GlobalVision | GUIDE

HOW TO REDUCE COMPLIANCE RISK IN PACKAGING & LABELING

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Global Vision Systems

There is no such thing as a small print error on pharmaceutical drug labels or packaging. One missing dot or dash can be harmful to consumers and result in substantial recall costs for the pharma company. Inadequate manual inspection processes are to blame for print errors. These labor-intensive proofreading marathons are only as foolproof as humans themselves. But manual inspections are also concerning for a lesser-known reason — they may not comply with new data-integrity standards. What can you do to reduce your compliance risk?

Where are manual inspection processes used?

When printing pharmaceutical packages or labels, each revision or format change introduces the chance that an error could be made. Thus, many rounds of inspection are necessary to find and fix errors after changes. It is important to catch errors sooner in the process rather than later when the rework costs and delays to market are more substantial.

Let's look at where these many inspection checkpoints typically occur in the three main phases of the pharma packaging and labeling process.

Regulatory

After a manuscript is submitted to the Food and Drug Administration for approval, it often is returned to the regulatory department with recommended revisions. Once the revisions are made, an inspection takes place prior to re-submission to the FDA. Multiple revision and re-submission rounds may be required prior to FDA approval. The inspection is performed by people visually comparing the revised manuscript to the previous version. Keep in mind, the average manuscript length is 30 pages. The inspection process is tedious, comparing two Microsoft® Word® documents side by side, matching character by character to make sure the revised document contains only intentional revisions. This manual inspection process can take four to six hours[1] each round.

Once regulatory receives final approval from the FDA, the content is locked and cannot be altered. Going forward, the challenge becomes catching unintentional changes to the approved content while it undergoes multiple layout and file format changes to prepare it for print production.

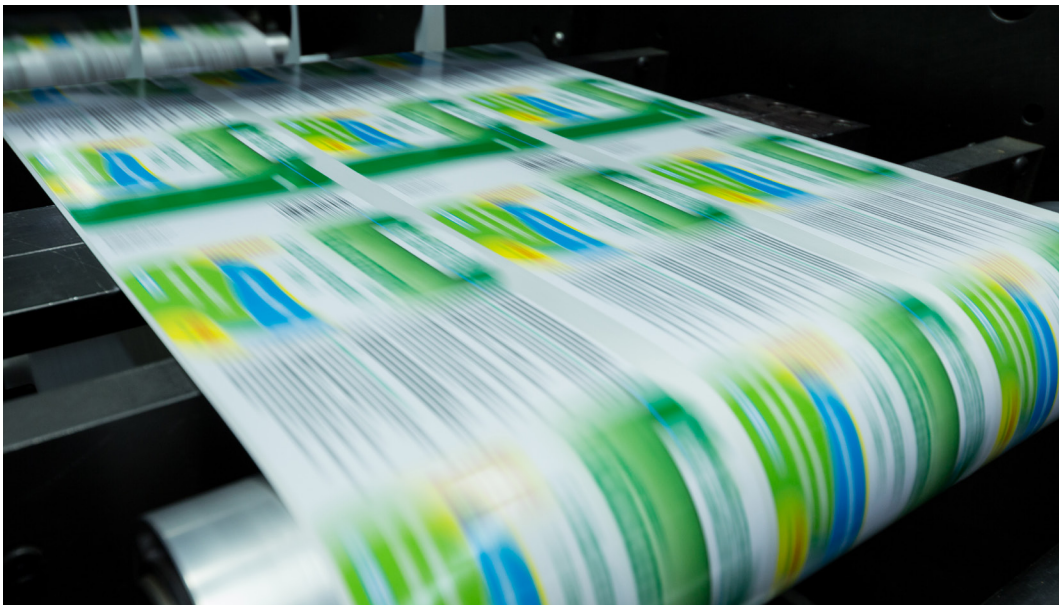
Labeling

Next, the labeling department assumes control of the approved manuscript. The Word file is converted to artwork as a digital file by graphic artists. The file format and layout change prompts another inspection.

The visual inspection at this phase is more challenging because the artwork now includes additional colors and graphic elements such as logos and barcodes. The human proofreader now has to compare two documents with different layouts, orientations, and fonts, side by side. It is a much more difficult inspection than the previous one where the layouts were identical. As such, this inspection can take 16 to 18 hours.[1]

After the artwork is reviewed and deemed accurate, the next step is sending the file to the printer. The printer recreates a PDF file optimized for printing. This "printer's proof" is sent to the pharma company for approval. The pharma company inspects it against the artwork, and the regulatory department may again inspect it against the approved manuscript. Proofreading this print-ready document is the last chance for the pharma company to catch discrepancies relative to the FDA-approved copy before printing begins.

Typically, when the pharma company signs off on the printer's proof it accepts liability for any errors and the associated costs.

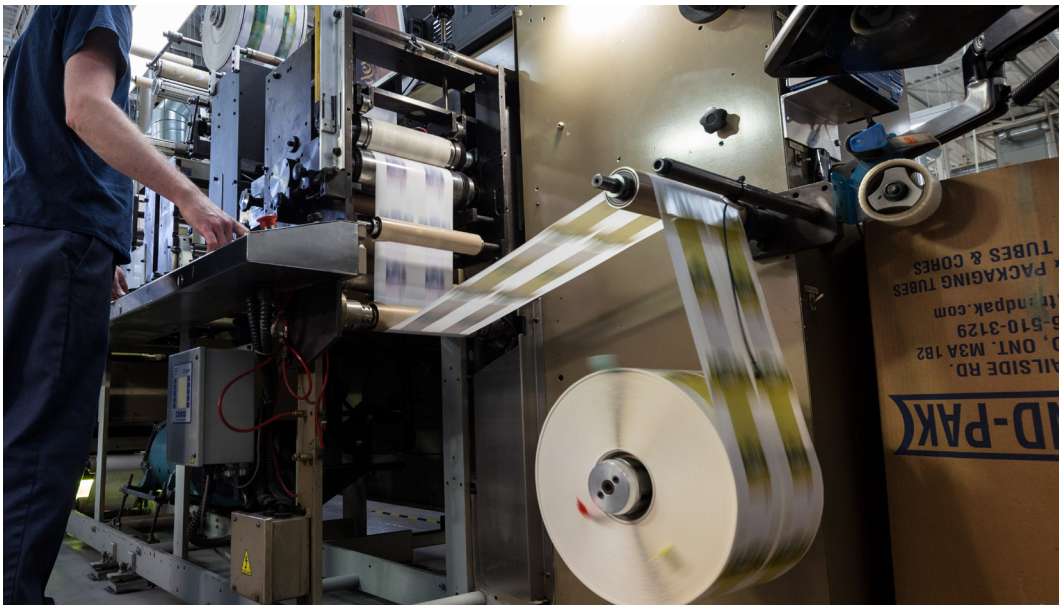


Manufacturing

Once the printer's proof is approved, a new PDF file called an imposition file is created. The goal is to maximize the efficiency of the printing press by formatting multiple iterations of the label or packaging to fill the printer's sheet. Another inspection is needed to compare the printer's proof to the new imposition file. A typical error found at this stage would be having the wrong product set up for the print run. Additionally, a wrong printing plate may have been used, a plate may have been damaged, or the press may have been dirty, causing a smudge or errant marks to the label.

The next checkpoint is comparing the first physical print (e.g., an actual printed label or insert) against the printer's proof. This is to verify that the print matches the proof the customer had previously approved.

Once printing is complete, the pharma company performs a receiving inspection of the finished prints as part of their incoming quality control process. The printer's proof is compared to the printed product to make sure everything matches and the correct package or label was received.



The risks of manual inspection

From a business risk standpoint, manual inspection is labor-intensive and costly. It requires heavy use of proofreaders or quality control specialists to keep up with production and offset the chance of error. Despite the investment in resources, errors can still occur. Inefficiency combined with the uncertainty of the results, the volume of work, and the pace of product releases makes manual inspection less than ideal.
In addition to the business risks, manual inspection poses two types of regulatory risks:

1. Approved manuscript inaccuracy — Human inspectors make mistakes, and when an error is missed, your printed label or package may not match the FDA-approved manuscript. People have certain limitations that prevent them from efficiently performing the role of inspector.

- **Reliability** — Inspection results should be consistent regardless of who performs the work. But, that is not the case with people. Results vary from one person to the next. This makes the results untrustworthy.

- **Repeatability** — Even an individual proofreader cannot perform consistently over time. One contributing factor is the fatigue that results from proofreading for extended periods of time. Other complicating factors include the small fonts, complex pharmacological terms, and foreign languages that are common with drug labels. An ideal proofreading method or tool produces identical results consistently over time.
- **Scalability** — Humans cannot be scaled up without jeopardizing accuracy. Therefore, during times of increased workload such as after a merger or acquisition-related rebranding, compliance risk may be higher.

2. Data integrity — According to the FDA, data integrity refers to complete, consistent, and accurate data necessary to ensure the safety, efficacy, and quality of drugs and to protect public health. Data integrity is a Current Good Manufacturing Practice requirement enforced by the FDA.
New data-integrity standards require assurances that the data stored is attributable, legible, contemporaneous, original, and accurate (ALCOA).

- Attributable data clearly demonstrates traceability to the time it was recorded and the individual who produced it.
- Legible data is traceable, permanent, readable, and understandable.
- Contemporaneous data is entered and recorded at the exact time it was observed.
- Original means the source data is accessible and in its original form without modification.
- Accurate data is correct, truthful, complete, valid, and reliable.

The above requirements raise many questions about how you capture inspection data and ensure it is accurate. For instance, if a human captures the data, writes the results by hand, and signs off on reports, does that meet compliance with data-integrity standards? Is it even possible to meet data-integrity requirements when using a people-based inspection system?

Three tips for reducing errors with a manual-inspection process

Considering the risks associated with manual inspections and the well-documented, severe consequences of non-compliance, what are some best practices to improve accuracy?

1. Two to Three Hundred Percent Proofread

One technique to reduce errors is to use multiple proofreaders to review the same document. The way this works is one person proofreads, followed by a second person to see if they find the same errors. A third person can be added for an even more thorough inspection. This technique not only improves the likelihood of catching errors, but also builds in accountability and feedback to improve the proofreading capabilities of individuals.

2. Take Breaks

Another technique to reduce errors, especially when proofreading for long periods of time, is to simply take breaks. This reduces the errors that can result from fatigue.

3. Establish and Follow Training Protocols

Manual inspection employees need to be trained on standard operating procedures within your company and also on specific instructions for their process. Be specific about your exact steps. Do you perform a 200 percent or 300 percent proofread? How are the proofreading results approved?

Training exercises can improve inspection skills. Two examples are practicing proofreading on a foreign-language document and proofreading English text backwards. But training should not be a one-and-done exercise. Do not underestimate the importance of continuous training. This includes internal training on any new procedures as well as annual refresher training on policies and procedures.

External training can be a good source of information to improve your process. Online courses, webinars, and workshops on eliminating manual errors can offer additional techniques.

Where can automation help?

An automated software solution can overcome the efficiency limitations of manual inspections. Technology can perform the character-by-character comparisons efficiently in seconds — instead of hours and days. Instead of using your employees to review entire documents, they can spend their time reviewing the proofreading results generated by the software.

Automated inspections produce consistent results, eliminating human variability. Small fonts, unfamiliar terms, foreign languages, and even Braille and barcode inspections do not challenge the accuracy of software inspection. Scaling up and down with software is far easier and less risky.

Data-integrity requirements are built into the inspection software. For example, the required documentation is captured at the same time as any modifications or sign-offs. No additional work is required to capture the audit trail. The required time stamp is automated. Inspection history is easily traceable.

Of course, when evaluating an automation solution for the pharmaceutical industry, validation is required to ensure the software meets 21 CFR Part 11 regulations for electronic recordkeeping. The validation protocol must be followed. The installation qualification (IQ) qualifies that the application has been installed properly. Then operational qualification (OQ) qualifies that the software operates correctly. The performance qualification (PQ) then qualifies the performance by testing the system using known errors to determine the inspection software is detecting the errors accurately. An electronic signature is another helpful capability of automation, as well as a quality management system where documentation is developed to meet pharmaceutical requirements.

Conclusion

In the past, manual inspection had been the only method to reduce errors on pharmaceutical labels and packages. Technology now enables a better solution. Automated inspection technology reduces errors far more efficiently and effectively than humans, and it meets the new regulatory standards for data integrity. In fact, automated inspection outperforms manual processes on every key measure: reliability, repeatability, scalability, and cost efficiency, thereby improving your return on investment and reducing your compliance risk. Find out how much your business can save with an automated inspection system by using this online calculator.

About GlobalVision

GlobalVision's mission is to help businesses sign off with confidence before going to market. As the #1 proofreading software provider for print and packaging professionals, we help ensure quality products, eliminate tedious quality checks, and minimize the chance of human error. Our products provide a fast and accurate way to proofread and check for errors in your print, packaging, or artwork and create a process without risk, liabilities, or delays.

Source

1. Global Vision Systems, Securing The Brand Packaging Workflow, accessed at https://www.bioprocessonline.com/doc/securing-the-brand-packaging-workflow-0001

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