

Clinical Trial Start-Up Costs: A Breakdown & Benchmarks

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site start-up

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Executive Summary

The start-up phase of a clinical trial site – encompassing feasibility assessment, contract negotiation, regulatory approvals, staff training, and site initiation – imposes a **significant financial burden** on sponsors and [Contract Research Organizations \(CROs\)](#). Estimates indicate that activating a single investigational site can cost on the order of **tens of thousands of US dollars** (^[1] [www.contractpharma.com](#)) (^[2] [www.pharmexec.com](#)). For example, Tufts CSDD estimates site activation costs about **\$1,500 per site per month** (roughly **\$25,000** total) (^[1] [www.contractpharma.com](#)), consistent with earlier industry figures (~\$20,000 per site (^[2] [www.pharmexec.com](#))). These expenses include IRB/ethics review fees, administrative start-up charges, training, technology setup, and overhead. Hidden costs in the start-up phase are substantial – a U.S. Department of Health and Human Services (DHHS) analysis suggests that nearly **43% of trial expenditures** may lie in poorly-tracked “startup” activities (^[3] [www.appliedclinicaltrials.com](#)), such as site overhead and other unallocated categories (roughly **\$8.5–9.0 million** of a typical Phase III trial budget (^[3] [www.appliedclinicaltrials.com](#))). Compounding this, recent industry reports indicate that routine site fees and diagnostic tests have **grown 2–3-fold since 2020** due to inflation and workforce shortages (^[4] [www.clinicalleader.com](#)).

Delays compound the financial burden: each day of trial stagnation has a very high opportunity cost. New analyses show that a single day’s delay in a Phase III trial can cost on the order of **\$50,000–\$60,000** in direct trial expenses (^[5] [www.appliedclinicaltrials.com](#)) (and even more in lost revenue). Indeed, a current Tufts CSDD study finds the average direct cost of a Phase III trial is about **\$55,716 per day** (^[5] [www.appliedclinicaltrials.com](#)), implying every month of delay costs **over \$1.5 million**. Thus, lengthy start-up timelines (often many months per site) and inefficiencies translate into **large sunk costs**. Conversely, effective streamlining can yield substantial savings: one analysis showed that by activating sites in parallel (instead of sequentially), a sponsor of a small Phase II trial reduced the needed sites from 29 to 20 and saved **>\$250,000** (^[6] [www.pharmexec.com](#)).

This report provides a thorough examination of start-up costs from multiple perspectives. We detail the **categories of expenses** (from IRB fees to staff training and infrastructure), present **data and benchmarks** (surveys, industry analyses) on typical cost ranges and timelines, and offer **real-world examples** of cost mitigation. We also discuss the broader implications of site start-up burden – on trial feasibility, budgets, and patient access – and survey emerging trends (such as virtual site selection and centralized processes) that may reshape future costs. Throughout, all claims are substantiated by published studies, regulatory guidelines, and expert commentary (^[3] [www.appliedclinicaltrials.com](#)) (^[7] [trialsjournal.biomedcentral.com](#)).

Introduction and Background

Clinical trials are notoriously expensive and time-consuming. Contemporary estimates place the cost of [bringing a new drug to market](#) in the **low billions of dollars** (^[8] [www.pharmexec.com](#)) (^[3] [www.appliedclinicaltrials.com](#)). A single Phase III trial may involve hundreds of study sites, thousands of patients, and ZIP codes spanning dozens of countries (^[9] [www.pharmexec.com](#)) (^[3] [www.appliedclinicaltrials.com](#)). In fact, a “median” Phase III trial (~800 patients at ~50 sites over ~2 years) can cost **~\$25 million** (^[8] [www.pharmexec.com](#)). Within these budgets, operational phases (screening, dosing, follow-up) and overhead are well studied, but the **start-up phase** – everything needed to make a site *ready to enroll patients* – is often underappreciated. Data suggest that **nearly one-third to one-half of trial budgets** may be consumed before the first patient is enrolled, due to site start-up and related activities (^[3] [www.appliedclinicaltrials.com](#)) (^[7] [trialsjournal.biomedcentral.com](#)).

The site start-up process traditionally includes: site identification and feasibility assessment; negotiations of the Clinical Trial Agreement (CTA) and site budget; submission of documents to **regulatory and ethics bodies**; staff training; equipment and technology provisioning; and the site initiation visit (SIV). As one expert summarized, **patient enrollment success** is largely driven by "site activation," defined as completing **contracting, IRB approval, supply logistics, and investigator documentation** (^[10] www.pharmexec.com). This process is labor-intensive and complex: it may involve dozens of sub-steps and participants (investigators, coordinators, legal teams, IRBs, CRO staff), and can last months per site (^[11] pmc.ncbi.nlm.nih.gov) (^[12] pmc.ncbi.nlm.nih.gov). Several studies have documented start-up cycle times on the order of 6–9 months for first enrollment at a site (^[11] pmc.ncbi.nlm.nih.gov) (^[13] www.appliedclinicaltrials.com).

When the COVID-19 pandemic struck, many trial start-ups froze or slowed, revealing how fragile and expensive these processes can be. Now, as trials resume and sponsors fight to control costs, the financial burden of start-up is under renewed scrutiny. Sponsors and CROs alike recognize that **inefficient start-up** not only delays drug development but can **inflate costs dramatically** (^[3] www.appliedclinicaltrials.com) (^[1] www.contractpharma.com). Even before the pandemic, industry leaders called site activation "the key to more efficient trials" (^[14] www.pharmexec.com). Today's inflationary pressures and workforce shortages have only exacerbated cost pressures, making it urgent to understand where site start-up dollars go, and how to manage them.

This report examines **"getting a site ready"** from all angles. We begin by defining the components of site start-up and their typical costs. Next, we analyze metrics and evidence on how much time and money is consumed in start-up. We then explore perspectives of different stakeholders (sponsors/CROs vs. investigative sites), examine case examples of cost overruns and savings, and discuss strategic implications. Throughout, we cite published data and expert analyses to support each point (^[8] www.pharmexec.com) (^[3] www.appliedclinicaltrials.com) (^[15] pmc.ncbi.nlm.nih.gov). Our goal is to provide a comprehensive resource for understanding the financial burden of site initiation and to inform future decisions on budgeting, process improvement, and innovative solutions.

Components of Site Start-Up Costs

Site start-up costs encompass all activities and resources required to prepare an investigative site to recruit participants in a trial. These costs can be **direct** (fees and payments for specific services) or **indirect/implicit** (overhead, staff time, infrastructure amortization). Table 1 below summarizes the major cost categories typically encountered.

Cost Category	Description	Typical Range (USD)
Contracting & Feasibility Fees	Costs for drafting and negotiating the Clinical Trial Agreement (CTA), site feasibility questionnaires, legal review, and administrative setup. Includes non-refundable administrative "start-up fees" charged by some institutions (^[16] www.buffalo.edu).	~\$3,000–\$10,000+ per site (^[17] clinicaltrialzone.com)
IRB / Ethics Committee Fees	Fees for initial ethics/IRB submission and approval, including local IRB review, central IRB listing, ongoing renewals, and amendments (^[18] www.buffalo.edu). Often charged per protocol.	~\$1,000–\$5,000+ per site (^[17] clinicaltrialzone.com)
Staff Hiring & Training	Recruiting and training site personnel (investigators, coordinators, pharmacists) on GCP and protocol specifics. May include travel/training course costs and productivity loss during onboarding.	~\$10,000–\$30,000+
Technology & Systems Setup	Implementation of software and hardware needed for trial (Electronic Data Capture / EDC systems, CTMS access, compliance databases, randomization systems).	~\$5,000–\$15,000+

Cost Category	Description	Typical Range (USD)
Equip. & Supplies (Site Infrastructure)	Medical equipment, secure storage for investigational product, filing systems, and office supplies procured for trial needs. Excludes patient-level costs.	~\$1,000–\$5,000+
Pharmacy & IMP Handling	Costs related to handling investigational drug or device: label creation, storage (e.g., –20°C freezers), accountability logs, and pharmacist training ([19] www.buffalo.edu). May include compliance with local dispensing regulations.	~\$1,000–\$5,000+
Facilities & Overhead	Incremental rent, utilities, insurance, and miscellaneous support costs for trial space and activities (if not already covered by the site's base budget).	~\$2,000–\$10,000+
Close-Out & Archiving	Fees for record retention, database closure, and disposal after trial completion, often factored into start-up budgets.	~\$1,000–\$3,000+
Contingency Fund	Buffer (10–20% of total trial budget) for unexpected expenses or protocol amendments during start-up (e.g., rescheduling IRBs, re-negotiating budgets).	~10–20% of total startup costs

Table 1: Typical site start-up cost categories and estimated ranges (approximate). Figures compiled from industry sources ([17] clinicaltrialzone.com) ([1] www.contractpharma.com).

The above ranges are illustrative. In practice, actual costs vary widely by country, type of site (independent clinic vs. large academic center), therapeutic area, and study complexity. For example, smaller independent sites may spend on the lower end of each category, whereas a large academic hospital with dedicated research infrastructure might incur **substantially higher** fees across many line items ([20] clinicaltrialzone.com). Table 2 (below) illustrates how a **small independent site** vs. a **large academic site** might budget for start-up in broad strokes, based on aggregated industry benchmarks (see ClinicalTrialZone data ([20] clinicaltrialzone.com)):

Cost Category	Independent Site (type)	Academic Site (type)
Startup/IRB Fees	\$5,000–\$9,000	\$10,000–\$15,000
Staffing & Training	\$10,000–\$25,000	\$25,000–\$75,000
Tech & Equipment	\$5,000–\$15,000	\$15,000–\$40,000
Facilities Overhead	\$2,000–\$10,000	\$10,000–\$30,000
Contingency (10–20%)	\$3,000–\$8,000	\$7,000–\$20,000
Estimated Total	\$30,000–\$80,000+	\$75,000–\$200,000+

Table 2: Example breakdown of site start-up budgets for smaller (independent) versus larger (academic) sites ([20] clinicaltrialzone.com). Totals include all categories and first-trial investments; subsequent trials may reuse some infrastructure.

Throughout these categories, one sees a mix of fixed and variable fees. For instance, many institutions require a **non-refundable “administrative start-up fee”** from the sponsor to cover basic IRB submission and document preparation ([16] www.buffalo.edu). These fees are payable *irrespective* of whether the study ultimately is approved, and often come due upon invoicing at the commencement of document submission. Similarly, institutions commonly bill sponsors immediately for IRB review – e.g. an initial IRB application fee, plus later continuing-review or amendment fees ([18] www.buffalo.edu) – whether or not eventual approval is granted.

Contract negotiations themselves generate costs: dedicated legal and contract staff time, potential lawyer fees, and multiple rounds of revision. Anecdotally, contract negotiations can take **3–12 months** per site, depending on complexity ([21] pmc.ncbi.nlm.nih.gov) – essentially the time and salary of everyone involved. In global trials,

site budgets must also include country-specific requirements (such as import licenses or third-party indemnity) that can add one-time costs and delays ([²² pmc.ncbi.nlm.nih.gov] (²³ pmc.ncbi.nlm.nih.gov)). For example, obtaining proof of insurance or an import license in certain countries can be a slow process requiring policy purchases, which effectively *adds to the sponsor's cost and time to start-up* ([²³ pmc.ncbi.nlm.nih.gov]).

Another substantial start-up expense is **technology and infrastructure**. Sites need access to Clinical Trial Management Systems (CTMS), EDC databases, electronic consent tools, and secure data networks. Licenses for these systems can be thousands of dollars if paid per new site (or pro-rated from central licenses). Hardware (computers, tablets, storage devices) may need upgrades. In many trials today, sponsors also provide electronic patient diaries/ePRO devices, electronic adherence trackers, etc., and training to site staff on these. Each new tool adds to cost.

Finally, sites must stock certain supplies or equipment (e.g. refrigerators for biologics at -80°C, enhanced lab equipment, etc.) specifically for the trial. While some pharmacies and labs already have general infrastructure, trial-specific needs (temperature monitors, additional freezer space, trial-specific lab kits) often require up-front investment. If a sponsor does not reimburse these capital costs, it effectively becomes a **sunk cost of entry** for the investigative site.

In summary, start-up cost categories include **administrative fees (IRB, contracting)**, **personnel/training**, **technology/equipment**, **pharmacy and supply handling**, plus general **overhead and contingency funds**. These together can easily total **five to six figures per site** before any patients are seen ([²⁰ clinicaltrialzone.com] ([¹ www.contractpharma.com])). Table 1 and Table 2 illustrate typical magnitudes. Below, we delve into each area in more detail.

Source of Major Start-Up Expenses

Regulatory and Ethics Fees

A large portion of site start-up expense is tied to regulatory compliance. This includes fees paid to institutional review boards (IRBs) or ethics committees, as well as costs of preparing and submitting necessary documents (protocol, informed consent forms, investigator brochures, etc.). Many research sites charge sponsors directly for these items. For example, one academic center lists an **“administrative start-up fee”** covering IRB submissions – a fixed non-refundable charge to prepare regulatory documents ([¹⁶ www.buffalo.edu]). Additionally, sponsors typically pay the **IRB review fees**: at many U.S. institutions this means an upfront IRB application fee (sometimes on the order of \$1,000–\$3,000 per protocol) and subsequent annual renewal fees ([¹⁸ www.buffalo.edu]). These payments are due once the sponsor submits materials, *regardless of whether approval is granted*.

In multi-site trials, some sponsors use a centralized IRB to streamline ethics approval, but local IRBs are still common (e.g. in U.S. community hospitals) and each may charge separately. Ethics fees in Europe or other regions can also be substantial; for instance, several national ethics boards may review each site. While specific dollar amounts vary by country and institution, sponsors should budget thousands of dollars per site for initial ethics approval.

In parallel with IRB approvals, sponsors often must pay for regulatory submissions to health authorities (e.g. IND/CTA filings). Though often lumped under sponsor responsibilities rather than site-specific, some submissions require separate site dossiers (e.g. country-specific approvals, import permits, insurance certificates). Consulting local regulatory experts and allowing for registration filing fees is prudent, since delays here can stall site activation and incur extra costs.

Contracting and Budget Negotiation

Negotiating the site's CTA and budget is another costly activity. The CTA defines the legal terms (liability, indemnity, IP, confidentiality) between sponsor and institution, while the budget lists all line-item payments to the site. Each revision of the contract or budget can take weeks or months. One analysis found that contract execution spanned **2.5–17.2 months** at U.S. sites and **2.5–24.9 months** at non-U.S. sites in a 57-site global trial (^[24] [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/)). Staff time from the CRO/sponsor, site legal offices, and negotiators thus accumulates substantial cost.

Though these labor costs are typically covered within sponsor/CRO overhead or hourly consulting, the indirect impact is heavy: prolonged negotiations translate to longer trial timelines and potential re-work (if a protocol amendment requires flipping back to sponsors for further agreement). Some sponsors aim to offset negotiation costs by offering expedited fees or signing bonuses to sites; others deploy specialized contract teams to handle many sites in parallel.

Contract budgets themselves add to start-up costs. Investigative sites often charge for specific start-up activities such as feasibility surveys, document preparation, and even time spent attending pre-study meetings. For instance, today's sites increasingly *itemize* even fixed costs: internet access fees, site coordinator salaries, electronic screeners, and so on (^[25] www.contractpharma.com). By contrast with early trials where a single lump-sum site fee might have sufficed, modern contracts can list dozens of deliverables, each with a price. While this granularity improves transparency, it also means seemingly minor items (printer paper, sample bottles) might be separately budgeted. According to a 2015 industry analysis, this trend complicates contracting: sites now *"continue to request a trial sponsor's fixed costs related to running a study, such as Internet fees, site coordinator salaries, etc., rather than accepting an initially undetermined amount based on the actual work performed"*, making negotiations more "complex and time-consuming" (^[25] www.contractpharma.com).

Site Staffing and Training

Getting personnel in place is a major line-item. Once a site is selected, the sponsor must ensure that capable staff (principal investigator, sub-investigators, research coordinators, pharmacists, lab technicians) are trained and ready. Initial training sessions—on Good Clinical Practice (GCP), protocol specifics, data entry guidelines, and safety reporting—can cumulatively cost **hundreds to thousands of dollars** per person when accounting for preparation time and potentially travel. For example, sending a coordinator and a sub-I on a GCP course and paying their salaries during that time easily consumes several thousand dollars (including course fees typically \$500–\$1,000 per person).

Moreover, each site's staff must often secure or update certifications (e.g. human subjects training, conflict of interest disclosures). Many institutions charge the sponsor a fee for time-consuming tasks such as credentialing or conflict clearance. Even simple items like background checks or site initiation meeting (SIM) expenses (hotel/travel for the CRA and PI if in-person) add up.

Based on industry surveys, staff recruitment and training can be one of the largest cost categories. In Table 1 above, **"Staff Hiring & Training"** is estimated at \$10–30K in typical scenarios (^[17] clinicaltrialzone.com). Anecdotally, large academic centers with multiple personnel involved often exceed \$50K in initial staff-related startup costs (due to higher salary rates and need to train multiple sub-investigators). These costs are often partially built into the per-visit fees paid to investigators (since they must pay themselves and coordinators), but they should nonetheless be captured in budgets to ensure no gap.

Infrastructure, Equipment, and Technology

Most trials add new technical requirements at the site. Important examples include: Electronic Data Capture (EDC) systems for entering patient data, Interactive Response Technology (IRT) or IWRS for randomization, and

digital eConsent platforms. Sponsors sometimes provide licenses or tablets. Even when using site-owned systems, Initial setup, including creating user accounts, setting up study-specific eCRFs, and validating data transfer, consumes both sponsor and site labor.

Hardware acquisition is also notable. A new oncology trial may require an -20°C or -80°C freezer in the clinic pharmacy. A neurology trial might require purchasing a mobile EEG unit or actigraphy devices. These are capital costs that can run \$5K–\$15K+ each. Frequently, sites request upfront payment or amortization for such equipment, or sponsors opt to lease equipment separately. In Table 1, we estimate **\$5K–\$15K+** for initial tech and equipment setup; actual figures depend on whether such resources already exist on-site.

Even basic office infrastructure can become a line item. If a remote rural clinic had no prior involvement in research, it may need to install secure record storage cabinets, archive space for source documents, or dedicated office furniture. Though individually modest, these may be factored as overheads by institutional grants offices.

Pharmacy and Drug Handling

Handling the investigational product (drug or device) is another discrete category. Many institutions have their own **pharmacy teams** that perform protocol review, determine drug preparation and labeling procedures, and set up tracking systems. One research office's published fee schedule lists pharmacy "initiation" tasks such as reviewing enrollment orders, designing dispensing procedures, and training pharmacy personnel (^[19] www.buffalo.edu). These initiation efforts might be charged as a one-time fee (e.g. \$1,000–\$3,000 depending on complexity). Additional per-dispense or per-visit charges (e.g. for multi-dose vials or reconstitution) are also common.

If a trial drug requires special handling (e.g. storage at ultra-low temperature, preparation of blinded kits), the costs escalate. Some sites charge to install special refrigerators or safety cabinets. In short, any specialized logistics work in the pharmacy is often billed to the sponsor in line-item fashion.

Miscellaneous Overheads

Finally, several smaller categories accumulate. Institutions may require payment for things like fingerprinting or background checks as part of credentialing. Dry ice shipping or freight costs for initial kit shipments, if incurred by the site (rather than vendor contracts), might be passed through (sometimes capped, e.g. up to \$1,000 (^[26] www.buffalo.edu)). Some contracts include a small fee for mid-study monitor changes or CRO changes (^[27] www.buffalo.edu), which technically occur during start-up if a monitor/study team shifts.

In the U.S., it is not uncommon for sites to consider a **contingency** charge (e.g. 10–20% of budget) to cover "insurance" against protocol amendments or trial termination delays. Though most sponsors treat contingency as a sponsor-level buffer, a few academic budgets even include contingency lines.

Summary of Cost Ranges: In aggregate, these elements tend to sum to **\$10–75K or more per site** (outliers round to \$80K–200K for very complex academic trials (^[20] clinicaltrialzone.com)). Sponsors can reuse much of the start-up investment for subsequent protocols (e.g. computers and trained staff), but each new study usually incurs substantial incremental fees (new IRB protocol, amendments, new coordinator, etc.).

Stakeholder Perspectives on Start-Up Costs

The financial burden of site start-up is felt differently by the various stakeholders in a trial. Understanding these perspectives is key to effective budgeting and negotiation.

Sponsor/CRO Perspective: For sponsors and CROs, site start-up costs are largely *out-of-pocket budget items*. They must forecast these costs during trial planning to set realistic budgets and timelines. However, the “hidden” nature of start-up work often means budgets are under-estimated. As one analysis notes, traditional cost-tracking tends to focus on per-patient and monitoring costs, while lumping start-up under vague headings (^[3] www.appliedclinicaltrials.com). The result is that **up to 40–50% of total trial cost** can remain unaccounted-for in standard budgeting, much of it tied to start-up overhead (^[3] www.appliedclinicaltrials.com).

Sponsors thus routinely rely on historical “fair market value” benchmarks or databases (e.g. Medidata GrantLine) to price site start-up, but these can lag real trends. A 2022 industry forum highlighted that many sponsors now preemptively inflate site budgets **3–4x** to account for post-pandemic escalation (^[28] www.clinicalleader.com). Another senior executive recommended multiplying legacy database figures by *three to four* to avoid underestimating current costs (^[28] www.clinicalleader.com). In practice, CROs may build large “buffer” categories into CTA budgets or negotiate additional allowances for inflation.

Delays and re-work directly hit sponsor cost centers. Regulatory or contracting holdups mean CRO project managers and monitors sit idle but still on payroll. If contract negotiations drag, CROs often deploy higher-cost consultants or outside counsel to break bottlenecks – itself a new expense. From the sponsor viewpoint, the largest pain point is the **risk of timeline blow-outs**: internal financial models show daily trial burn rates of up to ~\$50K (^[5] www.appliedclinicaltrials.com), so a 30-day start-up delay could theoretically cost ~\$1.5M in operations. Hence, even if the fixed start-up expenses are paid, any delay is essentially *money lost*. Sponsors measure this in terms of opportunity cost (delayed market launch) and direct burn on internal teams.

Moreover, inefficient start-up drives unpredictable budgets. A budget line that includes one month of IRB fees per site is different from one with three months, and so on; unknown factors breed mistrust. As **Ed Miseta** and colleagues have noted, sponsors today “struggle to deal with the problem” of quantifying what they should pay, as site quotes vary widely (^[4] www.clinicalleader.com). This creates bargaining wars: is \$3,000 a fair IRB fee or overpriced? If budgets are tight, some sponsors may cap line items, forcing sites to cover shortfalls (or decline the trial).

Investigative Site Perspective: Sites bear a substantial share of the burden, often with less visible support. Investigators and coordinators typically continue their routine jobs at the site while simultaneously setting up the study. Unless the sponsor issues an immediate start-up payment, much of this effort is initially uncompensated. Even when start-up payments arrive (e.g. some sponsors provide a “start-up stipend” after first patient visit), the gap can be many months. In effect, sites front the labor and operating cost before exceptions.

Anecdotally, many site personnel report that much of the start-up effort – gathering CVs, reviewing documents, preparing rooms for research – is performed off the clock or as part of their existing duties. When budgets have deadlines, sites sometimes absorb the extra work to secure longer-term revenue from enrolling patients. This “investment” model means the site’s own financial risk increases: if a trial fails to start or drops out, the site may not recoup all its sunk effort.

On the positive side, sites expect that sponsors will eventually pay for most direct costs. For example, most community sites require that sponsors reimburse IRB fees (as per common contract clauses (^[18] www.buffalo.edu)). Similarly, sites for years have charged “start-up fees” to cover their overhead (e.g. the aforementioned administrative fee in Table 1 (^[16] www.buffalo.edu)). But when it comes to staffing, practices vary: some sponsors pay a portion of coordinator salaries or offer onboarding bonuses; others include only per-visit fees. The **“financial toxicity”** of start-up for sites is an area of frustration.

A recent clinical operations executive remarked that sponsor companies “hire away their best study coordinators” by offering them higher salaries, leaving sites understaffed (^[29] www.clinicalleader.com). As a result, sites face high turnover precisely during crucial start-up periods, inflating costs further (new hires need

training). The outcome is a vicious cycle: underfunded start-up => site delays/prolonged work => sponsor pays more in overtime or premium fees in consolidation.

Case Example – Impact of Contract Delays on Sites

A 2024 commentary highlighted contracting pitfalls for sites. It noted that “*inefficient contracting processes can hinder negotiations with academic, medical, and community research sites and stall or even derail site start-ups*” (www.factor.law). For example, if an academic site requires specific local amendments (e.g. GDPR compliance clauses or national templates), a sponsor must scramble resources to meet those demands across jurisdictions (www.factor.law). Each additional round of review (often handled by attorneys) adds months to start-up time, during which sites are unable to bill for patient activity. Sponsors sometimes try “escalating to expensive law firms” as a quick fix, but real solution lies in systematic preparedness (www.factor.law). The key lesson is that unexpected legal requirements – which effectively increase cost – frequently emerge during start-up, and must be anticipated in budgets.

Data and Metrics on Site Start-Up

Quantifying start-up costs is challenging because many elements are provisional or bundled. Nevertheless, several studies and surveys provide estimates of the **time and money** involved. This section presents key data points from the literature.

Time-to-Activation Benchmarks

Survey data from Tufts CSDD (2017) found that site start-up is **lengthy**. On average, **new sites** (those with no prior experience on the trial) took about **36 weeks (~8.4 months)** to complete start-up, from initial contact to first patient enrolled. **Existing sites** (having participated in a previous trial for the sponsor) averaged about **26 weeks (~6 months)**, a still considerable duration (^[13] www.appliedclinicaltrials.com). These figures align with industry anecdotes: a 2012 Tufts analysis reported that reaching 100% site activation took a median of **17 months from protocol approval** (^[1] www.contractpharma.com). One academic research survey found a mean site activation time of **76.6 days (~11 weeks)** for trials initiated at a university center (^[11] pmc.ncbi.nlm.nih.gov), but noted wide variability (up to 172 days at some sites) (^[30] pmc.ncbi.nlm.nih.gov). (Longer times usually reflect complex contracts or regulatory issues.)

Notably, the **type of sponsor** influences speed. Outsourcing to specialized CROs, employing parallel activation strategies, and using centralized IRBs all tend to accelerate start-up. Conversely, single sponsors or academic-led trials often take longer. One analysis even quantified that academic centers on average require **242% longer** to activate sites than independent ones (over 8 months vs ~4 months) (^[20] clinicaltrialzone.com) (though that figure came from an unpublished 2019 chart in Editverse). In any case, it is clear that **every month saved** in start-up potentially cuts months off the trial timeline, since enrollment cannot meaningfully begin until sites are open.

Cost-Per-Site and Per-Day Estimates

On the cost side, studies report figures ranging from **low five figures per site** to more aggregate per-trial values. Key findings include:

- Cost per site:** The Tufts CSDD reference (2012) cited by Roshan Padbidri of goBalto suggested ~\$1,500 per month per site in activation costs (^[1] www.contractpharma.com). If site activation averages ~12 months total (for all sites), that implies roughly **\$18,000** per site, in rough agreement with Padbidri's round figure of **\$25,000 per site** (perhaps including an initial higher setup month) (^[1] www.contractpharma.com). Gen Li (2008) similarly assumed ~\$20,000 to activate a site in his enrollment model (^[2] www.pharmexec.com). More recently, one expert noted that approximately **\$20,000 + \$2,000/month** is a typical site startup/maintenance cost (^[31] www.pharmexec.com). By these accounts, a 25–30 site Phase II/III trial might spend on the order of **\$500k–\$600k** just getting sites ready.
- Trial-level allocation:** Another perspective comes from global trial cost analyses. A 2016 review of administrative costs found that **trial activation activities** (including site overhead) could number in the millions. For a median Phase III trial (~50 sites, \$19.9M budget), the DHHS study reported **\$2.6M** attributed to an opaque "Site Overhead" category (^[32] www.appliedclinicaltrials.com). "All Other Costs" not allocated elsewhere totaled another **\$6.0M** (^[32] www.appliedclinicaltrials.com). While these amounts cover more than just pure start-up, it suggests that per-site indirect costs (e.g. holding rooms empty, preparatory monitoring, institution overhead) are non-trivial — in this case about **\$52,000 per site worth** in a 50-site study.
- Cost per patient:** Martinez et al. (2016) reported that the activation time, roughly "32 person-hours per patient," translated to about **\$1,500 per patient** for start-up in 2005 dollars (^[15] pmc.ncbi.nlm.nih.gov). Adjusting for the \$50,000 per trial figure cited in 2016 (for roughly similar trial sizes) yields comparable per-patient costs. Though this is an unusual metric, it highlights that each enrolled patient "bears" a share of overhead pre-enrollment.
- Day-of-trial cost:** Tufts CSDD's June 2024 analysis provides an up-to-date figure for the **direct daily cost of a Phase III trial: \$55,716 per day** on average (2023 USD) (^[5] www.appliedclinicaltrials.com). This dwarfs the oft-quoted \$36,000/day from 2007 and reflects broader trial complexity. Importantly, it contextualizes site delays: each week a site is not open costs the sponsor **~\$390,000** in direct costs (not even counting lost sales).
- Global trials premiums:** Sponsors often deploy redundancy (extra sites) to meet enrollment goals. The cost of "rescue missions" is high. Gen Li's case study indicated that activating 15 extra sites (beyond the initial plan) cost an *extra* 100 days of trial duration, thus also adding ~\$3.6M in overhead (100 days × \$36k/day) (^[33] www.pharmexec.com). If we use the updated day cost (~\$56k/day (^[5] www.appliedclinicaltrials.com)), 100 extra days ~\$5.6M.

These figures underscore that **site start-up costs are not trivial**: sponsors routinely commit tens of thousands per site, and aggregate maintenance budgets by site count. Given a typical CRO fee structure, the **largest cost line-items in trial budgets often turn out to be site management and project management**; from the sponsor's budget standpoint, site payments (initiation plus per-visit fees) can exceed all other CRO-direct costs. Thus, anything that reduces the number of start-up months (and hence per-site fees) or avoids unnecessary sites can save millions.

Benchmark Surveys and Analyses

Applied Clinical Trials magazine and other trade publications have occasionally published benchmark surveys on site costs. In general, they confirm wide variability but consistent trends:

- A 2018 article noted the lack of granular data on start-up spending, citing the 43% unaccounted figure (^[3] www.appliedclinicaltrials.com). It emphasizes that almost two-thirds of TMF (Trial Master File) documents are generated during start-up (^[34] www.appliedclinicaltrials.com), reflecting the heavy activity and implicit cost weight of this phase.
- A 2020 Tufts publication** (Getz et al.) updated the daily cost paradigm, showing therapeutic-area differences but confirming that time sells. (We cited their headline; the underlying report is not publicly accessible, but the key numbers are reported in press.)

- In 2022, Clinical Leader editor Ed Miseta surveyed site-pricing trends. He reported that site coordinators are now commanding salaries comparable to CRAs (^[35] www.clinicalleader.com), and that respondents observed **2–3x increases in test and fee rates** (^[41] www.clinicalleader.com). While not a formal study, these insights reveal an upward trajectory: site cost indices have recently outpaced general inflation.
- Finally, a 2020 operations study (Saudi Arabia) demonstrated that **process improvements** can drastically cut start-up times (^[7] trialsjournal.biomedcentral.com). After instituting a new “intervention protocol,” mean start-up cycle fell from ~24.8 weeks to ~13.5 weeks, a **45.6% reduction** (^[7] trialsjournal.biomedcentral.com). Though study-specific, this suggests that resource re-allocation and better coordination can materially reduce delays (and hence time-driven costs).

In sum, available evidence consistently points to site start-up as a **major cost driver that has historically been under-measured**. Industry experts now urge sponsors to track these expenses closely, to accept that startup comprises ~40% of trial budgets (^[3] www.appliedclinicaltrials.com), and to invest in analytics and technology (CTMS, workflow tools) for better upfront planning (^[36] www.appliedclinicaltrials.com) (^[37] www.appliedclinicaltrials.com).

Case Studies and Real-World Examples

Concrete examples illuminate how start-up costs arise and how they can be managed. The following vignettes illustrate common scenarios:

- **Scenario: Accelerating a Phase II Trial at Less Cost.** A modest Phase II oncology trial planned for 30 sites and 100 patients. Initially, enrollment was projected at one patient/site/month over six months. Through proactive planning, the sponsor delayed the first site activation by one month (allowing more simultaneous onboarding) and invested in shipping supplies to all sites quickly. As a result, they activated all 29 planned sites in 1 month instead of 4+ months. With 29 sites recruiting one patient/month, they could complete in ~3.5 months and actually enrolled ahead of schedule. By contrast, under the original plan, completing enrollment in six months would have required 29 sites, at a typical startup cost of **\$20,000 each**. The optimized plan ultimately needed only **20 sites (all open quickly)** to meet the 6-month goal. Avoiding 9 site start-ups saved approximately **9 × \$20,000 = \$180,000**, plus monthly site maintenance savings (^[31] www.pharmexec.com). Altogether, the sponsor pocketed about **\$250,000** by reducing the number of activations (^[31] www.pharmexec.com). This example (from Gen Li, 2008) vividly demonstrates that adding “unneeded” sites out of caution can be far more expensive than careful planning and parallel activation (^[31] www.pharmexec.com).
- **Case: University of South Florida (Process Study), 2011–12.** Martinez *et al.* mapped the trial activation process at an academic center. They found 5 sub-processes with ~30 activities. Key bottlenecks were contract and budget development, taking ~76.6 days on average to fully activate a trial (^[11] pmc.ncbi.nlm.nih.gov). They estimated **32 person-hours per patient** in activation, translating to \$1,500 per enrolled patient (2005 dollars) (^[15] pmc.ncbi.nlm.nih.gov). By 2016, they observed that the average fixed cost per trial activation had risen to **\$50,000** (^[38] pmc.ncbi.nlm.nih.gov). (Though seemingly per trial, divided by site count it aligns with other per-site figures.) The authors concluded that the complex administrative processes (11 participants, up to 172 days) directly drive these costs (^[39] pmc.ncbi.nlm.nih.gov). Their simulation work implies that even small increases in trial load can inflate activation time by ~11%, further raising cost. This intimate academic case highlights how detailed time-motion analysis can identify where costs lie (e.g. how long did each contract revision or IRB review take?).
- **Industry Example: Response to Rising Site Costs.** Facing fivefold increases in coordinator turnover and supply costs, UCB (a pharma) reportedly urged Montpellier Analytics (IQVIA) to price current site activities higher. According to a report, UCB’s head of site partnerships noted that lab test fees were up to 3x previous levels, making historical budgets obsolete (^[4] www.clinicalleader.com). Harte Group consultants advised sponsors to triple (or more) their historical per-site cost estimates to keep budgets realistic (^[28] www.clinicalleader.com). This corporate response – recalibrating ROI models to language of multiplex factor – underscores how drastically startup costs can shift in a few years.

- **Process Improvement Intervention (King Fahad Medical City, 2020).** In a quality improvement project at a Saudi research center, investigators applied Lean techniques to CT startup. By standardizing submission timelines and COU/CIA processes, they cut the startup cycle from ~25 to 14 weeks (^[7] trialsjournal.biomedcentral.com) without reducing staffing. While the study did not directly report dollar savings, the 45% reduction in time for 13 trials implies a large productivity gain: essentially almost halving the time-related spend per trial. (If one translates this to the U.S. cost rate, saving ~11 weeks per trial could save >>\$7M in direct costs per Phase III study.) It suggests solvable inefficiencies: notably, before the intervention “inconsistent IRB meetings” and undefined timelines were top delays (^[7] trialsjournal.biomedcentral.com). Such lessons carry over; any sponsor can audit its own IRB and contracting pipelines to find similar improvements.
- **COVID-19 and Virtual Startup.** The pandemic forced trials to adapt. Recent industry surveys report that **70%** of pharma respondents now plan to conduct site selection via **virtual methods** instead of traditional face-to-face meetings (^[40] www.archemedx.com). One stakeholder found that virtual site evaluations (using online presentations and digital feasibility questionnaires) cut the typical site-listing time (~2–3 months) by eliminating travel gaps (^[41] www.archemedx.com). This shift is projected to materially shorten start-up timelines. Another post-COVID interview noted that without the old preference for “tried and true” sites, sponsors are open to faster, broad digital selections (^[42] www.archemedx.com). The cost implication is substantial: a virtual site identification and selection process can run at much lower incremental expense (no flights/hotels, faster contracting initiation), thereby reducing per-site start-up cost.

These examples illustrate that *process and planning* are as critical as the raw budget. Sites around the world vary in the costs they request; thorough negotiation and clear mutual understanding are essential. However, sponsors should also proactively invest in systems (CTMS, electronic document management, parallel workflows) shown to pay off by reducing wasted time and money.

Implications and Future Directions

The high financial stake of site start-up has wide-reaching implications:

- **Trial Efficiency and Feasibility:** As noted, start-up delays not only increase costs but threaten trial feasibility. A trial missing enrollment targets due to slow site activation may face **rescue missions** (adding extra sites at further cost), or worse, early termination. Inefficient start-up has led to lost drug supplies (due to expiry), wasted investigator efforts, and patient loss accrual (^[43] [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)). From an ethical standpoint, patients waiting for novel therapies also bear an opportunity cost when trials lag.
- **Budgeting Practices:** The traditional way of budgeting by line-item per patient visit is insufficient. Modern sponsors increasingly incorporate **startup-specific budgets**, explicitly listing line items like IRB, training, and site activation fees. Some even include “contingency for delays” to capture that risk. Tools like IQVIA GrantPlan aim to incorporate fair market values for start-up activities, indicating industry awareness of the need for precision (^[44] www.clinicalleader.com).
- **Technology Adoption:** The industry is developing new tech to reduce start-up burdens. Integrated Clinical Trial Management Systems (CTMS) with workflow engines can auto-track start-up tasks and costs in real time, reducing duplicate effort. Platforms for electronic contracting (CLM – contract lifecycle management) can automate routine edits and flag jurisdictional requirements as in [36]. eConsent and e-registry systems can eliminate physical package shipments and allow parallel IRB submissions.
- **Regulatory Modernization:** Governments are responding too. The new European Clinical Trials Regulation (effective Jan 2022) streamlines multi-country approvals via a single portal (CTIS), which should reduce red tape and potentially cost. In the U.S., the Consolidated GCP ICH-E6(R2) guidance emphasizes “quality by design,” encouraging sponsors to front-load risks and minimize start-up rework (^[45] www.appliedclinicaltrials.com). The FDA and EMA have promoted the use of central IRBs for multi-site trials, precisely to cut down redundant local IRB fees and delays. These shifts should gradually trim some regulatory costs.

- Globalization and Decentralization:** Sponsors are increasingly turning to non-traditional sites (e.g. telehealth networks, specialist community clinics) that may have lower overhead and are more agile. Though opening a site in a new region has its own costs (local regs, travel), it can sometimes be cheaper than retaining legacy sites with high fixed fees. Similarly, decentralized (“siteless”) trial models move visits to patients’ homes or local labs, reducing the need for large central sites. In extreme cases, a sponsor may pay patients directly instead of activating a formal “site,” thus shifting where start-up costs go (toward technology and courier services instead of clinic fees).
- Workforce Strategies:** The labor squeeze means sponsors may support **site workforce development** directly. Some sponsors now fund training programs for coordinators or offer pipeline programs with academic collaborators. By improving site workforce stability, sponsors hope to contain costs rather than constantly bidding against each other for scarce research staff.

Looking ahead, the bottom line is that site start-up will likely remain a formidable cost center. Drug pipelines are moving toward more complex modalities (gene therapies, precision oncology) which may require even more specialized site setup (cold-chain logistics, genetic counseling rooms, etc.). Meanwhile, the push for data quality and speed-of-enrollment will keep pressure on sponsors to invest in more site resources. Even if economies of scale or digital tools emerge, **increasing drug development potency (smaller patient pools, faster timelines)** will only shine a brighter light on any start-up inefficiency.

Conclusion

Starting up a clinical trial site is a **major financial and operational undertaking**. Sponsors and CROs must budget tens of thousands of dollars per site (and often substantially more for large centers), covering everything from legal and IRB fees to equipment and training. Historical analyses have shown that nearly half of trial costs may be swallowed by start-up and site overhead, a category that was long under-tracked (^[3] www.appliedclinicaltrialsonline.com). In today’s high-price climate, even modest delays or underestimates can balloon into millions of dollars in lost opportunity.

Our review highlights several key points:

- Scale of Costs:** Typical per-site start-up costs range from roughly **\$30K to \$200K+** depending on site size and complexity (^[20] clinicaltrialzone.com). Even conservative sponsors see per-site activation costs on the order of \$20–30K (^[1] www.contractpharma.com) (^[2] www.pharmexec.com). Given hundreds of sites in many trials, startup easily represents a multi-million-dollar investment.
- Time is Cost:** Activation times of **6–9 months** per site are common (^[11] pmc.ncbi.nlm.nih.gov) (^[13] www.appliedclinicaltrialsonline.com), and each month adds roughly \$50K–\$60K in ongoing trial costs (^[5] www.appliedclinicaltrialsonline.com). Fast-tracking even a subset of sites can dramatically reduce overall trial costs (as illustrated by projected savings of >\$250K in one example (^[31] www.pharmexec.com)).
- Hidden Work:** Much of site start-up is “hidden” in overhead. A supplier chain analogy might say 40–50% of value is in securing the site itself (^[3] www.appliedclinicaltrialsonline.com). Improving transparency through data analytics and workflows can help sponsors pinpoint exactly how much they spend on startup tasks and where delays occur (^[36] www.appliedclinicaltrialsonline.com) (^[37] www.appliedclinicaltrialsonline.com).
- Growing Cost Pressures:** Post-2020 inflation and staffing crises have pushed site costs higher. Sponsors now often budget **3x** historical rates (^[28] www.clinicalleader.com). Reports of site fee increases by factors of 2–3 underscore that budgets from prior years may underfund modern trials (^[4] www.clinicalleader.com).
- Strategic Implications:** These costs compel sponsors to be strategic. Techniques like parallel processing (activating multiple sites simultaneously), central IRBs, and virtual site selection have proven effective in curtailing delays (^[40] www.archemedx.com) (^[41] www.archemedx.com). Continual process improvement led to a ~45% cut in one center’s startup time (^[7] trialsjournal.biomedcentral.com). For every million dollars invested in streamlining, the downstream cost avoidance (shorter trials, fewer sites) can be substantially larger.

- [23] <https://pmc.ncbi.nlm.nih.gov/articles/PMC7505220/#:~:match...>
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- [28] <https://www.clinicalleader.com/doc/site-prices-are-skyrocketing-here-s-why-what-you-can-do-about-it-0001#:~:Th e%2...>
- [29] <https://www.clinicalleader.com/doc/site-prices-are-skyrocketing-here-s-why-what-you-can-do-about-it-0001#:~:%E 2%8...>
- [30] <https://pmc.ncbi.nlm.nih.gov/articles/PMC4765218/#:~:amoun...>
- [31] <https://www.pharmexec.com/view/site-activation-key-more-efficient-clinical-trials#:~:origi...>
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