U.S. FOOD & DRUG ADMINISTRATION

Center for Drug Evaluation and Research

OFFICE OF COMPLIANCE

2025

Annual Report

Shielding the public from poor-quality, unsafe, and ineffective drugs through proactive compliance strategies and risk-based enforcement actions.

April 2026

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Director's Message

In 2025, CDER's Office of Compliance met a year of change by demonstrating innovation and agility while protecting public health. As we unified compliance programs across the Agency and confronted emerging global health threats, we did not just adapt; we strengthened our oversight to better shield Americans from poor-quality, unsafe, and ineffective drugs. This integration created a powerful momentum, building and refining additional levels of efficiency and effectiveness in our programs.

Jill P. Furman, JD
Director
Office of Compliance

Our ongoing response to the influx of unapproved new drugs purporting to be glucagon-like peptide-1 (GLP-1) medications is a prime example of this new synergy in action. We executed a multi-faceted strategy, using a variety of compliance tools, to safeguard consumers from counterfeit, misbranded, unapproved, and potentially unsafe drugs. One key action included establishing a worldwide "green list" import alert to help stop poor quality and potentially dangerous GLP-1 active pharmaceutical ingredients from unverified foreign sources entering the U.S. market. Concurrently, we leveraged our subject matter expertise in drug manufacturing, labeling review, and online surveillance to issue dozens of warning letters to firms marketing poor-quality, misbranded, and unapproved GLP-1 drugs.

Proactive engagement remains a cornerstone of our compliance strategy. This year, we sent thousands of notifications to various companies, notifying them of upcoming compliance deadlines and reminding them of salient aspects of FDA regulations. We also sent advisory notifications to companies providing them with an opportunity to promptly correct issues identified by FDA. Outreach and engagement are central to our mission, and we work to support education initiatives that help facilitate implementation of statutorily mandated requirements.

Looking ahead, we are not just reacting to threats; we are working to anticipate them. By harnessing new technologies like artificial intelligence (AI) and refining our processes, we are building more robust oversight capabilities.

These accomplishments are a direct result of the tireless dedication and expertise of the professionals within the Office of Compliance.

This report details these critical efforts. I invite you to explore our work and our commitment to protecting public health.

Fast Facts

January 1 to December 31, 2025

Compliance Actions

321
drug recall events classified, totaling 755 recalled products

314
warning letters issued

10,922
drug listings inactivated from FDA's Drug Registration and Listing System

85
regulatory meetings held with companies

Compliance Reviews

970
drug manufacturing inspection classification letters issued

42
Preliminary Notices of Noncompliance issued for potential ClinicalTrials.gov violations

100
percent of clinical inspection summaries issued by agreed upon goal dates for new drug applications and biologics license applications under the Prescription Drug User Fee Amendments (PDUFA) and Biosimilar User Fee Amendments (BsUFA)

8,700+
electronic certificates of pharmaceutical product issued to provide documentation of facilities' compliance with FDA standards

409
inspection and compliance documents shared with foreign regulatory counterparts

Outreach and Engagement

12
policy documents issued, or contributed to, by CDER's Office of Compliance[1]

7,000+
drug registration and listing inquiries processed

5,142
self-guided compounding training courses completed by 2,449 participants; 16 instructor-led course sessions held with 169 participants

35
public notifications posted to the web about hidden drug ingredients

60+
presentations given before external audiences

1 See Appendix B for a full list of policy documents.

Cross-office Areas of Focus

Each year, we identify emerging public health issues requiring synergistic focus across our component offices. See Appendix A for more information about the component offices that comprise the Office of Compliance super office.

Addressing concerns about unapproved GLP-1 drugs

The unprecedented demand for GLP-1 medications, including semaglutide and tirzepatide, has led to illegal activity outside of the legitimate drug supply chain, which poses significant public health concerns. Some patients and health care professionals may seek unapproved versions of these drugs as an option for weight loss and other indications. To address these concerns, our office implemented a comprehensive regulatory response addressing manufacturing, compounding, and import compliance issues simultaneously.

Key actions include:

- Establishing a worldwide "green list" import alert to help stop poor quality and potentially dangerous GLP-1 active pharmaceutical ingredient (API) from unverified foreign sources from entering the U.S. market, protecting consumers from poor-quality compounded drugs while preserving legal importation from compliant manufacturers.
- Issuing warning letters to companies manufacturing poor-quality drugs, including API.
- Issuing warning letters to companies offering compounded drugs that were misbranded because their advertising or promotion was false or misleading, for example by implying that unapproved drug products are the same as FDA-approved drug products when they are not.
- Issuing statements in the wake of FDA's determinations that approved tirzepatide and semaglutide injection products were no longer in shortage and clarifying the end of enforcement discretion periods. Issuing warning letters to repackagers and compounders that were using API not suitable for compounding.
- Investigating violations of the Drug Supply Chain Security Act (DSCSA) and holding trading partners accountable for operating in compliance with the law.
- Issuing warnings to consumers and healthcare professionals about counterfeit semaglutide products identified in the U.S. supply chain.
- Investigating complaints and adverse events associated with compounded products.

Combatting Illegal Sale of Drugs Online

The prevalence of online marketing has vastly increased avenues where consumers may encounter misleading health claims and marketing of unsafe drugs not approved by FDA. Our office conducts surveillance to identify distribution of unapproved or misbranded drugs sold online, as well as misleading labeling practices. Unapproved drugs pose significant risks to patients because they have not been reviewed by FDA for safety, effectiveness, or quality. Without FDA review, there is no way to know if these drugs are safe and effective for their intended use, whether they are manufactured in a way that ensures consistent quality, or whether their labeling is complete and accurate. These products can cause harm and lead patients to delay or abandon proven, effective treatments. We use a comprehensive, multi-faceted approach to address public health concerns posed by unsafe online products.

Key actions include:

- **Issuing 58 warning letters to telehealth companies selling misbranded compounded products.** These products were misbranded because their advertising or promotion made false or misleading claims that implied the products had been FDA-approved, when they had not. Their representations misled patients by obscuring important distinctions between compounded drug products and FDA-approved medications.
- **Targeting unsafe online pharmacies.** We issued 37 warning letters to operators of online pharmacies illegally offering unapproved and misbranded drugs. FDA's BeSafeRx campaign helps educate consumers about how to safely buy medicines online.
- **Addressing illegally marketed Botox.** We issued 18 warning letters to websites marketing unapproved botulinum toxin products. FDA-approved botulinum toxin products carry a boxed warning, the Agency's most serious warning, to indicate approved biological product carries a risk of serious or life-threatening side effects. FDA is aware of adverse events with unapproved botulinum toxin products, including botulism symptoms and hospitalizations.
- **Advancing the FDA Overdose Prevention Framework.** Illegal online sales of controlled substances pose significant health risks to consumers of all ages, especially our nation's youth. We issued 15 warning letters to website operators illegally offering controlled substances and other dangerous drugs to U.S. consumers. We also issued three warning letters in conjunction with FDA's Human Foods Program for illegally marketing products containing 7-hydroxymitragynine, known as 7-OH. This action reflects the Agency's growing concern around novel potent opioid products being marketed to U.S. consumers and sold online and at retail locations.
- **Online Controlled Substances Summit.** To further examine the complex problem of controlled substances sold online, in September, we co-hosted the Online Controlled Substances Summit with the Reagan-Udall Foundation (RUF) to explore emerging trends in the online ecosystem, including youth behaviors and platform usage, the human impact of unsecured access, and opportunities for intervention and risk reduction. The summit highlighted the latest research, included first-hand experiences from affected families, and explored innovative approaches from government, technology, and international partners. Additionally, RUF disseminated intervention/disruption resources for online platforms to help prevent online access to controlled substances through digital platforms. These resources can serve as vital tools for consumer education and protection.

Maximizing compliance through strategic notifications

The Office of Compliance employs a range of tools to address regulatory violations while providing companies with opportunities to come into voluntary compliance promptly. This strategic approach allows us to maximize the impact of our compliance resources by encouraging voluntary corrective action before we pursue further regulatory action. These tools serve as early intervention mechanisms that protect public health while supporting industry's efforts to maintain compliance with federal requirements.

Key notifications include:

- **Drug registration and listing system (DRLS) notifications.** We sent notifications reminding all registered drug facilities of their annual registration and listing update requirements. If companies failed to update their data or had drug listings associated with unregistered establishments, we contacted them directly to notify them that their drug listing may be out of compliance. These notifications resulted in companies correcting more than 5,000 drug listings. For companies that continued to violate drug registration or listing requirements, we inactivated their drug listings. In 2025, we inactivated more than 10,900 drug listings.
- **Drug amount reporting requirement notifications.** We collaborated with the Office of Pharmaceutical Quality to send notifications to more than 5,400 establishments to remind them to submit calendar year 2024 drug amount reports by March 31, 2025. These statutorily required data support the Agency's efforts to reduce drug shortage risk. With earlier awareness of persistent or emerging supply chain challenges, FDA is better informed and able to take more targeted and timely actions to promote stronger supply chains and reduce drug shortage risks.
- **Notification regarding testing requirements.** We issued a notification to all registered pharmaceutical manufacturers regarding child deaths in India associated with cough syrups contaminated with diethylene glycol. This industrial chemical, which is not intended for human use, has historically been substituted for glycerin, propylene glycol, and other pharmaceutical ingredients as a cost-cutting measure. The letter reminded manufacturers of their legal requirement under US law to test for diethylene glycol contamination in susceptible raw materials. This notification was issued proactively, despite no indication that contamination was present in domestic products.
- **Bulk drug substances.** We issued 59 letters to compounding stakeholders regarding concerns about bulk drug substances that are not eligible for use in compounding.
- **Notification of a proposed administrative order for sunscreen drug products.** We notified 380 domestic and foreign establishments covering more than 7,900 national drug codes (NDC) about a proposed order to amend the requirements for sunscreen drug products. The establishments we notified had listed drugs under the over-the-counter drug monograph M020: Sunscreen Drug Products for Over-the-Counter Human Use. This drug monograph establishes the requirements for sunscreen products marketed without an approved drug application.

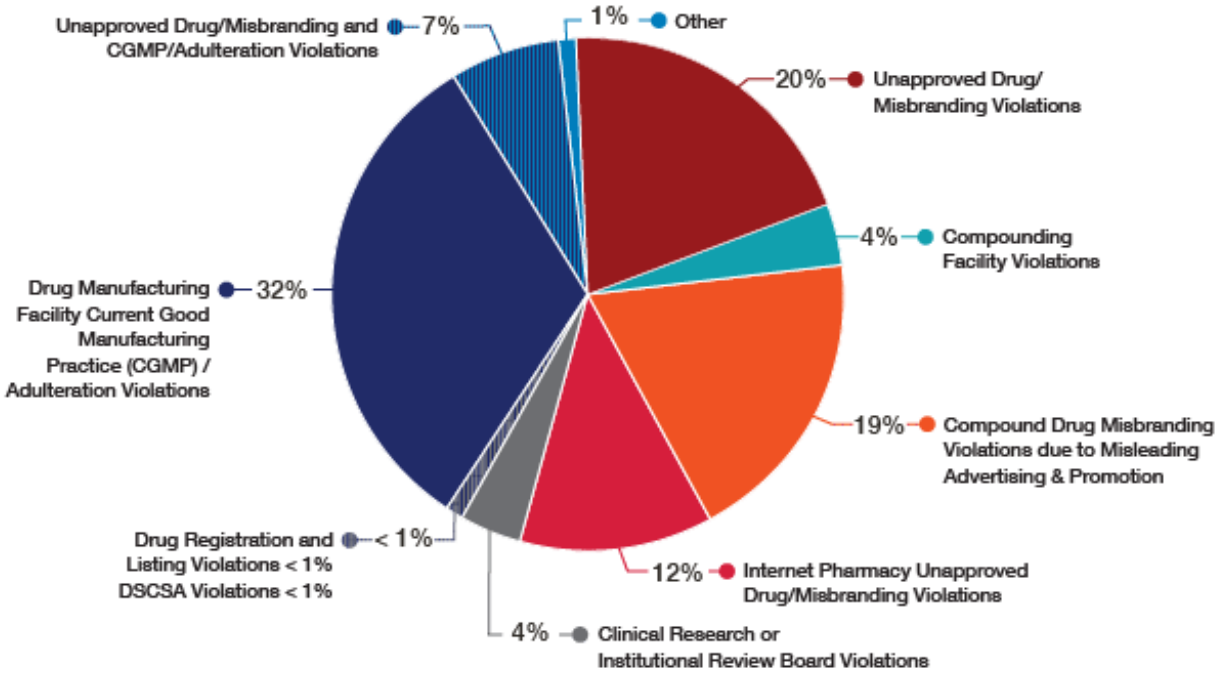
These notification tools reflect our commitment to encouraging voluntary compliance while prioritizing resources for the most serious public health threats.

Warning letter overview

The Office of Compliance's oversight responsibilities extend from the early stages of drug development through registration, manufacturing, and post-market surveillance. We also conduct oversight and surveillance of compounded drugs, unapproved and misbranded drugs, and the drug supply chain from manufacturer to pharmacy.

Warning letters notify companies or individuals of significant violations of the Federal Food, Drug, and Cosmetic Act and applicable regulations identified through inspections or other investigative tools. These letters inform responsible parties that FDA considers their products, practices, or activities to be in violation of the law. Warning letters are a principal tool for achieving voluntary compliance and are not final Agency actions, but failure to promptly address violations may lead to enforcement action.

Figure 1. Human drug warning letters issued, 2025



Our compliance actions increased significantly in 2025 with the issuance of 314 warning letters. This surge was driven by targeted initiatives and increases in two primary areas: unapproved or misbranded drug violations and adulteration violations (including CGMP). We issued over 180 letters citing unapproved or misbranded drugs, with key initiatives described in the implementing online surveillance and strategy section above as well as in the unapproved and misbranded drug oversight section. We also issued more than 120 letters to drug manufacturing facilities for the adulteration of drugs, primarily for significant deviations from CGMP. Notably, we also focused on compounded drugs that were misbranded because their advertising or promotion was false or misleading. This was one of the largest single drivers of the increase in 2025 actions, accounting for 19 percent of all letters issued this year.

Clinical Trial Oversight & Bioresearch Monitoring

For human drugs, we help ensure that safety and efficacy data submitted to FDA is reliable, that human subjects in clinical trials are protected, and that postmarketing requirements for adverse event reporting and risk evaluation and mitigation strategies (REMS) are met. Through the agency-wide bioresearch monitoring (BIMO) program, we monitor all aspects of FDA-regulated research and work to detect and prevent postmarket safety issues.

Oversight

In 2025, we evaluated more than 1,000 complaints and referrals related to the conduct of clinical trials. FDA conducted and our office reviewed more than 590 inspections and remote regulatory assessments of sponsors, contract research organizations, clinical investigators, and institutional review boards (IRBs). This oversight is designed to evaluate data reliability for studies submitted in support of marketing applications, to follow-up on allegations of non-compliance, and to help ensure compliance with human subject protection requirements. We also oversaw more than 55 inspections and remote regulatory assessments to evaluate compliance with postmarketing adverse event reporting requirements and REMS requirements.

Marketing application review

We use inspectional findings to assess the reliability of clinical trial data submitted to CDER in marketing applications. We prepare high-quality, timely reviews known as clinical inspection summaries, to assist CDER's Office of New Drugs in making decisions on applications and meeting user-fee goals. In 2025, we provided 141 clinical inspection summaries to the Office of New Drugs to support the review of marketing applications.

Compliance actions

Inspection findings enable us to assess compliance with federal laws and regulations for BIMO programs. We address serious and significant violations by issuing warning letters and taking other administrative actions to achieve compliance. In 2025, we issued 14 warning letters (11 to clinical investigators or sponsor-investigators and three to sponsors) and six untitled letters.

ClinicalTrials.gov

Clinical trial transparency maintains public trust in medical research and supports scientific advancement across the global research community. The ClinicalTrials.gov database provides patients, families, healthcare professionals, and the public with accessible information about clinical studies on diverse diseases and conditions. We promote transparency by overseeing responsible parties who register studies and submit results for applicable CDER-regulated clinical trials. In 2025, we addressed noncompliance with ClinicalTrials.gov registration and reporting requirements by issuing 42 Preliminary Notice of Noncompliance letters and two Notice of Noncompliance letters to responsible parties who failed to submit required information. Nearly 90 percent of these parties have since successfully posted their required clinical trial information to ClinicalTrials.gov.

Global collaboration

Global collaboration with foreign regulatory counterparts is essential as clinical trials are conducted worldwide. In 2025, we conducted two joint or observed good clinical practice inspections with international regulatory partners. We regularly share inspection and compliance documents with our foreign regulatory counterparts. We also led the PIC/S Expert Circle meetings on Good Pharmacovigilance (GVP) and Good Clinical Practice (GCP) in November. These meetings, attended by regulators from more than 38 countries, represented three years of collaborative development and addressed industry concerns about uniform interpretation of modernized inspection approaches. Under FDA's leadership, the Expert Circles reinforced global alignment in inspection practices and delivered practical recommendations to enhance international inspectional capability. Our team led working groups on artificial intelligence in pharmacovigilance, data governance in clinical trials, and risk-proportionate inspection approaches.

Policy development and innovation

In 2025, we contributed to the development of seven policy documents that advance the BIMO program and strengthen the conduct of clinical and nonclinical research and postmarketing safety activities. These policies promote quality and innovation in clinical trials and postmarket safety monitoring, ensuring patients have access to safe and effective medicines.

Regulatory guidance and policy contributions

We contributed to the following key BIMO-related guidance documents in 2025:.

- **Considerations for the Use of Artificial Intelligence to Support Regulatory Decision-Making for Drug and Biological Products**. Contributed to draft guidance providing FDA's first framework for using AI to support regulatory decision-making for drug and biological products. The guidance establishes a risk-based credibility assessment framework for AI models.
- **ICH E6(R3) Good Clinical Practice Guideline**. Contributed to the International Council for Harmonisation's publication of updated guidelines that provide a unified standard to facilitate mutual acceptance of clinical trial data among ICH member countries. This guideline emphasizes building quality into clinical trial designs, identifying factors critical to quality, and using a proportionate risk-based approach for interventional clinical trials.
- **Processes and Practices Applicable to Bioresearch Monitoring Inspections**. Contributed to the final guidance describing the processes and practices applicable to inspections of sites and facilities inspected under FDA's Bioresearch Monitoring inspection program, including covering the types of records and information required to be provided, best practices for inspection-related communication between FDA and industry, and requests for records or other information in advance of (or in lieu of) a BIMO inspection.

Innovation initiatives

Our efforts to spur innovation extended beyond policy development.
Key areas of focus include:

- **CDER Center for Clinical Trial Innovation (C3TI)**. Helped support the continued operation of this central hub that promotes innovative approaches to clinical trials designed to improve the efficiency of drug development.
- **Emerging Drug Safety Technology Program (EDSTP)**. Collaborated with CDER colleagues to continue this program focused on AI and other emerging technologies in pharmacovigilance, facilitating dialogue with industry to inform potential regulatory and policy approaches.

Engagement and publications

Our staff regularly present at conferences and contribute to the FDA's Clinical Investigator Training Course to clarify regulatory expectations for clinical trials. Key publications authored by our office include:

- McGuire, C., Sellers, J.W. & Muldowney, L. A 7-Year Analysis of the U.S. FDA Good Clinical Practice Inspection Outcomes for Marketing Applications. Ther Innov Regul Sci 59, 1421–1431 (2025). https://doi.org/10.1007/s43441-025-00835-6
- Grandinetti, C., Budwal-Jagait, M., Abid, H., Gebbia, E., Boley, E., Williams, L., Fisher, A., Marcus, L., Muldowney, L., Sellers, J., Wakelin-Smith, J. and Ayalew, K. (2026), Evolving Standards: Good Clinical Practice Insights from US FDA, MHRA UK, and Health Canada. Clin Pharmacol Ther. https://doi.org/10.1002/cpt.70120
- Ayalew, K., Sellers, J., Yang, L., Pham, H., Mwangi, W., Nguyen, P. & Thomas, M., (2025) "Assessment of the Scope and Geographic Distribution of the United States FDA's Good Clinical Practice (GCP) Inspections ", Journal of the Society for Clinical Data Management 5(3). doi: https://doi.org/10.47912/jscdm.437
- Geraci, J., Rao, P., Grandinetti, C., Qorri, B., Nadolny, P., Ayalew, K., Bregnhøj, L., Edwards, L., Hofmann, K., Khozin, S., Schaltenbrand, N., Stemmler, T., Yeomans, A., Zambas, D. & Khin, N., (2025) "Current Opportunities for the Integration and Use of Artificial Intelligence and Machine Learning in Clinical Trials: Good Clinical Practice Perspectives", Journal of the Society for Clinical Data Management 5(2). doi: https://doi.org/10.47912/jscdm.426
- Grandinetti, C., Rivera, D.R., Pai-Scherf, L. et al. Keeping the End in Mind: Reviewing U.S. FDA Inspections of Submissions including Real-World Data. Ther Innov Regul Sci 59, 956–962 (2025). https://doi.org/10.1007/s43441-025-00791-1

Drug Registration & Listing Oversight

We maintain and oversee the drug registration and listing system, including national drug codes (NDCs) used throughout FDA and the healthcare industry. Accurate and current registration and listing information is essential for patient safety and enables FDA to plan inspections, oversee recalls and import/export activities, monitor drug shortages, and maintain CDER's site and product catalogs. Healthcare systems also depend on this data for electronic prescribing, electronic health records, and reimbursement. We achieve compliance through our compliance program and engagement that promotes voluntary adherence to registration and listing requirements.

National drug codes

We are responsible for processing requests for NDCs. In 2025, our staff evaluated and processed 2,324 industry requests for labeler codes used in NDCs. NDCs serve as unique three-segment numeric identifiers that distinguish specific drug products by labeler, product, and package size, enabling precise tracking and identification throughout the pharmaceutical supply chain. These codes are essential for drug safety surveillance, supply chain management, and healthcare operations across the industry.

Engagement

In 2025, we answered more than 7,000 drug registration and listing questions from industry and issued annual registration reminders to all registered companies. We provide educational resources through the Drug Registration and Listing (eDRLS) Using CDER Direct Workshop to support voluntary compliance with registration and listing requirements.

Oversight and compliance

Our drug registration and listing oversight program works to prevent inaccurate data submissions, monitors data quality, requests corrections from manufacturers, and removes inaccurate data when corrections are not completed.

In 2025, our compliance efforts led to significant improvements in data quality. We inactivated more than 10,900 drug listings after companies failed to update their data or had listings associated with unregistered establishments. However, by notifying companies of potential noncompliance before inactivation, we prompted corrections to more than 5,000 drug listings. We also issued 241 data deficiency letters for inaccurate or incomplete submissions and three warning letters that included registration and listing violations.

Drug Manufacturing Facility Compliance Oversight

We help to ensure medications available in the U.S. are safe, effective, and high quality by overseeing compliance with the Act, including current good manufacturing practice (CGMP) requirements. All drugs manufactured for the U.S. market must meet the same rigorous quality standards, regardless of where they are produced. CGMP requirements establish multilayered processes, controls, and quality oversight to produce quality drugs and prevent, detect, and mitigate potential issues before harm occurs. We provide oversight through inspection reviews, inspection classifications, compliance actions including CGMP warning letters, and initiatives that assess adherence to manufacturing quality standards throughout the global pharmaceutical supply chain.

Inspection Classifications

We review and classify all drug manufacturing facility inspection reports where an FDA Form 483 was issued at the conclusion of an FDA inspection. This form is issued to drug facility management when an investigator observed conditions that may constitute violations of the Act.

FDA classifies inspections based on a facility's state of compliance with respect to CGMP requirements. The three classifications are:

- **No action indicated (NAI)** - No objectionable conditions or practices were found during the inspection
- **Voluntary action indicated (VAI)** – The inspection identified objectionable conditions or practices but the Agency has determined the facility can voluntarily correct its deficiencies and the Agency will not take or recommend regulatory and/or administrative action
- **Official action indicated (OAI**) - The facility is in an unacceptable state of compliance and regulatory and/or administrative actions are recommended.

In 2025, we issued 970 drug facility manufacturing inspection classification letters, meeting our 90-day classification timeline goals 96 percent of the time.

The FDA reorganization in October 2024 implemented a new compliance model that centralized voluntary action indicated (VAI) inspection classifications within CDER's Office of Compliance, replacing the previous district-based review system. The Office of Compliance continues to handle official action indicated (OAI) inspection classifications. We also established centralized points of contact for warning letter, Form FDA 483 responses, and consent decree monitoring activities, enabling coordinated oversight approaches across all drug manufacturing facilities.

Compliance Actions

In 2025, we issued more than 125 warning letters to drug manufacturers. While most CGMP warning letters were based on inspection findings, 15 were issued following section 704(a)(4) records requests, demonstrating our continued use of alternative oversight tools.

We added 76 firms to CGMP-related import alerts, with 55 additions driven by alternative oversight tools including evaluation of Section 704(a)(4) records requests, failure to respond to such requests, or FDA sampling and testing.

Regulatory guidance contributions and engagement

We developed or contributed to policy documents to advance manufacturing quality standards and clarify regulatory expectations for industry. Key contributions are noted below. For a full list, see Appendix B.

- **Post-warning letter meeting process.** Our office published a final guidance implementing Agency commitments from the Generic Drug User Fee Amendments (GDUFA III) authorization, related to how eligible facilities can request meetings with FDA regarding ongoing remediation efforts. The guidance includes detailed procedures for meeting requests, package preparation, and FDA conduct of post-warning letter meetings.
- **Considerations for complying with 21 CFR 211.110.** We helped with a draft guidance that describes considerations for complying with the requirements in 21 CFR 211.110 to ensure batch uniformity and drug product integrity. The guidance discusses related quality considerations for drug products that are manufactured using advanced manufacturing. It also discusses how manufacturers can incorporate process models into commercial manufacturing control strategies.
- **Medical gases current good manufacturing practice.** We contributed to a draft guidance to assist medical gas manufacturers in complying with CGMP regulations that became effective on December 18, 2025.
- **Remote regulatory assessments (RRA).** We contributed to a final guidance clarifying voluntary and mandatory RRA processes, helping industry understand the agency's use of alternative oversight tools.
- **Artificial intelligence considerations.** We contributed to a draft guidance that provides recommendations to sponsors and other interested parties on the use of artificial intelligence (AI) to produce information or data intended to support regulatory decision-making regarding safety, effectiveness, or quality for drugs.

Engagement

We prepared and presented three quality system training courses for Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme (PIC/S) inspectors. These courses are available online to PIC/S inspectors worldwide to support their oversight of drug manufacturers. We also regularly share inspection and compliance documents with our foreign regulatory counterparts.

For detailed, five-year quality trends and metrics related to certain drug manufacturing facilities, see the Report on the State of Pharmaceutical Quality published by CDER's Office of Pharmaceutical Quality.

Compounded Drug Oversight & Outreach

In 2025, FDA's compounding program continued to protect patients from poor-quality and misbranded compounded drugs while preserving access to lawfully marketed compounded medications for patients with medical needs.

Human drug compounding is generally a practice in which a licensed pharmacist or physician, or a person under the supervision of a licensed pharmacist in the case of an outsourcing facility, combines, mixes, or alters ingredients of a drug to create a medication tailored to the needs of an individual patient.

Compounded medications can serve an important medical need for certain patients. However, they may present a greater risk of harm to patients than approved medications because they do not undergo FDA premarket review for safety, effectiveness, and quality.

Training and engagement initiatives coordinated by the Compounding Quality Center of Excellence

FDA's Compounding Quality Center of Excellence aims to improve the quality of compounded drugs. The center supports outsourcing facilities' capacity to meet patient and provider needs for high quality drugs.

Key Compounding Quality Center of Excellence actions include:

- **Comprehensive education programs.** The center promoted compounded drug quality by providing 16 instructor-led trainings covering cleanrooms, data integrity, environmental monitoring, investigation and corrective and preventive action, process validation, quality management systems, sterile drug compounding, and visual inspection. These trainings demonstrate FDA's commitment to seeking voluntary compliance by educating compounding staff on preventing quality issues they can implement in their facilities.

- **Annual conference.** We convened the Compounding Quality Center of Excellence 2025 annual conference in August, bringing together stakeholders to discuss emerging trends, best practices, manufacturing requirements, outsourcing facility progress, and remaining industry challenges.
- **Outsourcing facilities discussion series.** We held several discussions with outsourcing facilities. Topics included: "Understanding Inspections" and "Managing Quality and Risk," among others. These discussions allowed participants an opportunity to hear from others in the industry and ask questions.

Compliance actions

We significantly increased regulatory activities in 2025 to address quality concerns and misleading direct-to-consumer advertising. We issued 72 compounding-related warning letters, a major increase from the previous year, with 58 letters addressing misbranded compounded drugs promoted through false or misleading advertising, such as by implying equivalence to FDA-approved products. We also issued five untitled letters to facilities that compound drugs, held six regulatory meetings with compounders, and oversaw recalls of compounded drugs.

Risk communication

We issue compounding risk alerts to inform healthcare professionals and compounders about risks associated with compounded drugs, which are not FDA-approved and lack FDA-approved labeling. After receiving adverse event reports, we alerted healthcare professionals and compounders to potential risks associated with compounded topical finasteride products. Consumers and healthcare providers reported adverse events, and consumers expressed they were unaware of the potential adverse events with use of topical finasteride.

Guidance and policy activities

We published an update to the categories of bulk drug substances nominated for use in compounding under Section 503B of the Act. We also issued two final guidance documents that describe FDA's policies regarding the use of bulk drug substances in compounding by outsourcing facilities and pharmacies while FDA develops the list of bulk drug substances that such facilities may use in compounding under the applicable section of the Act:

- Final Guidance for Industry: Interim Policy on Compounding Using Bulk Drug Substances Under Section 503B of the Federal Food, Drug, and Cosmetic Act
- Final Guidance for Industry: Interim Policy on Compounding Using Bulk Drug Substances Under Section 503A of the Federal Food, Drug, and Cosmetic Act

FDA does not intend to categorize bulk drug substances that the public nominates for inclusion on the bulks lists on or after the publication date of these guidance documents. These guidance documents provide regulatory clarity and support compliant compounding practices for outsourcing facilities and compounding pharmacies.

Drug Supply Chain Oversight

We protect the integrity of the U.S. drug distribution supply chain from manufacturer to dispenser, helping to ensure that safe, effective, and high-quality drugs reach patients while working to prevent harmful, ineffective, or poor-quality products from entering distribution. Although the U.S. drug supply chain is one of the safest in the world, it is also highly complex. Threats including counterfeiting, diversion, theft, and importation of falsified, unapproved, or poor-quality drugs pose ongoing public health risks. We protect patients through oversight of drug recalls, import and export compliance, and implementation of the Drug Supply Chain Security Act (DSCSA), which is designed to maintain security of the closed prescription drug distribution system established by federal and state laws.

Drug Supply Chain Security Act

The Drug Supply Chain Security Act protects consumers from counterfeit, stolen, contaminated, or otherwise harmful drugs by improving detection and removal of potentially unsafe products from the supply chain and enhancing distribution security.

In 2025, we actively monitored industry readiness, supported implementation, and employed strategic, risk-based compliance and enforcement actions to maintain drug availability while minimizing patient exposure to unsafe or ineffective drugs. Key actions include:

- **Targeted DSCSA implementation engagement.** We co-hosted three DSCSA implementation progress townhalls with the Partnership for DSCSA Governance (PDG) for trading partners and other interested parties. Each townhall was held approximately 60 days prior to the expiration of sector-specific exemptions described in FDA's Connected Trading Partners exemption, issued in October 2024, which provided eligible trading partners additional time to stabilize their operations to fully implement the enhanced distribution security requirements of DSCSA. These sector-specific forums enabled stakeholders to share updates

on DSCSA interoperability implementation and identify remaining challenges to achieving enhanced product tracing.

- **Stakeholder outreach.** We shared DSCSA implementation updates and regulatory perspective at national and intergovernmental forums, such as the National Association of Boards of Pharmacy executive officers monthly meeting and the Healthcare Distribution Alliance Traceability Summit.
- **Small dispensers assessment milestone.** We completed a key DSCSA implementation milestone by publishing the 30-Day Federal Register Notice (FRN) in November 2025, announcing FDA's submission of the statutorily required small dispenser assessment to the Office of Management Budget for review and approval. The small dispenser assessment will determine the feasibility of dispensers with 25 or fewer full-time pharmacy employees conducting interoperable, electronic tracing of product at the package level. This was the next step in advancing our statutory obligations to complete the assessment, issue a final report, and convene a public meeting to evaluate implementation feasibility, cost, and operational burdens of enhanced drug distribution security requirements.
- **Surveillance and compliance activities.** We conducted five for-cause DSCSA inspections, including the first medical spa inspection under FDA regulatory authority. We also worked with the Office of Inspections and Investigations (OII) to perform more than 50 DSCSA surveillance inspections alongside CGMP inspections. We issued mandatory records requests under section 704(a)(4) of the Act to two foreign facilities. We issued one warning letter and held three regulatory meetings regarding DSCSA violations.

Drug recall oversight

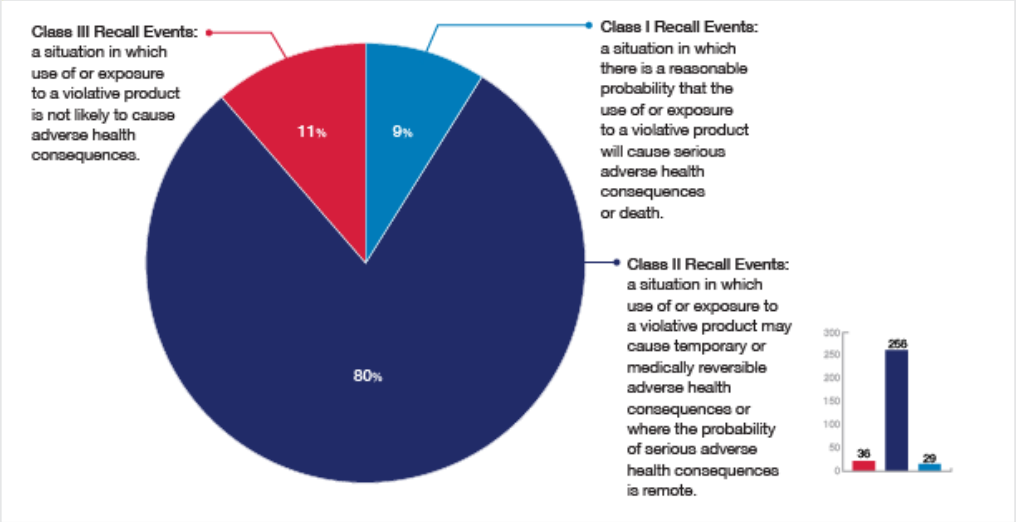
In 2025, we classified 321 recall events totaling 755 recalled products and worked with OII to oversee recall strategies and proper implementation.

FDA coordinates with drug manufacturers to recall unsafe, ineffective, or poor-quality drugs. Drug recalls are actions taken by companies to correct or remove products that violate U.S. laws and regulations. Generally, recalls may be initiated by a company or at the recommendation of the FDA.

Recalls protect the public from products that may cause injury, illness, or death. Between 2012 and 2025, more than 17,000 drug products were recalled.

The Agency maintains a database of all recalled medicines, including recall classifications and reasons for the recall.

GRAPHIC: Figure 2. Recalled human drug products by FDA recall classification, 2025



For detailed information about human drug recalls, see FDA's database of all recalled medicine and the Report on the State of Pharmaceutical Quality.

Oversight of importation of human drugs

FDA protects public health by working to help ensure medicines imported to the U.S. comply with requirements for quality, safety and effectiveness. All drugs manufactured for the U.S. market—whether produced domestically or abroad—must meet the same rigorous standards. We provide subject matter expertise to those inside and outside the Agency navigating the complex regulatory landscape of drug importation.

Key actions in 2025 include:

- Evaluating 388 pre-launch activities importation requests (PLAIR) for allowing importation of drugs near approval in preparation for market launch.
- Creating 26 new product codes that describe specific drugs and active pharmaceutical ingredients (APIs) to be used during import, inspections, and other FDA work.
- Providing subject matter expertise and timely responses to 409 inquiries related to human drug import compliance.

FDA uses import alerts to help stop companies and products that appear to violate FDA laws and regulations from entering the U.S., protecting American consumers from products with known or potential violations. In 2025, CDER worked with OII to make 250 import alert adjustments, such as by adding or removing companies and products. FDA also issued a green list import alert for APIs used in GLP-1 drugs.

Export compliance

We help facilitate global access to drugs that meet U.S. standards for safety and quality by leveraging tools such as electronic Certificate of Pharmaceutical Products (eCPPs). Upon request, for both approved and unapproved drugs exported from the U.S., we can provide information about an exported product's U.S. marketing status, registration and listing compliance, labeling compliance, and the manufacturer's compliance with quality manufacturing requirements. In 2025, we processed 8,705 eCPPs.

We also issue letters as part of FDA's GDUFA III commitments, called CGMP declarations, to foreign regulators to convey the CGMP compliance status of manufacturing facilities located in the United States. The status is based on FDA's most recent inspection. These declarations help reduce other regulatory authorities' need to reinspect facilities in the United States. In 2025, FDA received and completed 77 CGMP declaration requests to share the compliance status of drug manufacturing facilities with foreign regulatory bodies.

Importation program under Section 804 of the Act

FDA may authorize section 804 importation program (SIP) proposals from states or Indian tribes to import eligible prescription drugs from Canada if they demonstrate significant cost reductions for American consumers without additional public health risks. In 2025, we updated the public webpage and reduced burdens for states and tribes by streamlining the cost savings analysis process, providing input on acceptable static information for analyses, and holding informal meetings to assist states in developing proposals.

Global engagement

In August, we participated as the chair and champion for the global supply chain integrity priority work area steering committee meeting at the Asia-Pacific Economic Cooperation (APEC) Third Senior Officials' Meeting in Incheon, Korea. We engaged in sessions with international partners to advance our shared ability to prevent, detect, and respond to substandard and falsified medical products.

Unapproved & Misbranded Drug Oversight

We help protect consumers from the serious risks posed by unapproved and misbranded drugs. These products can cause unexpected harm and lead patients to delay or abandon proven, effective treatments. We use risk-based compliance actions to target products posing the greatest threats and to help protect patients and consumers from potentially unsafe drugs.

Consumer protection actions

In 2025, we issued targeted warning letters across multiple high-risk product categories to address serious public health threats. Key areas of focus include:

- **Fat-dissolving injections.** We issued six warning letters to companies marketing unapproved injectable products claiming to dissolve fat. FDA previously warned the public these products were linked to serious adverse events including scarring, skin infections, and cysts, particularly when administered by unlicensed personnel in med spas and clinics without proper medical oversight. These unapproved products, sold under various brand names online, have not been evaluated by the FDA for safety or effectiveness.
- **Unapproved ophthalmic products.** We issued 19 warning letters to companies marketing various kinds of unapproved ophthalmic products, including CBD eye drops, honey eye drops, and homeopathic eye drops. These products are especially concerning from a public health perspective because they bypass some of the body's natural defenses and pose serious risks, including vision loss and death.
- **Unapproved bodybuilding products.** We issued seven warning letters for illegally marketed bodybuilding products, including six warning letters to companies marketing selective androgen receptor modulators (SARMs) and one to a company selling a product that was found to contain the undeclared growth hormone secretagogue. These products pose risks to consumers because SARMs mimic testosterone's effects and pose serious cardiovascular and hepatic risks, including heart attack, stroke, and severe liver damage.

We have a webpage where we continue to communicate about the dangers of these products.

- **Hidden drug ingredients.** We took multifaceted action against risky products containing hidden drug ingredients. Our work included:
  - **Surveillance:** FDA conducts surveillance and analysis on select products to assess for hidden drug ingredients. If FDA laboratory analysis confirms the presence of hidden drug ingredients, we alert consumers and take compliance actions as appropriate. In 2025, we issued 35 public notifications posted to the web to warn the public about products containing hidden ingredients such as: corticosteroids, used for pain relief; sibutramine, a drug withdrawn from the market due to increased risks of heart attack and stroke; sildenafil, used for erectile dysfunction; and others. These hidden drug ingredients may pose serious risks to unsuspecting consumers. Additionally, we issued warning letters to certain companies involved in marketing these types of products.
  - **Protecting Vulnerable Children:** We were concerned about the risks to children posed by two "Agebox iKids" growth formulas marketed to those five and older. FDA lab analysis found these products contained ibutamoren, a growth hormone secretagogue not approved by the FDA. It is associated with potentially serious side effects, including fatigue, muscle pain, potential alterations in glucose metabolism and insulin sensitivity, and even may increase the potential for congestive heart failure in certain individuals. We took quick action by issuing public notifications about Agebox iKids Growth Night Formula and Agebox iKids Growth Day Formula and issuing a warning letter to the company.
  - **Public Education Campaign:** To empower consumers directly, we launched a "Don't be Influenced" public service announcement. The video campaign warns consumers that products promising rapid weight loss or sexual enhancement may contain hidden drug ingredients. We released 15-second and 30-second videos.
- **Unapproved drug products claiming to treat life-threatening conditions.** We issued five warning letters to companies marketing unapproved products claiming to treat measles, syphilis, tuberculosis, cancers, diabetes, and hepatitis. This compliance initiative was essential to protect vulnerable patients who might delay or forego proven, life-saving treatments in favor of these unproven alternatives with misleading claims.
- **Unapproved epinephrine nasal solution.** We issued a warning letter to a company distributing a nasal epinephrine product, in part because its packaging was identical to that used for injectable epinephrine products. This is concerning as health care professionals have confused these products with FDA-approved injectable epinephrine products for intravenous use. The letter was issued in conjunction with a warning to health care professionals that advised healthcare professionals to stop using certain epinephrine nasal solutions.
- **Over-the-counter sunscreen products marketed in unpermitted dosage forms.** We issued eight warning letters to companies offering for sale sunscreen products in dosage forms such as shampoos, body washes and mousses that are not permitted for products marketed under the over-the-counter sunscreen monograph. Sunscreen products in these dosage forms require an FDA-approved new drug application to be legally marketed. We sent these letters to help protect consumers from a risk of inadequate sun protection, and in one case, to help prevent accidental ingestion, as that company's products were provided in containers that resembled whipped cream containers.

- **Unapproved or misbranded non-prescription products sold or distributed by online marketplaces or sellers.** We continue to warn online marketplaces and third-party sellers for offering for sale unapproved and misbranded nonprescription drugs. In 2025, we issued five warning letters to online sellers for offering for sale unapproved injectable fat-dissolving products, external analgesic drug products and eye drops. These efforts highlight FDA's continued interest in surveilling online marketplaces to help ensure that violative products are not distributed to consumers.
- **Triclosan-containing consumer and healthcare antiseptic hand wash products.** We issued three warning letters to distributors of over-the-counter triclosan-containing consumer and healthcare personnel antiseptic hand wash products. We took this action after an FDA determination that these triclosan-containing products are not generally recognized as safe and effective (GRASE).
- **Ingestible fluoride prescription drug products.** FDA recommended restricting the sale of unapproved ingestible fluoride prescription drug products for children and notified four companies of the Agency's intent to take enforcement action against those marketing such products for children under three or older children at low or moderate risk for tooth decay. Unlike toothpaste with fluoride or fluoride rinses, these products are swallowed by infants and toddlers. FDA has not reviewed or approved these ingestible fluoride products for safety, effectiveness, or quality. Based on published scientific evaluation, the Agency concluded such products should not be used in children under three or older children not at high risk of tooth decay. FDA also sent a letter to healthcare professionals warning about the associated risks.

Streamlining Oversight Through Alternative Tools & Process Improvements

In 2025, the Office of Compliance implemented strategic operational efficiencies to enhance oversight and maximize impact, reflecting our commitment to continuous improvement and innovation.

We expanded remote regulatory assessments, including mandatory records requests under section 704(a)(4) of the Act, to quickly obtain information and improve inspection efficiency. These assessments have identified deficient practices, prompting regulatory actions, inspections, and improved inspection planning. When firms fail to respond adequately, we can issue warning letters or place companies and/or their products on import alert to prevent harmful products from entering the U.S. market.

We refined Drug Registration and Listing System oversight and screening procedures for new registrants to ensure accurate drug information throughout FDA and the healthcare system. Our ClinicalTrials.gov compliance program achieved high voluntary compliance rates.

The Office of Compliance has explored and provided resources to help advance FDA's artificial intelligence (AI) capabilities while maintaining appropriate safeguards and human oversight. We are supporting AI knowledge sharing by providing staff with opportunities to explore AI applications and emerging trends. Consistent with FDA's approach to AI, we are exploring how these tools can enhance efficiency while maintaining rigorous scientific and regulatory standards.

Conclusion

In 2025, the Office of Compliance achieved significant progress in strengthening drug safety and quality oversight through strategic compliance actions and engagement.

Our staff coordinated across our office and the Agency to address critical issues, including unapproved GLP-1 products, drug supply chain protections, clinical trial oversight, and manufacturing and labeling concerns.

We remain committed to proactive compliance strategies, risk-based enforcement, promoting voluntary compliance, and stakeholder engagement. Our team is poised to adapt to emerging drug quality and safety challenges. In 2026, we will continue to prioritize efficiency improvements and process refinements to support organizational excellence and unified decision-making.

Through these efforts, we will continue our mission to shield the public from poor-quality, unsafe, and ineffective drugs.

Appendix A: Office of Compliance Organization

Office of Compliance

Each office within the Office of Compliance specializes in a specific area of FDA's human drug oversight authorities under the Act. These offices work synergistically to ensure a multifaceted and cohesive compliance approach while addressing both persistent and emerging threats. Our oversight responsibilities span the entire drug lifecycle, including bioresearch monitoring, drug manufacturing, drug registration and listing, postmarket reporting, drug recalls, and incident response. We also oversee online pharmacies, counterfeit drugs, over-the-counter drug compliance, health fraud, compounding, import and export compliance, and various amendments to the Act.

Public health mission

To shield the public from poor-quality, unsafe and ineffective drugs through proactive compliance strategies and risk-based enforcement actions.

Vision

To be a model of efficiency, innovation and organizational excellence. Guided by law and science, we make strategic and risk-based decisions, communicate clearly with all stakeholders, foster global collaboration, promote voluntary compliance and take decisive action.

Organization

Immediate Office (IO)
The IO provides executive leadership, strategic direction, and guidance for high-profile and novel cases related to human drug oversight throughout the entire drug life cycle and supply chain. As the central point of contact for Agency and CDER leadership, the IO coordinates key human drug compliance actions, manages stakeholder issues, and responds to internal and external inquiries about the oversight of both legitimate and illegitimate human drug industries. The office employs risk-based approaches to address persistent quality issues and emerging challenges that could lead to potential public health crises.

Office of Compounding Quality and Compliance (OCQC)
Protects patients from poor-quality compounded drugs while preserving access to lawfully marketed compounded drugs for patients who have a medical need for them.

Office of Drug Security, Integrity, and Response (ODSIR)
Protects the integrity of the legitimate drug supply chain by minimizing consumer exposure to dangerous products marketed outside the legitimate supply chain.

Office of Manufacturing Quality (OMQ)
Evaluates compliance with manufacturing requirements for drugs.

Appendix A:
Office of Compliance Organization

Office of Program and Regulatory Operations (OPRO)
Leads and manages operational infrastructure for the Office of Compliance relating to project management, informatics, and process management.

Office of Scientific Investigations (OSI)
Ensures that CDER-regulated drugs and biologics are safe and effective for the life of the product, through oversight and enforcement activities involving the reliability of safety and efficacy data submitted to FDA, the application of human subject protection in clinical trials and certain post market safety requirements.

Office of Unapproved Drugs and Labeling Compliance (OUDLC)
Addresses unapproved and misbranded prescription and over-the-counter drugs. Provides oversight of drug registration and listing.

Appendix B: Compliance - Related Policies Published in 2025

This appendix lists compliance-related policies published in 2025. Documents marked with an asterisk (*) were initiated by CDER's Office of Compliance. Documents marked with a circumflex (^) were not initiated by CDER's Office of Compliance but included review and input by CDER's Office of Compliance. Documents may have been initiated by other CDER or FDA offices.

Clinical Trial Oversight and Bioresearch Monitoring

The CDER bioresearch monitoring program is designed to monitor the conduct and reporting of regulated research and to oversee a company's compliance with post-marketing requirements. We contributed to the development of the following policies:

- Considerations for the Use of Artificial Intelligence to Support Regulatory Decision-Making for Drugs and Biological Products, Draft Guidance^
- Institutional Review Board (IRB) Compliance Policy updates, Compliance Policy Update^
- Conducting Remote Regulatory Assessments Questions and Answers, Final Guidance^
- ICH E6(R3) Principles and Annex 1, Final Guidance^
- Processes and Practices Applicable to BIMO Inspections, Final Guidance^
- Sponsor Responsibilities – Safety Reporting Requirements and Safety Assessments for IND and BA/BE Studies, Final Guidance^
- Investigator Responsibilities – Safety Reporting for Investigational Drugs and Devices, Final Guidance^

Human Drug Manufacturing Facility Compliance

All drugs manufactured for the U.S. market must comply with drug quality requirements.

- Considerations for Complying with 21 CFR 211.110, Draft Guidance^
- Considerations for the Use of Artificial Intelligence to Support Regulatory Decision-Making for Drugs and Biological Products, Draft Guidance^
- Post-Warning Letter Meetings Under GDUFA, Final Guidance*
- Conducting Remote Regulatory Assessments Questions and Answers, Final Guidance^
- Medical Gases — Current Good Manufacturing Practice, Draft Guidance^

Appendix B: Compliance - Related Policies Published in 2025

Human Drug Compounding

FDA's compounding program aims to protect patients from poor-quality compounded drugs, while preserving access to lawfully marketed compounded drugs for patients who have a medical need for them.

- Interim Policy on Compounding Using Bulk Drug Substances Under Section 503A of the Federal Food, Drug, and Cosmetic Act, Final Guidance*
- Interim Policy on Compounding Using Bulk Drug Substances Under Section 503B of the Federal Food, Drug, and Cosmetic Act, Final Guidance*

Appendix C: Overview of Compliance Oversight and Advisory Tools

We use the following tools to promote prompt voluntary compliance with federal requirements and take action to address violations and protect patients and consumers from unsafe and poor-quality drugs.

Inspection Classifications[2]

After an inspection, FDA determines if the areas evaluated are in compliance with applicable laws and regulations.

Regulatory Meetings[2]

FDA may request meetings with companies to obtain information from a firm or to inform responsible individuals or firms about how one or more products, practices, processes, or other activities are considered to be in violation of the law. FDA is not required to hold a regulatory meeting and, except for a few specifically defined areas, is not required to provide any other form of prior notice prior to taking enforcement action.

Untitled Letters or Written Notifications of a Potential Violation2

FDA may issue untitled letters or written notifications for violations that may not meet the threshold of regulatory significance for a warning letter. These letters are not necessarily posted to FDA.gov.

Warning Letters[2]

FDA issues warning letters to notify a company or individuals of violations of the Act and recommend allocation of appropriate resources to promptly and fully correct the violations and prevent recurrence.

Drug Recalls

FDA oversees recall strategies, assesses company actions, and classifies recalls. A drug recall is typically a voluntary action taken by a company to remove a defective drug product from the market and warn patients and consumers about a potential risk.

Import Alerts[2]

FDA can place products and/or a company's products on an import alert after discovering a violation and then detain future shipments of the product without having to test or otherwise physically examine it. Import alerts help stop violative drugs from entering the U.S. market.

Clinical Investigator Disqualification Proceedings

In certain situations where FDA alleges a clinical investigator has violated applicable regulations, FDA may initiate a clinical investigator disqualification proceeding.

Public Statements[2]

When FDA becomes aware of drugs that may present a safety hazard or other health risk to consumers, we may issue a statement, such as a press release or an alert, to notify health care practitioners and patients regarding such drugs as part of our public health mission.

Guidance and Policy

FDA may publish guidance documents that represent the Agency's current thinking on a particular subject. They do not create or confer any rights for or on any person and do not operate to bind FDA or industry.

2 Does not constitute a final agency action.

U.S. FOOD & DRUG ADMINISTRATION

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