, wearables, sensors, lab data and so forth. The landscape is changing and contributing to a data explosion leading to millions and millions of records actually being captured.
- Many of our studies are now becoming more adaptive meaning that we're constantly learning from the study and immediately changing the protocol. From a data management perspective, we're constantly having to do more database amendments.

All of these factors are going to have an impact on clinical data management. With new study designs, additional data collection tools, the advancement of biomarkers, markers and genomic data and more, the role of data managers will evolve to that of clinical data scientists. The foundational competencies for clinical data scientists include attention to detail, therapeutic area specific knowledge, communication skills, project management, critical thinking, subject matter expertise and technical skills. Let's look at some of these in a little more detail.

SOFT SKILLS

- **Communication:** This is more than just about your words, it's how you say it, the tone of the voice, the intention, facial expressions, gestures, etc.
- **Leadership skills:** Need to lead rather than just manage. Needs to set a roadmap for success and empower the team to get the job done right and to remove any barriers as necessary. Project scheduling and organization is another key skill for leaders of data managers. The team is more likely to be successful if the leaders are more organized.
- **Sense of humor:** Adds a distinct perspective and relieves stress. Can allow the team to actually function better and can help them look for different ideas.
- **Critical thinking and logic:** Indispensable skills. These are key to success as a data manager along with curiosity and the desire to further knowledge and learning.
- **Empathy:** With the ability to look at things from other people's perspective, the team can come up with better ideas and work through items more closely.

TECHNICAL SKILLS

Data managers are going to need new tools in their tool belt. As clinical trial data and data sources grow, having the skill set to program is going to become more and more important. It's going to be important to understand what you're looking at, what it is saying, data trends, etc, very early to help shift to a more consultative position.

- **R programming:** Nearly 43% of data scientists are using R now, and it's also being adopted in a lot of different organizations as a data cleansing tool.
- **Data visualization tools like Spotfire or Tableau:** This gives an organization the opportunity to work with data directly and to quickly gather insights to help them make better decisions.
- **SQL:** Helps understand the database structure from a different perspective
- **Python:** Great programming language; can help pull in different sources of data.

EXPERT ADVICE

If you are running your first clinical study or it's being run by a very small team, it's not uncommon for the clinical team not to have any data management expertise. If you're starting out and would still like to retain oversight and functional strengths internally, consider taking the following steps:

- **Use a hybrid model of outsourcing** where you use functional service providers to add data management expertise to your team while still outsourcing to a different CRO.
- **At the very least, have a Data Management SOP** that covers database build, data management plans, data reviews, data transfers, log, site and user administration.
- If you don't have the SOPs in place, **follow your CRO's SOP**.
- Also refer to the tip, **"Own your study URL"** for more insights on retaining study oversight.

Tip 4: Own your study URL

Often smaller biotech companies will start off with one single study and eventually end up building multiple studies and sub studies. Whether your study is conducted in-house or outsourced, study data and oversight is the sponsor's responsibility as well a regulatory requirement.

One way to meet this requirement is to own your study URL. When you own the URL, the database belongs to you. This gives you the ability to own your data as well as the oversight of this data. With a single URL, you can help copy your databases, create a standard set of CRF libraries and build all the custom functions that you would like for whichever therapeutic area is applicable.

> When you own your URL, your data is all in one place so you can do comparative analyses between different studies instead of needing to go to different CROs to have your datasets transferred and then merge and compare. **This provides huge cost savings.**

Once you own your URL, you can have your CROs build on your URL. If you are working with two CROs, they're now using the same CRF and building the same way. This allows you to limit the kind of rework downstream and gives you greater control in terms of planning what your future looks like.

In the case of outsourced studies, if your CRO(s) are using their own URLs to host these studies, then your study data belongs to the CRO. If you own the URL, this can help prevent the biggest headache that can arise if the study needs to be rescued in terms of needing to migrate or transfer databases. This often takes up a big chunk of time or expense, not to mention technical hurdles and complex logistics. From a cost perspective, let's say you have three different studies being run by three different CROs, or even one CRO doing three different studies, they would charge you for the pass-through cost 3x. However, if you had your own single URL and set up all of your CROs on it, the cost of owning the URL is just 1x.

The decision on whether to own your URL needs to be made as soon as possible. While it is often uncharted territory for most smaller companies, experts are available to help you for a short period of time to help you set up, or to teach you how to do it.

It's also important to discuss all the feature sets associated with owning your URL and whether they're being offered as standard or premium features. These features can range from having the ability to upload source documents to getting access to standard CRF libraries. Typically, there isn't a change in cost by owning your own URL versus going through a CRO, given that the latter are pass-through costs.

Tip 5: Pick the right CRO

Selecting the right CRO can make or break your study. A good rule of thumb is to evaluate three CROs during the selection process to give you an idea of the differences and differentiation between CROs. It's important to remember that there are no right or wrong answers to these questions. It depends on what works best for you and your organization.

> **Nearly 100% of small and emerging biotech companies** outsource one of more components of their study to a CRO.

Are they a one-stop-shop? What range of services are included?

- Do they have a medical director to help define inclusion-exclusion criteria?
- Do they have a biostatistician to determine how to power the study?
- Do they have a laboratory? Can they store and test collected samples?

What is their overall experience?

- How many other similar studies has the CRO completed?
- How many in your disease or therapeutic areas?
- How many trials have they conducted all together and by phase?
- How long did it take to recruit your patients?
- Can they provide multiple client references? If not, why?

What are some of the major challenges that the CRO experienced and how were they resolved? This helps understand how forthright, candid, and open your CRO can be.

How do they treat small companies as compared to larger companies?

Do they further outsource to another third party?

- What is the relationship between the CRO and the third party?
- How long have they been working together?
- How seamless will this be to you as the sponsor?
- How is the information and communication going to flow?

Is the CRO nimble and lean or more bureaucratic? Responsiveness, culture, and style are all equally important and need to be aligned with your company's culture and style. Will the CRO make decisions independently or together with you? How long is the decision-making process?

When was their most recent FDA inspection? Refer to their 483s to note how many observations and how serious they are.

Is there a quality compliance in place? Try to hire a qualified auditor to conduct a good clinical practice compliance audit.

Ultimately, successful partnerships are built on communication. Trust in teamwork and align the teams on the scope of work and communication plans and establish deliverables and timelines.

EXPERT ADVICE

- Scorecards are a great way to evaluate vendors evenly and can help influence your final decision as part of your RFI/ RFP process.
- When conducting a study in a niche therapeutic area or population, consider the size of the CRO. Some of you may benefit from choosing a smaller CRO given the size of your own organizations to better establish or customize communication rules rather than having to change a larger CRO's plans.

Tip 6: Strive for better study performance

Sponsors who accept poor performance will get exactly that. Therefore, it's important to first realize that far better performance is possible. Nearly 80% of studies experienced delays between one and six months. While this time frame appears narrow in the larger scheme of a typical timeframe of a clinical trial, each day's worth of delay can cost sponsors thousands of dollars.

There are ways study delays can be mitigated, and having a proper understanding of the risks and mitigating strategies is crucial. Your study plans, resources, and vendors set up the foundation for your entire study, so making mistakes in those early stages can have a snowball effect causing bigger issues later.

Let's review common risk areas that can impact study performance and how to mitigate them.

PATIENT ENROLLMENT

- **Start with the protocol.** Reducing patient enrollment time requires a multifaceted plan and it all starts with writing the protocol. If you are a part of the protocol writing team, it is crucial that you speak up about inclusion-exclusion criteria that are not fit for the patient population.
- **Cast a wide net and don't skip the feasibility step.** The best source of information is other study teams that are using that very same site for their study, and then consider the site feasibility questionnaire.
- **Be ready with the second tier of sites and a plan for activation.** There are ways to reduce the possibility of non-enrolling sites, but the reality is you'll still have them no matter how cautious you are. And, in those cases, it's good to have a plan in place for site closure and opening up some alternative sites. Study managers should not only identify a second tier of sites from the outset but also make preparations for activating those sites quickly.
- **Insist on availability of real-time data.** This enables timely adjustments to enrollment strategy. For example, without early information about the reasons for screen failures, it's impossible to know whether the inclusion or exclusion criteria have precluded reaching enrollment targets. Tracking the success of different messages, media usage, and distribution methods is crucial.

Example: In a clinical trial for the treatment of sexually-transmitted disease, enrollment became an issue. However, one site began enrolling twice as many patients as the other sites. On further examination, this was due to the site posting flyers in nightclub restaurants. When the study manager encouraged other sites to do the same, the enrollment increased to an average of eight patients/site/month and met the enrollment goal nearly two months ahead of schedule.

SITE ACTIVATION

- Contract negotiations usually hold up site activation. However, sharing a budget template with the site which lists tests and exams, time points, and appropriate reimbursement for the patient is critical. It's very important to have a clinician review the budget and make the necessary adjustments. In addition, another tip to speed up site activation is to have weekly meetings between finance teams, study coordinators, and PIs in sites and CROs. This ensures they are constantly in the loop.
- In the case of CRO contracts, it's important to build in flexibility and preparation for changes to come such as protocol amendments, addition of countries, sites, additional interim analysis, database logs, and additional CRA visits for the end of the study. It is better to add in the items and not use them than to not have them at all. This allows focus on protocol when needed the most.

STUDY CLOSE-OUT

- Efficient study close-out means that all deliverables are being met within the timeline. Therefore, it is very important to discuss timelines at least two quarters beforehand. As enrollment approaches target, it's important to meet weekly and discuss any risks to study close-out and meet the timelines.
- If sites are behind in data submission, address this with them. Vendor meetings should continue to occur with regular frequency to discuss the last subject in the timelines for data transfer.

About Medidata Solutions

Medidata is leading the digital transformation of life sciences, with the world's most-used platform for clinical development, commercial, and real-world data. Powered by artificial intelligence and delivered by the top ranked industry experts, Medidata helps pharmaceutical, biotech, medical device companies, and academic researchers accelerate value, minimize risk, and optimize outcomes. Medidata and its companies, Acorn AI and SHYFT, serve more than 1,300 customers and partners worldwide and empower more than 150,000 certified users every day to create hope for millions of patients. Discover the future of life science.

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