

10 STEPS FOR IMPLEMENTING A "FAIL FAST" STRATEGY TO REDUCE R&D SPEND

7 8 9 10 11 12

Simple tactics to help you identify potential drug failures ahead of costly clinical trials

© 2020 Research Solutions, Inc. All Rights Reserved



Step 1: Implement Fail Fast Early



Using <u>AstraZeneca's 5R framework</u> for efficient drug development, focus on the 'right target' and 'right patient' to improve the strength and quality of commercial validation.

How to Implement:

Throughout your literature review, look for data that pokes holes in your target theory or points to potential dead-ends down the road.



Step 2: Automate Literature Reviews

Conducting a comprehensive literature review is essential for a successful Fail Fast strategy, but it is a time-consuming and complex process.

To create a more efficient review practice, bring all the disparate tasks into a single, automated workflow.

How to Implement: Work with a systematic review software vendor to:

- Build a repeatable process
- Create capacity
- Optimize costs
- Automate compliance





Step 3: Automate Content Awareness

Keeping up with all the new research on a topic requires an enormous time investment. Make it easier to stay up to date by automating content awareness.

How to Implement: Apply digital tools that push relevant, newly published papers to your teams. Some examples include:

- Journal table-of-contents (TOC) feeds
- o Automated RSS alerts, prefiltered for relevance



Step 4: Leverage "Failed" Research

As part of your Fail Fast strategy, seek out all relevant and peripheral work that might impact a therapy, including research with null or inconclusive results.

How to Implement: Uncover lower impact papers via:

- Preprint servers like <u>bioRxiv</u> and <u>medRxiv</u>
- Megajournals like <u>Scientific Reports</u> and <u>PLOS ONE</u>





Step 5: Seek Out "Hidden Gems"



How to Implement:

- Widen your search to include older, "hard-to-find" print-only articles
- Obtain full-text PDF scans through a document delivery service
- Typical turnaround time for print scans: < 24 hours





Step 6: Optimize OA content

Leveraging Open Access (OA) is a smart way to contain costs during your literature review. But while OA access is free, commercial use is limited*. The key is to maximize the benefits of OA, while ensuring you stay copyright compliant.

How to Implement: Choose a research platform that lets you:

- Quickly find OA articles via smart filters
- Understand the compliance details for your intended use
- Access to the version of record** for regulatory compliance

*Only 33% of OA content is free for commercial use under a CC license **18% of Unpaywall links do not connect to the online version of record





Step 7: Reallocate Your Human Resources

Literature search and acquisition tasks are typically performed by the scientists themselves. But automation can free up scientists for higher value work and save costs.*

How to Implement: Use a research platform with time-saving features like:

- Integrated search with PubMed, Google Scholar and other discovery websites
- Lowest-cost search filters that include OA and your existing subscriptions
- One-click article orders, directly from the search results

*PhD scientists probably fall at the higher end of your payroll. Here are some average salaries.



Step 8: Use Actionable Analytics

To further contain your R&D spend, make sure you are maximizing the value of your subscription holdings—to minimize your per-article costs.

How to Implement:

Select a research platform with advanced analytics tools to:

- Review usage reports to across subscriptions
- Based on that usage data, determine whether to continue the subscription

Boehringer Ingelheim managed to decrease per-article costs substantially by analyzing their content holdings. <u>Read case study</u>



Step 9: Automate Document Access

Ensure your scientists have frictionless access to the full-text articles they need.

How to Implement:

Use an on-demand document delivery platform to enable:

- One-click access to full-text PDF papers
 - 57% are available for immediate download
 - **31%** are available by email within minutes
- Access to all supplementary research materials
- Savings on your literature access costs by 20%



Step 10: Simulate Lab Work



Before investing time and money in the lab, take advantage of in-silico tools and computer modeling to uncover additional issues you may not have uncovered during your literature review.

How to Implement:

Choose from a wide range of advanced lab tools to perform tasks specific to your study. For example:

- <u>Simulate subcloning</u> experiments
- <u>Visualize protein structures</u> and extract from the literature
- O Simulate peptide enzymatic cleavages in proteins



WHY FAIL FAST?

Drug development failures account for
75% of R&D Costs

 Only 9.6% of experimental drugs that enter clinical trials are approved by the FDA

 It takes **12-15 years** on average to bring a single drug to the market By identifying dead ends ahead of clinical trials, you will greatly reduce R&D costs for your organization.