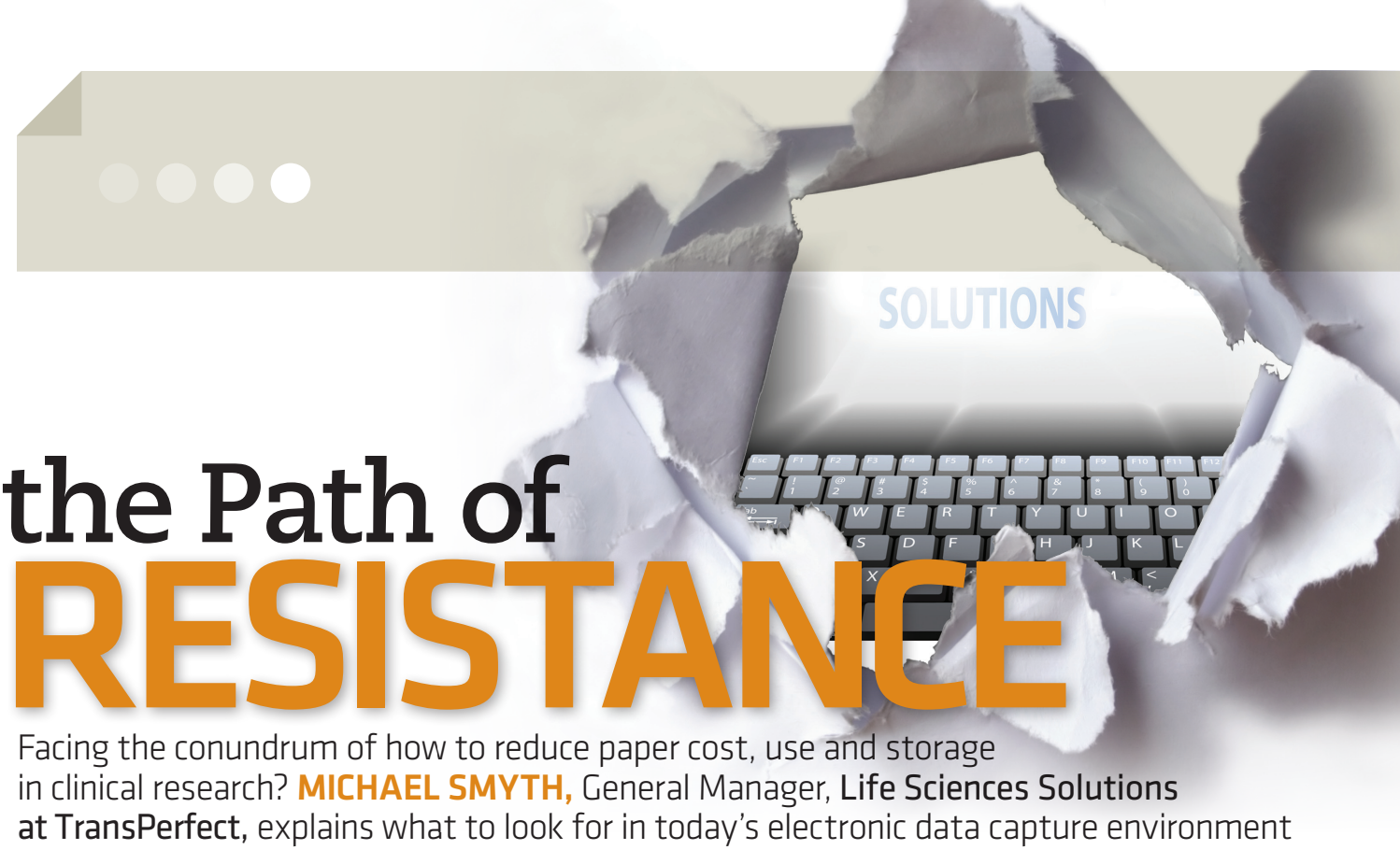

the Path of RESISTANCE

Facing the conundrum of how to reduce paper cost, use and storage in clinical research? **MICHAEL SMYTH,** General Manager, **Life Sciences Solutions at TransPerfect,** explains what to look for in today's electronic data capture environment

On a global scale, the number of new molecular entities (NMEs) in development—and, more importantly, the number being approved by regulatory authorities—has dropped significantly in recent years. All but extinct are the blockbusters of the past that biopharmaceutical and medical device companies counted on to deliver double-digit profit margins that could subsequently be reinvested in new product development. Without these revenue streams to fund research and development, the potential for discovery of new NMEs has been significantly reduced.

The debate over the genesis and potential resolution of this predicament has been extensively discussed, and does not need to be further addressed here. All we need to understand for the purposes of this article is that the industry climate has indeed changed. Thus, we will focus on strategies that forward-thinking industry leaders are employing to effectively compete in the new biopharmaceutical and medical device world. These companies recognize that their products are now marketable to a fewer number of patients, and that their research and development efforts must be closely monitored in order to ensure that discovery of new NMEs continues, eventually yielding therapies that will continue to positively impact patients.

Today's landscape has forced companies throughout the industry to re-evaluate traditional product development models. Departments and roles formerly considered imperative to maintain internally are now being selectively outsourced. Also there is an increasing focus on emphasizing and strengthening core competencies in order to bring products to market more profitably. These challenges can be difficult hurdles for management teams that may be comprised of predominantly scientific, medical, or operational professionals. Difficult business decisions, many which can have far-reaching effects on operations, must often be made out of necessity, as evidenced recently by the number of large biopharmaceutical company mergers and acquisitions — Pfizer and Wyeth, Merck and Schering–Plough, and Genentech and Roche.

RESISTANCE TO CHANGE

Many companies have concluded that focusing a critical eye on operational inefficiencies is an effective strategy to better position themselves in today's competitive landscape. The first course of action that many of the larger biopharmaceutical and medical device companies (as well as some mid-sized ones) have taken is to hire a consulting firm. Stated goals typically include "increasing efficiency" and "becoming more nimble." While this approach has helped many companies improve their operations, these services do not come cheaply or quickly. This leaves many smaller and more efficient companies scratching their heads, wondering whether hiring an outside firm and retaining them on a multi-year basis is really the best available solution for operational streamlining.

Their misgivings are far from unfounded. True progress depends on willingness on the part of management and senior operations personnel to consider new and different processes. If we can manage to divorce ourselves from old-fashioned practices and assumptions, it is possible to affect sweeping change with immediate, quantifiably positive impacts on workflows and budgets. In some cases, this change may even mean the difference between a company's failure and survival.

PAPER DEPENDENCY IN CLINICAL DEVELOPMENT

One of the most heavily entrenched practices in the world of clinical development is the reliance on paper documentation. Oddly, the primary reason many companies will cite for this reliance on paper is simply, "this is the way we've always done it." To any outsider, it's clear that such a mindset cripples a company's ability to think outside the box and innovate. Happily, the movement away from this attitude has already begun, and many organizations have already welcomed the arrival of electronic data capture (EDC) as the most efficient and reliable method of study subject data collection. To date, EDC adoption rates range from 30 percent to 50 percent of clinical trials. However, this evolution has not been without its share of difficulties and roadblocks. Companies have cited issues such as, bandwidth problems in certain countries (particularly developing nations), as well as poor experiences with EDC in some trials, which have driven them back to the perceived safety and comfort of paper case report forms (CRFs). Still, EDC adoption is growing, and there are no truly insurmountable hurdles to interrupt the continuation of this trend on an industry-wide basis.

However, the "elephant in the room" that many companies are overlooking is the significant volume of paper that is amassed throughout

the trial process. From study start-up—well before the first subject is enrolled—through trial completion, companies are required to keep these trial master files (TMFs) for each compound in development.

As an example of the enormity of this problem, most biopharmaceutical/medical device companies and CROs maintain some type of "records" room in which all paper regulatory files are housed. These rooms are typically secured (per company SOPs) by limited-access systems (usually swipe cards or keys) and are usually sprinkler-protected and fire-retardant. Within these massive depositories, files are stored in rows (or sometimes rooms) of file cabinets, which must also be fireretardant.

For those who have never seen one of these rooms, they are quite a sight: every folder overflowing with multiple tabbed binders full of ICFs, protocols, and investigators' brochures, as well as voluminous investigative site files. And we must not forget that a duplicate set of files may also be maintained separately at the CRO, in case the sponsor has elected to transfer some of its obligations to the CRO.

In an attempt to maintain a measure of consistency from TMF to TMF, the files in these storage facilities are organized based on company SOPs according to a staggeringly intricate table of contents (TOC). The TOC's organizational scheme requires employees to manually name and label each individual folder, many of which could be similar or duplicate files.

Clearly, organizations operating under this system require a massive amount of paper just to document clinical trials. It's true that a few companies have begun scanning at least some of this documentation. This, on the surface, seems like a step in the right direction. However, most of these companies still retain the paper copies as a "back-up" for just-in-case scenarios, rendering the scanning process just one more labor burden.

A NEW PATH

For companies to move ahead, processes and procedures such as those described above must change. Technological and regulatory advancements allow us to migrate from reliance on paper documents to a new system of collecting, distributing, and even signing documents electronically. Many tools are available on the market that claim to aid this process, but savvy companies should look for systems which, at a minimum:

- are 21 CFR Part 11 compliant;
- offer electronic signature capabilities;
- allow secure sharing of information among internal team members and other key study stakeholders, including vendor partners, as well as the investigative site personnel who are critical to successfully enrolling study subjects;
- enable users to electronically organize documentation using company naming conventions and TOCs;
- and reduce the administrative time needed for communication, yielding lower soft costs.

All too often, skeptics at the sponsor and CRO level are wary of these systems because these companies' clinical operations, regulatory, and quality assurance personnel tend to interpret existing regulations even more conservatively than the industry's regulatory bodies. They may claim that electronic copies are not allowed, and then pass the blame to the FDA, EMEA, or a similar regulatory body.

That such accusations have any merit whatsoever is a grave misconception that we must work hard to overturn. One commonly made claim of this kind is that "the FDA requires paper copies of documentation in the case of an audit." It cannot be emphasized enough that this is simply not true, and that nowhere in any FDA regulation is such a requirement stated. In fact, the FDA and other regulatory bodies are trying to convince the life sciences industry to move away from paper. Evidence to this effect includes new requirements for companies to submit regulatory information electronically, the release and continual upgrade of the "FDA Electronic Gateway," and the EMEA's adoption of the Patient Information Management (PIM) standard.

Having established that regulatory bodies are not an impediment to biopharmaceutical companies' migration to electronic documentation, it becomes clear that acceptance and mandated, top-down implementation at these organizations is the next logical step. The direct cost savings of moving away from a paper TMF environment have been well documented, but what many overlook (and what further underscore the value of such a change) are the potential savings in soft costs, such as the time needed to locate documents in a physical document warehouse. What might take hours in a paper-based universe becomes as simple as using a quick search function in an electronic environment, allowing you to locate documents and provide them to study stakeholders in a matter of seconds.

Organizations that have pioneered these fully electronic environments are already realizing the tremendous benefits of the transition. With efficiency at the forefront of most companies' minds, the advantages of a well-conceived electronic environment include the ability to:

- execute new studies more rapidly;
- work more efficiently in a day-to-day, virtual environment;
- reduce file storage and office space requirements;
- and offer employees an improved work and life balance, since working remotely becomes more feasible.

THE FUTURE OF PRODUCT DEVELOPMENT

Beyond a doubt, the failure of biopharmaceutical companies to move more quickly towards electronic documentation has been exposed as a competitive handicap and a severe hindrance to profitability in today's clinical development landscape of reduced new product launches. With more organizations moving in this direction every day, those who do so rapidly and efficiently will be best positioned to compete in the biopharmaceutical and medical device marketplace. **FP**

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