United States Government Accountability Office

Report to the Chairman, Subcommittee on Intellectual Property, Committee on the Judiciary, U.S. Senate

April 2025

INTELLECTUAL PROPERTY

Patent Office Should Strengthen Its Efforts to Address Persistent Examination and Quality Challenges

On September 30, 2025, GAO reposted this report to include comments from the U.S. Patent and Trademark Office in Appendix V.

GAO-25-107218

April 2025

INTELLECTUAL PROPERTY

Patent Office Should Strengthen Its Efforts to Address Persistent Examination and Quality Challenges

GAO Highlights

Highlights of GAO-25-107218, a report to the Chairman, Subcommittee on Intellectual Property, Committee on the Judiciary, U.S. Senate

Why GAO Did This Study

The U.S. patent system helps encourage innovation by allowing patent owners to generally exclude others from making or using a patented invention for up to 20 years. The USPTO employed 8,944 patent examiners at the end of fiscal year 2024 who review patent applications to determine if the inventions merit a patent. In fiscal year 2024, the USPTO received approximately 527,000 new patent applications and granted about 365,000 patents. Examiners search U.S. and foreign patents and scientific journals to determine if an application complies with statutory patentability requirements (eligible subject matter, novelty, nonobviousness, and clear disclosure). Pressure for examiners to review applications in a timely manner competes with pressure to issue quality patents that meet statutory patentability requirements.

Some researchers say that patent invalidation rates in the courts suggest that patent quality may be lower than what USPTO's quality metrics indicate. For example, according to one study, about 40 percent of litigated patents are found invalid, although these patents might not be representative of all patents. Patents that do not meet statutory patentability requirements can inhibit innovation or create costly legal disputes for patent owners and technology users.

GAO has previously reported on patent examination and quality challenges in GAO-16-490 and GAO-16-479.

GAO was asked to review issues related to patent examination and quality. This report (1) examines challenges that patent examiners face that could affect the quality of issued patents; (2) assesses initiatives the USPTO has taken to improve patent quality, including pilot programs, and the extent to which the agency has

What GAO Found

GAO conducted focus groups with nearly 50 patent examiners from the United States Patent and Trademark Office (USPTO) where they told GAO that they prioritize examination output (i.e., the number of patent applications reviewed) over the quality of the review. The examiners said that the USPTO focuses more on the volume of work completed, which can affect the thoroughness of examinations. This focus on output has persisted since GAO's review in 2016. Examiners cited a variety of challenges in patent examination, including time pressures, and noted that patent applications have become more complex (see table). Challenges identified by examiners in GAO's focus groups were also reported in USPTO's bi-annual examiner surveys.

Selected Examination Challenges Described by USPTO Patent Examiners

Time Limitations	
	• Not enough time to review applications • Difficult to get additional time for examination when needed • Examiners sometimes use unpaid personal time to meet their output expectations
Application Complexity	
	• Patent examination has become more complex as technology has advanced and legal requirements have evolved • Patent applications are lengthy, complicated, and often involve multiple technologies
Technology and Training	
	• Examiners want trainings that are more targeted to their specific technology areas • Examiners are sometimes assigned applications outside their areas of expertise due to issues with the classification and routing system

Source: GAO presentation of U.S. Patent and Trademark Office information; GAO (icons). | GAO-25-107218

The USPTO has undertaken several initiatives to address examination challenges and improve patent quality, but it has generally not effectively planned or assessed these initiatives. For example, in fiscal year 2021, the USPTO changed patent examiner performance appraisals to put more emphasis on patent quality but did not evaluate whether this improved patent quality.

In addition, the USPTO uses pilot programs to develop and test changes to the examination process. However, the USPTO's implementation of pilot programs is inconsistent, and the agency is missing opportunities to inform future pilots. The agency lacks a formalized structure for the creation and oversight of these programs. GAO found that the USPTO's pilot programs do not consistently follow leading practices for effective pilot program design. For example, GAO found

measured the effectiveness of those initiatives; (3) evaluates how the USPTO assesses patent quality and examiner performance regarding quality; and (4) assesses how the USPTO communicates patent quality externally.

To conduct this review, GAO

- interviewed agency officials and held six focus groups with nearly 50 randomly selected patent examiners representing nearly all technology areas;
- reviewed USPTO documentation on performance reviews and patent quality initiatives among other things;
- analyzed the USPTO's Office of Patent Quality Assurance metrics, policies, and data;
- collected data and information on patent pilot programs;
- assessed USPTO pilot programs against leading practices for effective pilot programs; and
- examined USPTO's patent metrics and literature on alternative indicators of patent value.

What GAO Recommends

GAO is making eight recommendations to the USPTO, including that it

- take steps to evaluate ongoing initiatives related to patent examination challenges;
- formalize and document its approach for managing pilot programs;
- update guidance to address limitations in its supervisory quality reviews;
- establish and communicate an overall patent quality compliance goal; and
- assess and adopt alternative measures of the economic or scientific value of patents.

View GAO-25-107218. For more information, contact Candice N. Wright at wrightc@gao.gov

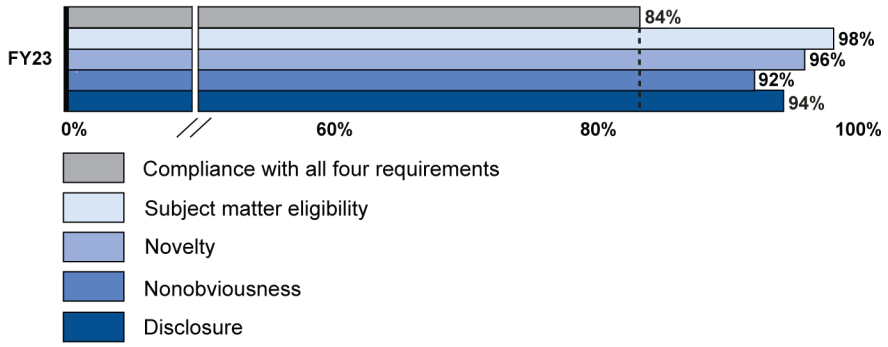
that seven of the 14 pilot programs did not evaluate outcomes to inform decisions about scalability and when to integrate the pilots into overall efforts.

The USPTO evaluates examiner performance in several ways, including supervisory quality reviews. GAO found that these reviews likely overstate examiners' true adherence to quality standards and may not encourage examiners to consistently perform high-quality examination. GAO identified several limitations in how the USPTO measures examiner performance:

- Supervisors are not required to use sound selection methods, such as random selection, for the work they review for quality.
- Supervisors can exclude some identified errors from examiner performance evaluations.
- Examiners can receive a passing quality score when all their reviewed work includes errors.

The USPTO measures compliance with each of the four statutory patentability requirements individually (see figure). However, the agency does not have a patent quality goal for the share of patents that should comply with all four requirements at once. According to data the USPTO presented for fiscal year 2023, compliance rates for each of the four statutory patentability requirements ranged from 92 percent to 98 percent, while the percentage of patents simultaneously compliant with all four requirements was 84 percent. By communicating an overall quality goal, the USPTO would provide stakeholders with a more accurate representation of patent quality.

USPTO Compliance Rates with Statutory Patentability Requirements



Source: USPTO. | GAO-25-107218

While the USPTO has several measures of patent quality and examination timeliness, it has not tracked or communicated indicators that measure the economic or scientific value of patents, despite having a strategic goal to measure innovation. GAO identified potentially relevant indicators of value in a review of the literature, including how often patents are cited by other patents. Assessing and adopting measures of the economic or scientific value of patents would better position the USPTO to educate and inform Congress, federal agencies, and stakeholders about key trends in innovation across various sectors of the economy, and act on meaningful changes.

Contents

Tables

Figures

Abbreviations

AI	artificial intelligence
Commerce OIG	Department of Commerce Office of Inspector General
IDS	Information Disclosure Statement
OPQA	Office of Patent Quality Assurance
PICB	Patent Internal Control Board
PTAB	Patent Trial and Appeal Board
R&D Unit	Research and Development Unit
USPTO	United States Patent and Trademark Office

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

April 30, 2025

The Honorable Thom Tillis
Chairman
Subcommittee on Intellectual Property
Committee on the Judiciary
United States Senate

Dear Chairman Tillis:

Patents are important engines of innovation and economic growth. The United States Patent and Trademark Office (USPTO) estimated that in 2019 intellectual property–intensive industries such as electronics and pharmaceuticals support 63 million jobs in the U.S. and contribute $7.8 trillion annually—or 41 percent—to the nation's gross domestic product.[1]

The U.S. patent system—rooted in the U.S. Constitution—aims, in part, to make innovation more profitable.[2] For example, a patent owner can generally exclude others from making, using, selling, or importing the patented technology for up to 20 years. By restricting competition, patents can allow their owners to earn greater profits on their patented technologies than they could earn if these technologies could be freely imitated. Also, the exclusive rights provided by patents can help their owners recoup their research and development costs. On the other hand, any reduction in competition caused by the exclusive nature of patents may result in higher prices for products that use patented technologies. The patent system, therefore, gives rise to complex trade-offs involving innovation and competition. The protection provided by patents, however, is generally understood to ultimately benefit the public through new products and services.

[1]This estimate includes patents, trademarks, and copyrights—three types of intellectual property. USPTO, *Intellectual property and the U.S. economy*, 3rd ed. (2022). Available at https://www.uspto.gov/ip-policy/economic-research/intellectual-property-and-us-economy.

[2]The Constitution grants to Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. Const., art. I, § 8, cl. 8. Because a patent expires after a fixed period, patent law also "ultimately provid[es] the public with the benefit of lower price through unfettered competition." *Biotechnology Indus. Org. v. District of Columbia*, 496 F.3d 1362, 1373 (Fed. Cir. 2007) (stating that "these two objectives—to reward innovators with higher profits and to keep prices reasonable for consumers—are in dialectic tension)."

The U.S. Patent and Trademark Office (USPTO) has stated that a quality patent is one that is correctly issued in compliance with the statutory patentability requirements—that an invention is novel, useful, nonobvious, clearly disclosed, and directed at patentable subject matter—and relevant case law at the time of issuance.[3] The USPTO has faced longstanding questions about the quality of patents it issues. For example, we found in 2013 that some stakeholders, including technology companies, judges, and legal scholars, said that some USPTO patents are not high quality, and it should not have issued some patents because they believed these patents did not meet all of the legal standards required.[4]

Although the USPTO uses internal measures of patent quality to track compliance with patentability requirements during the period of examination, some commentators say that patent invalidation rates in the courts suggest that patent quality may be lower than the USPTO's quality metrics indicate. For example, according to one study, about 40 percent of patents that are challenged in federal courts are found invalid.[5] Although the number of patents that are later challenged is small and may not be representative of all granted patents, these challenges can negatively affect public perception of patent quality, according to the USPTO.[6]

[3]35 U.S.C. § 101 states that, to be eligible for a patent, a claimed invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Section 102 states that the claimed invention must be novel to be entitled to patent, and section 103 states that the claimed invention must not be obvious—based on existing patents and applications in the United States and abroad, and nonpatent literature, such as scientific articles—to "a person having ordinary skill in the art to which the claimed invention pertains." Section 112 states that a patent application "shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use [the invention]."

[4]See GAO, *Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality*, GAO-13-465 (Washington, D.C.: Aug. 22, 2013).

[5]According to data from Unified Patents, about 3,900 patent lawsuits were filed in district courts in 2024. See Allison, John R. and Lemley, Mark A. and Schwartz, David L., *Our Divided Patent System* (2015). University of Chicago Law Review, Vol. 82, pp. 1073-1154 (2015), Stanford Public Law Working Paper No. 2510004, Chicago-Kent College of Law Research Paper No. 2014-28, Available at SSRN: https://ssrn.com/abstract=2510004.

[6]The USPTO noted that weaker patents may be challenged in court at a higher rate because accused infringers often decide to license stronger patents rather than challenge them in court.

According to academic researchers, patents that do not meet the patentability requirements can impose significant costs on society. For example, low quality patents can force businesses to pay to use patented technology that may not meet patentability requirements. Further, settling a patent dispute in the federal courts can be expensive.

Inventors are more likely to engage in costly patent litigation when the USPTO issues patents that do not fully comply with patent law. Patent experts and practitioners have also questioned whether patent examiners, and the USPTO as a whole, have greater incentives to issue a patent than to reject one—regardless of the quality of the application. The USPTO has acknowledged the need to focus additional attention on patent quality. In 2014, the USPTO's deputy director stated an increased focus on patent quality would play a significant role in curtailing patent litigation.[7] In this report, we refer to high quality patents as those that fully meet federal patentability standards.[8]

You asked us to review various issues related to patent examination and quality at the USPTO. Specifically, this report (1) examines challenges that USPTO patent examiners face that could affect the quality of issued patents; (2) assesses initiatives the USPTO has taken to improve patent quality, including pilot programs, and the extent to which the agency has measured the effectiveness of those initiatives; (3) evaluates how the USPTO assesses patent quality and examiner performance regarding quality; and (4) assesses how the USPTO communicates patent quality externally.

We reviewed USPTO documentation related to patent examination and patent quality and interviewed agency officials, patent scholars, and practitioners. For objective 1, we convened six focus groups with nearly 50 patent examiners. The examiners were randomly selected and grouped by experience level and technology center. A trained GAO facilitator guided the discussions using a standardized list of questions to identify and understand examiners' perspectives on patent quality and examination. Additionally, we reviewed the results of the USPTO's

[7]According to USPTO officials, the causes of patent litigation have evolved and indicate that there are multiple causes for the volume of litigation. U.S. Department of Commerce, Office of Inspector General. *U.S. Patent and Trademark Office: USPTO Needs to Strengthen Patent Quality Assurance Practices,* Final Report No. OIG-15-026-A (Apr. 10, 2015).

[8]These legal standards and the judicial interpretation of them could change after a patent has been granted.

Internal Quality Perception surveys of patent examiners from fiscal years 2021 to mid-2024.[9]

For objective 2, we assessed USPTO pilot programs against GAO's leading practices for effective pilot programs and federal standards for internal control. Furthermore, we assessed the USPTO's internal oversight board and agency initiatives against key practices for evidence-based policymaking.[10]

For objective 3, we analyzed patent quality metrics, policies regarding quality reviews, and quality review data from the USPTO's primary quality assurance body, the Office of Patent Quality Assurance (OPQA). We also reviewed USPTO practices for assessing patent examination quality.

For objective 4, we examined the USPTO's patent metrics and conducted a literature review on alternative indicators of patent value. We evaluated the USPTO's efforts against federal internal control standards and the USPTO's strategic goals. Appendix I provides more information on our objectives, scope, and methodology.

We conducted this performance audit from December 2023 to April 2025 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Patent Applications and Patent Examiners

In fiscal year 2024, the USPTO received approximately 527,000 new patent applications and granted about 365,000 patents—which can include some applications received in the preceding years. A patent

[9]The USPTO conducts Internal Quality Perception surveys of patent examiners twice each fiscal year to assess satisfaction with topics such as patent examination tools, training, coaching, and mentoring. According to the USPTO, the survey is administered to a representative sample of more than 700 randomly selected patent examiners, covering all technology areas and seniority levels.

[10]GAO, *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, GAO-23-105460 (Washington, D.C.: July 12, 2023); GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington D.C.: Sept. 10, 2014).

application includes certain key elements, particularly the specification and the claims. The specification includes a written description of the invention and the process to make and use it, while the claims define the boundaries and breadth of the patent. Applications can also include an abstract, drawings, and an information disclosure statement with references to prior art. Prior art refers to information, including other issued patents, patent applications, or technical literature such as scientific or technical books and journals.

The USPTO employed 8,944 patent examiners at the end of fiscal year 2024 who review applications to determine whether the claimed inventions merit a patent or whether the application should be rejected, among other things. Patent examiners are grouped into nine distinct technology centers that are focused on specific scientific or technical areas, such as electrical, chemical, and mechanical technology fields. Technology centers are further divided into art units, which are groups of patent examiners who specialize in a specific technology. For example, the art unit for electrical circuits and systems is housed within a technology center focused on electrical systems.

Patent examiners span a wide range of experience levels. Examiners are skilled engineers, scientists, and technology professionals. An examiner's authority expands with each promotion. Examiners are held responsible for the quality of the steps corresponding to their respective seniority level but, regardless of seniority, are expected to complete all steps of the examination process. Patent examiners are hired as junior examiners. They move from junior to primary examiners after successfully completing a program to obtain signatory authority. While junior examiners must have their work reviewed and approved by a primary examiner before issuance, signatory authority permits primary examiners to sign off on their own work. However, primary examiners still have a sample of their work reviewed by their supervisor for performance evaluation purposes.

Patent Application and Examination Process

When a patent application is submitted, the USPTO reviews it to ensure all parts of the application are complete and then contractors classify it by technology type. Patent classification routes each application to an examiner with the appropriate technical expertise to review the application material. Classification allows examiners to identify relevant information more easily when conducting prior art searches by organizing patents into specific technology groupings based on common subject matter. Examiners spend a large percentage of their allocated examination time searching existing patents and applications in the U.S. and abroad, scientific journals or other prior art to determine if the

application meets the patentability requirements for a patent and thus help ensure the validity of granted patents.[11]

After their first review, a patent examiner issues a first office action to notify the applicant of the results of the initial review. If rejected, the applicant may amend their application or provide a response supporting patentability, which would prompt the examiner to complete a second review and issue a final decision to approve or reject the claims.[12] If the claims are rejected, the applicant may file for additional examinations. If a patent is to be granted, the USPTO issues the patent to the applicant once certain fees are paid. The patent can generally remain in effect for up to 20 years from the date on which the application for the patent was filed.

All office actions are reviewed for compliance with patentability requirements and require signature by primary examiners. Further, OPQA reviews a subset of first and final decisions after the examiner's work is complete to ensure compliance. Applicants and others can appeal an examiner's decisions—including issued patents—before the USPTO's Patent Trial and Appeal Board (PTAB), such as through an appeal or a trial after the patent has been granted. USPTO decisions may also be challenged in federal courts. Appendix II provides a general overview of the patent examination process.

USPTO Patent Examination Time and Output

The timely issuance of high quality patents by examiners is critical to providing businesses and entrepreneurs the certainty they need to invest in, develop, and launch innovative new products and services. To ensure decisions on patent application are made in a timely manner, the USPTO establishes overall output goals for examiners, which determine the volume of work an examiner must complete to meet their output performance expectations.[13] An examiner's output goal is calculated based on their seniority level, the technological complexity of the applications they review, and the number of hours they spend on examination activities. More senior examiners have higher output goals and are expected to conduct their examinations more quickly compared

[11]The amount of time allocated for an examiner to review a patent application is dependent on a variety of factors as discussed later in this report.

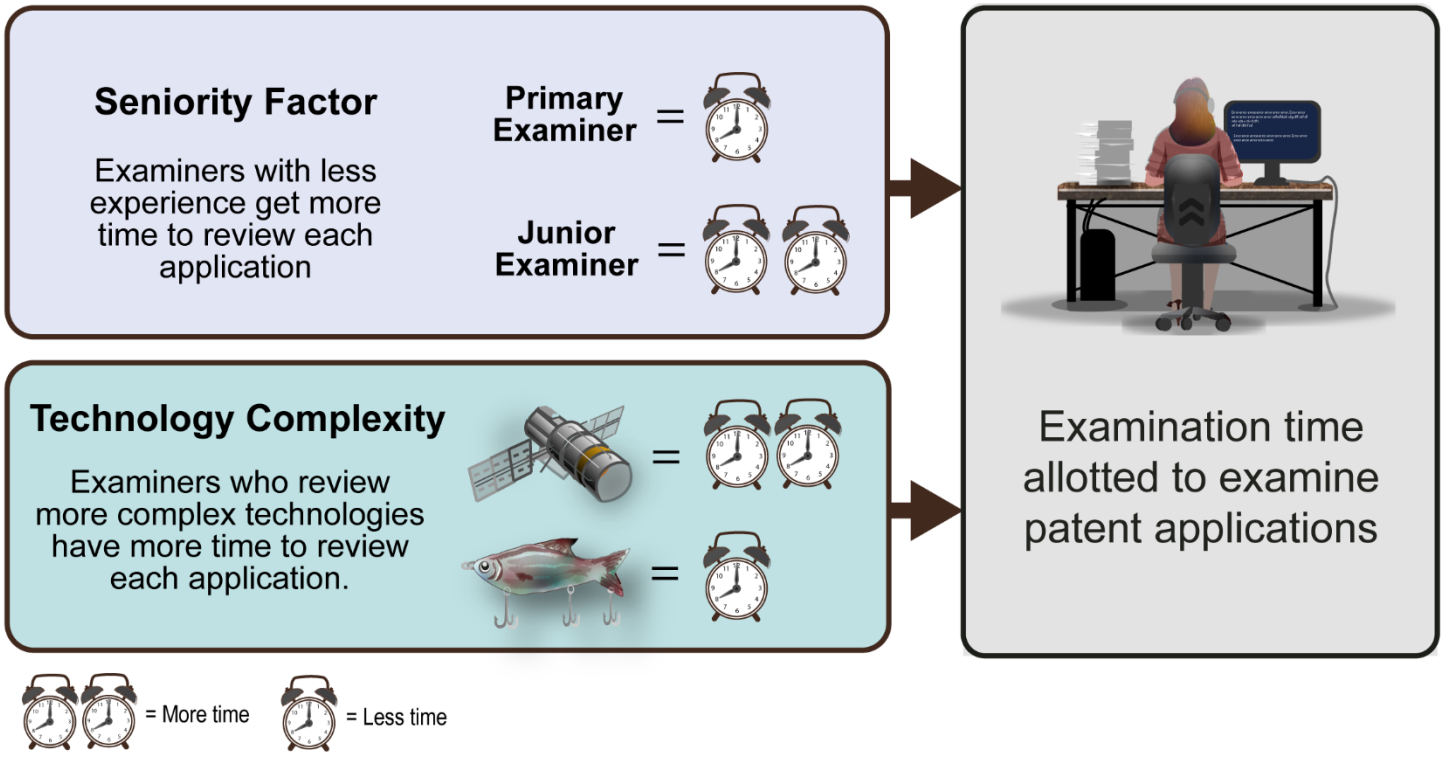
[12]An applicant whose claims have been rejected after a final decision may appeal the decision of the examiner to the Patent Trial and Appeal Board.

[13]In this report, we use the term "output" in place of the USPTO term "production," which refers to the amount of work examiners complete.

to examiners with less experience. Examiners working with more complex technology are given more time to complete their work than examiners reviewing applications with less complex technology. Lastly, examiners are expected to complete less work, and, thus, have lower output goals when they take vacation or participate in training or other non-examination activities.

The USPTO uses similar factors to determine the number of hours examiners are expected to spend reviewing each application. The USPTO allots a certain number of hours for each examiner to review an application based on the examiner's seniority level and the technological complexity of the application (see fig. 1). For example, one examiner may be allotted 16.6 hours to complete examination for a patent application related to fishing lures, a less complex technology. However, the same examiner may be allotted 27.7 hours to complete an application related to satellite communication due to the higher level of technological complexity. Examiners with less experience get more time to complete their reviews. For example, a junior examiner may be allotted 30.2 hours to review a patent application related to fishing lures, more than double the amount of time an examiner at the highest level of seniority would receive to examine the same application.

Figure 1: Factors Affecting the Time Allotted to Examine a Patent Application



Source: USPTO. | GAO-25-107218

The USPTO measures examiners' output using units called counts. Examiners achieve counts by completing specific tasks. For example, each examination includes a first office action in which the examiner explains their decision whether to grant a patent. The first office action is worth 1.25 counts. Other activities that occur later in the examination process, such as a second office action after the examiner has received and reviewed the applicant's response to the initial office action, are worth up to 0.5 counts. The USPTO's count system gives patent examiners incentive to spend more time on initial examination activities, which earn more counts and contribute more toward achieving examiners' output goals. The USPTO generally incentivizes examiners to spend less time on later stages of the examination process, regardless of the volume of material to be reviewed in response to the examiner's initial office action.

USPTO Patent Examination Quality

The USPTO defines a quality patent as one that is statutorily compliant. To meet quality standards, examiners determine if a patent application meets each of the applicable statutory patentability requirements. Table 1

provides an overview of the statutes that patents must comply with to meet quality standards. While the USPTO uses these statutory categories for quality metrics reporting, other standards, such as applying agency case law guidance, contribute to quality standards.

Table 1: Selected Statutory Patent Requirements

Patent requirement	Statutory source	Description
Patentable subject matter	35 U.S.C. §101	This provision contains implicit exceptions to what may be patented. Specifically, laws of nature, natural phenomena, and abstract ideas are not patentable.
Novelty	35 U.S.C. §102	Under this provision, a patent applicant may not receive a patent on an invention that is not new. Examiners refer to prior patent and non-patent materials, known as prior art, to determine novelty.
Nonobviousness	35 U.S.C. §103	This provision prohibits applicants from receiving a patent on an invention that is an obvious extension of a previous innovation. Examiners must consider the differences between the prior art and the claimed invention, among other factors, to determine if an application meets this requirement.
Clear disclosure	35 U.S.C. §112	A patent application must contain a thorough and clear description of the invention and set out the claims for which a patent is sought. This section sets forth the minimum requirements for the quality and quantity of information that must be contained in a patent application.

Source: GAO analysis of statutory patent requirements. | GAO-25-107218

To determine compliance with these statutes, examiners must search through prior art to determine if an invention is novel and nonobvious, which is a time-intensive process that can take about half of the 20 hours that examiners have on average for each application. Pressure to complete timely application reviews competes with pressure to issue quality patents. The USPTO balances the time allocated for prior art search and thorough examination with the need for timely examination of and decisions about claimed inventions.

The USPTO has three primary mechanisms for measuring patent and examination quality including

- **Supervisory quality reviews.** USPTO guidance calls for supervisors to conduct at least two supervisory quality reviews each quarter for each examiner they oversee (about 6 percent of total office actions issued). In these reviews, supervisors review patent examination decisions made by the examiners they oversee to identify whether the examiner made a “clear error” or mistake during the review of a patent application. Supervisory quality reviews differ by seniority level. For examiners who are grade GS-12 and above, quality is determined in part by calculating an “error rate” for each examiner. The error rate is

determined by dividing the number of supervisory quality reviews that identify a "clear error" by the total number of office actions issued by the examiner during the fiscal year. The error rate is not used for quality evaluation for junior examiners at grade GS-11 and below as their work is reviewed and approved by primary examiners. Once the examiner responds to supervisory comments, actions are reviewed for compliance with USPTO requirements, including statutory compliance. The results of supervisory reviews are used to provide feedback to examiners and inform their performance ratings.

- **Quality assurance reviews.** Within the USPTO, OPQA conducts independent quality reviews of an examiner's completed work to determine compliance with the statutory patentability requirements. Quality assurance specialists review a random selection of completed office actions. OPQA assesses other aspects of patent examination, such as the completeness and quality of prior art search. The results of these reviews provide insights about compliance trends within and across technology centers.
- **OPQA data integrity reviews.** For these reviews, OPQA assesses whether its quality assurance specialists are consistent in their reviews of examiners' work, including their application of quality assurance standards to reach decisions on whether an examiner's work met quality standards.

Over the last decade, GAO and Commerce OIG have highlighted challenges affecting the USPTO's ability to conduct thorough and complete patent examinations. For example, in June 2016, GAO found that the USPTO did not have a consistent definition of patent quality, the USPTO had not fully developed specific performance measures to assess progress toward patent quality goals, and patent examiners reported not having enough time to conduct a thorough patent examination, among other findings.[14] In December 2021, Commerce OIG found, among other things, that the USPTO's quality review practices may not provide an

[14]GAO, *Intellectual Property: Patent Office Should Define Quality, Reassess Incentives, and Improve Clarity*, GAO-16-490 (Washington, D.C.: June 30, 2016). The USPTO implemented GAO's recommendations. Specifically, the USPTO developed statutory compliance goals that are calculated using data from patent quality reviews. The USPTO also increased the time available for examination for certain technology areas as of March 2018.

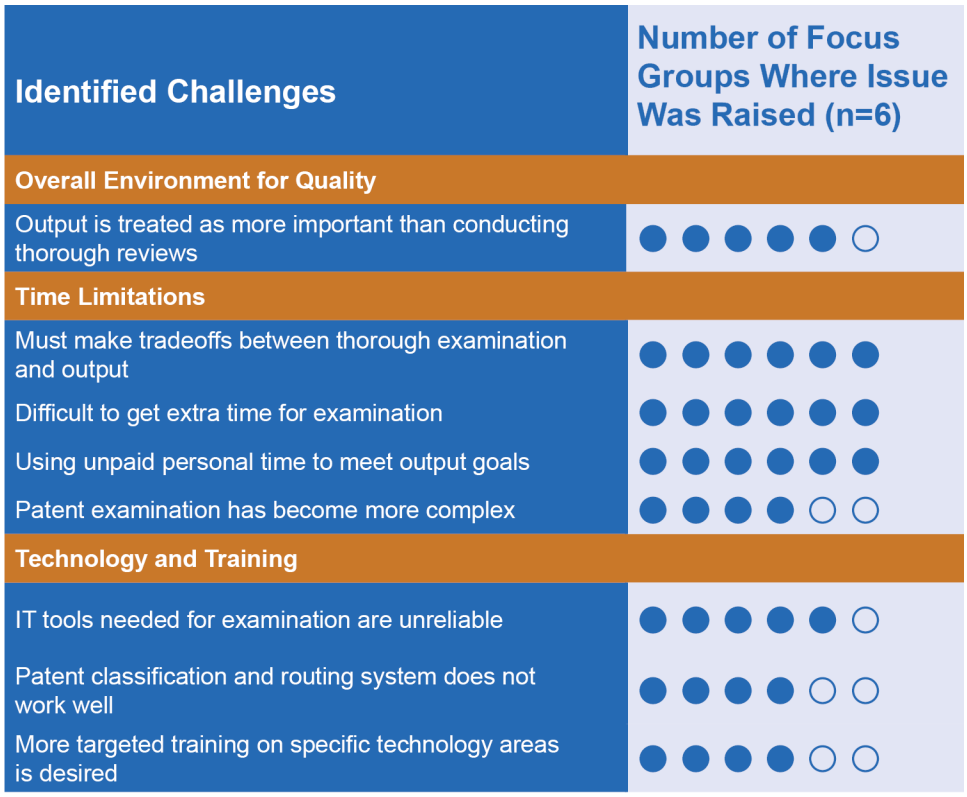
accurate measure of patent examination quality and that the agency lacked the means to control or measure examination consistency.[15]

Patent Examiners Cited Persistent Challenges Regarding Patent Examination and Quality

USPTO examiners face a variety of challenges during patent examination that can affect the thoroughness of patent examination and, in turn, the quality of patents issued by the USPTO. To understand the challenges patent examiners face, we conducted six focus groups with patent examiners and reviewed examiner surveys conducted by the USPTO. Examiners in our focus groups said there was generally more emphasis on examining a large quantity of patents than ensuring the quality of issued patents, a condition which has persisted since GAO's review in 2016. As shown in figure 2, examiners also identified specific challenges related to time pressures to sufficiently review patent applications and limitations with training and technology.

[15]OIG-22-010-I, *USPTO Has Opportunities to Improve its Patent Examination Process and to Advance Patent Decision-Making*; December 2, 2021. The OIG recommended that the USPTO measure the effectiveness of the OPQA process and targets and take actions to remedy shortcomings, establish regular monitoring of consistency in examination decisions by randomly selecting applications for parallel examination, and establish a quality control oversight body to create an internal control system, among other recommendations. The USPTO has taken steps to implement these recommendations, such as establishing the Patent Internal Control Board.

Figure 2: Challenges Cited by Patent Examiners



Source: GAO analysis of USPTO information. | GAO-25-107218

Examiners Said That the USPTO Emphasizes Output Over Quality

Examiners expressed that the USPTO places greater emphasis on meeting output goals for the number of applications reviewed over issuing quality patents. USPTO staff "at the management and supervisor levels are more concerned about [output] than quality," according to the fiscal year 2023 quarter 4 USPTO examiner survey.[16] In 2014, a former USPTO official stated in testimony before two congressional committees that "there was a saying during my tenure at [the USPTO] that a patent examiner never got fired for doing bad quality work, as long as they did a

[16]USPTO, Internal Quality Surveys Fiscal Year 2021 to 2024: Key Findings, (Washington, DC: May 2021 to 2024).

lot of it."[17] Ten years since this testimony, this sentiment was shared across most of our examiner focus groups.

Examiners in our focus groups also highlighted that this emphasis on output is formalized in financial incentives—such as bonuses—that examiners receive for meeting or exceeding their output and timeliness expectations. There are no similar incentives for achieving quality goals. In 2016, GAO found a similar emphasis on examination output and recommended the USPTO analyze how performance incentives affect the extent to which examiners perform thorough patent examinations.[18] The USPTO implemented the recommendation although the focus on output over quality persists according to examiners.[19]

Examiner Perspectives on Output Goals and Incentives for Meeting Quality Standards

"[Output] is the name of the game. The quality should be good enough and [output] should be as high as possible."

"Incentives are based around [output] almost exclusively. There are no awards or incentives for quality. It's all about the quantity and throughput. You can get dinged for quality and be [fine], but if you don't meet [output] you are gone from the job."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

Examiners Have Limited Time to Meet Quality Standards and Output Goals

Examiners in our focus groups noted time pressures as a central challenge to completing thorough examination of patent applications to ensure they meet patentability requirements, USPTO guidance, and case law while also meeting output goals.

Time Constraints Hinder Thoroughness of Prior Art Search. Examiners in all six focus groups said they aim to produce work that meets quality standards in the time they are given; however, in most of our focus groups, examiners noted they often do not complete a thorough search of prior art due to time constraints. Approximately 40 percent of examiners' time is spent conducting searches of prior art—existing patents and other scientific literature—which examiners review to

[17]The testimony was provided before the House Committee on the Judiciary and House Committee on Oversight and Government Reform.

[18]GAO-16-490.

[19]In response to our recommendation in GAO-16-490, the USPTO conducted several analyses on how performance incentives affect the thoroughness of examinations, including an analysis of examiners' output in the last weeks of a quarter to determine whether examiners are meeting an output threshold for a performance award, but working so quickly that the patents approved are of a lower quality.

determine if a patent is novel and nonobvious. Examiners in some of our focus groups shared that they could likely find prior art that is more directly related to the patent application if they had more time.

As more patents are issued over time and the body of scientific literature increases, the body of prior art grows, giving examiners more material to review.[20] In the USPTO patent examiner survey from fiscal year 2023 quarter 4, examiners noted they need more time for examination as the body of prior art is continually expanding. Further, primary examiners—those with the authority to self-certify the quality of their work—may face heightened time pressures because they have higher output expectations for the number of patent applications they need to complete as compared to junior examiners.

The issue of time constraints is long standing and GAO recommended in 2016 that the USPTO assess the time examiners need to conduct a thorough prior art search for different technologies.[21] While the USPTO performed this assessment, USPTO officials said there are diminishing returns to providing more time for examination, and agency surveys of patent applicants suggest they are satisfied with current timeliness and quality levels.

Complex Applications Exacerbate Time Pressures. Examiners noted that patent applications have become more complex over time, which can exacerbate time pressures. Examiners in most of our focus groups identified the challenge of being assigned to examine applications with technologies unfamiliar to them while they also face the challenge of examining a large body of prior art. For example, an examiner in one focus group shared that technologies like CRISPR or mRNA were not prevalent when they obtained their degree but are now important in their field of study. Additionally, examiners in some of our focus groups described how some patent applications include multiple technologies, such that no single examiner would be familiar with all the technologies relevant to the application.

In addition to keeping pace with emerging technologies, examiners must also keep pace with the growing case law that can result in changes to patentability standards, as described in some of our focus groups.

[20]As of 2024, there are more than 12 million issued patents from the USPTO, up from just under 9 million at the start of 2015.

[21]GAO-16-479 and GAO-16-490.

According to USPTO officials, the agency issues timely guidance and has a number of initiatives designed to help examiners navigate the evolving legal landscape.

Examiner Perspectives on Keeping Pace with Emerging Technologies

"Sometimes there are technologies I need to review that were not taught when I was in school and that I do not have background knowledge on. [I] need to spend time to learn about the technology…but I am not given enough time to… research… to fully come up to speed."

"A lot of the cases on my docket relate to cancer testing and measurement, but I end up looking at a lot of different areas as well. For example, I also get cases where AI is being applied in a biology field. I need to take time to get familiar with this particular AI technology when this happens and also need to spend more time and effort searching for prior art."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

Applicant Behavior Can Add to Time Pressures. Participants in some of our examiner focus groups shared that patent applicants sometimes file long or complicated amended patent applications to exploit the time pressures that examiners face. As described earlier, after patent examiners issue an initial office action, applicants may amend the claimed invention in their application. However, within the patent examination process, the bulk of the time examiners are given is for reviewing the initial application and making the initial office action. Examiners are given less time to review an amended application and issue a final office action.[22]

In USPTO's fiscal year 2023 quarter 4 examiner survey, examiners described a practice where applicants "write initial claims that are so broad they obscure the purported invention and then amend [the claims] heavily in response to the first [office] actions." The USPTO's examiner survey from 2021 through 2023 also show that examiners do not believe applicants are writing clear claims, providing a manageable number of claims, or drafting claims that clearly capture the concept of the invention. The fiscal year 2023 quarter 4 survey states that examiners believe that patent applicants do this because "they want to force an allowance [of the patent]."

USPTO officials acknowledged this practice, and explained that, at the time of filing, the commercial viability of an invention may not be clear, and an applicant may make the business decision to invest fewer

[22]Because the USPTO wants its examiners to issue complete and thorough first actions, examiners get approximately three times the number of counts for the first action as they do for subsequent office actions

resources into filing the initial claims. When the commercial viability of an innovation has become clear, applicants have greater motivation to invest greater resources into filing more thorough claims.

Examiner Perspectives on Reviewing Amended Patent Applications

"Some applicants heavily amend their application after the first rejection to the point where it is essentially a new application. However, I get much less credit for this review than I did for the initial review of the application, even though I have to do … the same amount of work."

"Applicants know we get very little time for final rejections. The first action is usually straightforward, but when [applicants submit revisions for their secondary examination], they rewrite the entire claim set and I can't reexamine the entire thing in 4 hours, which is [the time] I get for final rejections."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

In addition, examiners in some of our focus groups identified long information disclosure statements as a challenge. Specifically, patent applicants are required to include an information disclosure statement as part of their application to disclose prior patents that are relevant to their claimed invention. Examiners noted that applicants include large volumes of prior patents in their disclosures, knowing that examiners may not have sufficient time to completely review all of them given the time pressures to meet output goals. The USPTO's examiner surveys from 2021 through 2023 highlighted similar challenges and noted that applicants are not adequately citing material relevant to patentability in information disclosure statements. According to USPTO officials, this might be occurring because applicants fear being perceived as misrepresenting or omitting information with an intent to deceive the USPTO.

Examiners have difficulty getting extra time and reported sometimes working unpaid hours. Examiners in all our focus groups shared that it is generally difficult to get additional examination time needed to adequately review applications, including applications that are lengthy or include complicated or unfamiliar information. Participants in some of the focus groups also shared that, when extra time is given, it is usually insufficient. A USPTO official told us that examiners can request additional time from their supervisor to examine an application. However, examiners in some focus groups noted that getting extra time is largely dependent on supervisor preferences.

Examiner Perspectives on Getting Approval for Additional Review Time

"Asking for additional time in my art unit is a cardinal sin."

"Extra time is often very limited. It is typically 1 to 2 hours, maybe 3 to 4 max. This does not match the [many] hours needed to spend to complete the task extra time is being requested for."

"I didn't even know asking for extra time was an option."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

Examiners also said that they work unpaid hours or work during paid leave hours to review patent applications to achieve output expectations.[23] A USPTO examiner survey from fiscal year 2023 quarter 2 states that examiners "have to do work on their own time without compensation, particularly for complicated cases." Examiners in all our focus groups shared similar sentiments. Participants in some of our groups also noted a practice in which examiners take paid vacation time with the intention of completing examination work during that time to meet their output goals.[24]

Examiners Expressed Challenges with Technology and Training

In our focus groups and the USPTO's surveys, examiners expressed various challenges with technology and training that hinders their work. Specifically, they cited issues with unreliable examination tools, the patent classification and routing system, and the need for more targeted training. Our 2016 survey of examiners found similar issues, including that additional search tools would make prior art search easier, and that many applications were misclassified.[25] We made several recommendations, including that the USPTO assess ways to provide access to key sources of nonpatent literature and to address gaps in technical training. Although the USPTO implemented our recommendations, the issues examiners

[23]GAO did not assess the extent to which examiners make use of this practice.

[24]The USPTO's expectations for examiner output depend on the hours the examiners work; the more hours examiners work, the higher their expected output. By taking vacation or other leave time to work on examination, examiners are reducing the number of hours they need to spend on examination. Doing so, lowers their overall output expectations, which, in turn, helps the examiner more easily meet their output expectations.

[25]GAO-16-479. Specifically, our survey found that 75 percent of examiners encountered misclassified applications, and 76 percent of examiners found that the misclassification of patent applications makes it more difficult to complete a thorough prior art search. With respect to technical training, our survey found that less than half of examiners—an estimated 42 percent—always or often encountered applications with a subject matter in which they have knowledge of existing prior art based on their education or previous work experience.

raised suggest that issues with examination tools, classification, and training persist.[26]

Examination tools are unreliable. The primary tools examiners use are for searching prior art, drafting and distributing official correspondence, and viewing documents such as application materials, according to a USPTO official. In the fiscal year 2024 quarter 2 USPTO examiner survey, the share of patent examiners who reported being "dissatisfied" or "very dissatisfied" with specific technology tools was 46 percent for prior art search tools. This sentiment was echoed in our focus groups, with examiners in most of the groups describing that the necessary technology and tools did not work consistently and were often not functioning. USPTO fiscal year 2023 examiner surveys reported that examiners are eager for updates from the USPTO on plans to use artificial intelligence (AI) in the patent examination process as the AI tools currently available prolong examination time and are not yet useful.[27]

Examiner Perspectives on Technology Challenges

"We've been dealing with a lot of tech issues lately with search tools. If I'm in the middle of something…it's hard to get back into your rhythm if you stop working."

"There [are] problems with [the] search [system]; every time I use it, it breaks down in one way or another. Buttons just stop working and [it] crashes. It is not hyperbole; it does not work every day."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

The patent classification and routing system does not work well. Examiners described concerns with the patent classification and routing system, saying it incorrectly assigns applications to examiners without the right expertise, and examiners are not easily able to get the applications reassigned.[28] This can result in some examiners examining unfamiliar technology. In the fiscal year 2023 quarter 2 examiner survey, examiners

[26]In response to these recommendations in GAO-16-479, in 2019, the USPTO formally established the Library Services Branch to, among other things, select nonpatent literature collections based on usage data and other information.

[27]According to a USPTO official, the primary artificial intelligence tool currently available to patent examiners is a "More Like This" search tool to identity prior art. The tool uses artificial intelligence to identify and recommend similar documents to what the examiner has already identified.

[28]USPTO officials said they have been working diligently to address examiners' concerns about the application routing system and are actively exploring a new routing system.

reported that the classification and routing system the USPTO uses to assign patent applications to examiners "has had a negative impact on quality with cases assigned to the wrong examiners" and is "broken," "ineffective," and "completely wrong."[29] These problems were also documented by Commerce OIG in 2023.[30]

In addition to the classification and routing system not working well, examiners reported in the fiscal year 2023 quarter 2 USPTO examiner survey that the current process for reassigning incorrectly assigned applications puts the responsibility for reassignment on examiners. Examiner survey respondents reported that because the process to reassign applications is time consuming, examiners are deterred from attempting to reroute applications they believe were incorrectly assigned to them. As a result, examiners often proceed with reviewing patent applications containing unfamiliar subject matter. Examiner survey respondents reported that "classifications need to be more easily reassigned" and that examiners consider the automated classification system to be a "severe burden."

Additionally, the challenges caused by a misclassified application are not isolated to that application but can extend to future applications. A misclassified application that becomes an issued patent then becomes prior art that is improperly classified within search systems. Misclassified applications may be difficult to find when future examiners search for patent literature using technology-specific patent classification categories. The misclassified application will also now appear in search results for the classification category it does not belong in, which can clutter search results within that classification and make identifying relevant prior art more difficult.

[29]As Commerce OIG reported in 2023 (OIG-23-026-A), the USPTO shifted to the Cooperative Patent Classification (CPC) system from United States Patent Classification (USPC) system to route patent applications to examiners in October 2020. The new system was designed to automate routing by using an algorithm to match the CPC symbols on an application to an examiner's portfolio of previously examined applications, while considering other factors such as the age of an application. Commerce OIG found that the USPTO did not effectively design and implement CPC-based routing, among other things. The USPTO concurred with Commerce OIG's recommendations and described numerous compliance efforts the agency had implemented to address contracting concerns and improve the classification system. As of October 2023, the USPTO had fully implemented corrective actions to meet two of seven recommendations and planned to implement all corrective actions by July 2024, according to the agency.

[30]Commerce Office of the Inspector General, *USPTO Needs to Improve Oversight and Implementation of Patent Classification and Routing Processes*, 2023 (OIG-23-026A).

Examiner Perspectives on How Patent Applications are Assigned

"[T]here are too many new and unfamiliar technologies being put on my docket."

"Once an application is [assigned], it is difficult to get it reassigned, even if it is something not related to the expertise of the examiner. It can technically be done, but there are many hoops that must be jumped through and it is not a given that it will be reassigned even if those hoops are jumped through."

Source: USPTO patent examiners in GAO focus groups. | GAO-25-107218

Examiners said they need more technology-specific training and improved information sharing. Examiners in most of our focus groups shared the need for training that is more targeted to their specific technology area or art unit. Most of our focus groups also shared that when examiners are expected to learn about new or unfamiliar technologies, such as when applications are misclassified, they must teach themselves. Recent USPTO examiner surveys have repeatedly indicated that examiners desire more technology-specific training. For example, the fiscal year 2023 quarter 4 USPTO examiner survey found that examiners expressed a desire to have subject matter experts available for questions that require specialized knowledge when their supervisors are not available to help them.

Additionally, examiners said they are not allowed to reproduce or share certain training materials they obtain from supervisors and quality assurance specialists because the Office of Patent Legal Administration (OPLA) must vet materials before they can be reproduced or distributed.[31] Examiners in some of our focus groups reported that they would prefer if these informal training materials could be copied and shared for future reference.[32]

[31]USPTO officials acknowledged that OPLA reviews all training materials related to patent examination. They explained that the sharing of informal examination training materials is discouraged to avoid distribution of inaccurate and inconsistent information. The officials clarified that all formal examination training materials are available for use by supervisory patent examiners and quality assurance specialists and the materials can then be copied and distributed to examiners.

[32]One patent examiner stated that they believe the USPTO does not allow materials from these presentations to be shared because they are not considered "official guidance."

USPTO officials said the Office of Patent Training has a number of programs that target technical training.[33] Further, USPTO officials told us that the agency has taken steps focused on examiner training for emerging technologies and AI, including launching an AI and emerging technologies lecture series in October 2024, working with a university to develop an AI curriculum for its examiners, and developing plans to launch an AI learning portal.

The USPTO Has Not Assessed Whether Efforts Have Improved Persistent Challenges

We found several USPTO initiatives are aimed at addressing patent examination challenges, although the USPTO has not assessed to what extent these initiatives have led to improvements. We also found that the USPTO is using several pilot programs to develop and test changes to the patent examination process, although the USPTO has not consistently followed leading practices in implementing its pilot programs.

The USPTO Has Not Evaluated Its Initiatives to Improve Patent Examination

The USPTO has taken several actions to improve patent quality and address examination challenges described earlier; however, the agency has not effectively planned or assessed its efforts. GAO has identified key practices that can help federal agency officials develop and use evidence to effectively manage and assess the results of federal efforts.[34] Since our work in 2016, the USPTO has taken many efforts to improve patent examination. Some of these efforts, which are ongoing, include

Increased examination time. In 2019, the USPTO reevaluated examination time. This led to an increase in the amount of time allotted to examiners to review a patent application by an average of about 9 percent across all examiners, varying by several factors, including the application's complexity (eg, the length of the application and the number of claims). According to the USPTO, since its recalibration of examination time, 27 percent fewer office actions were noncompliant with patentability

[33]According to USPTO officials, these trainings include the Patent Examiner Technical Training Program, Technical Training on Demand, Site Experience Education, and Non-duty hours technical training. Non-duty hours technical training is a program that covers the cost of university and college elective courses, and all employees are given up to 25 hours to take elective courses. The USPTO invites experts from industry and academia to give guest lectures and training. For example, the Patent Examiner Technical Training Program requests voluntary assistance from technologists, scientists, engineers, and other experts to give guest lectures and provide technical training and expertise to patent examiners regarding the state of the art.

[34]GAO, *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, GAO-23-105460 (Washington, D.C.: July 12, 2023).

requirements (decreasing from 2,708 in fiscal year 2020 to 1,984 in fiscal year 2023). However, in our focus groups and in USPTO examiner surveys from fiscal years 2021 through 2023, examiners reported that they still do not have enough time for examination—an issue that dates to our prior work in 2016.

While USPTO officials say that applicants are satisfied with the level of patent quality, the USPTO has not rigorously evaluated the effects of examination time on statutory compliance. This is because the agency has not developed specific goals related to patent quality for the increase in examination time. According to evidence-based policymaking practices, desired long-term outcomes should be broken down into performance goals to ensure that progress can be assessed.[35]

Prior art search improvements. The USPTO has taken steps to improve prior art searches, including by incorporating AI into the search system. For example, the agency has added AI capabilities to search features, such as an AI tool that identifies domestic and foreign patent documents that are similar to the application being reviewed and search features including “more like this document” and “similarity search.” As of September 2023, examiners have conducted more than 1.3 million search queries using these AI-powered features. According to the USPTO, improving examiner tools, such as by incorporating AI into search, strengthens the prior art search, and offsets challenges from examiner time constraints and application complexity.

The USPTO collects data on how much examiners use these tools, such as the number of times tools are accessed per day and the number of requests for data from the tools. However, this information alone does not enable the agency to understand the effect of these changes. This is because the USPTO has not assessed whether these changes have allowed examiners to identify more appropriate prior art. In addition, in USPTO surveys, examiners have said that AI tools currently available prolong examination time and are not yet useful. According to evidence-based policymaking practices, evaluations that assess implementation, outcomes, and impact can help the agency assess progress toward strategic goals and objectives related to patent quality.[36]

[35]GAO-23-105460.

[36]GAO-23-105460.

Performance appraisal plan changes. In fiscal year 2021, the USPTO updated examiners' performance appraisal plans to better align examiner goals and agency priorities. This included changing the performance appraisals to put more emphasis on finding the best prior art earlier in examination. The updates also made performance elements for output and quality equally weighted. According to the USPTO, these changes allow the agency to hold examiners more accountable for quality. However, it is not clear what impact these changes have had on patent examination or patent quality. This is because the agency has not assessed how the new performance appraisal plans affect patent examination thoroughness or other aspects of quality. According to evidence-based policymaking practices, assessments can help the agency better understand what factors led to the results it achieved or why desired results were not achieved.[37]

To address the need to evaluate agency efforts, the USPTO created two bodies comprising USPTO staff at different levels. The first is a Research and Development (R&D) Unit—a group of experienced senior examiners who have broad knowledge of examination procedures. Created in November 2022, the R&D Unit is designed to help identify challenges to patent examination, develop ideas to address these challenges, and test and evaluate those ideas in a controlled environment. The R&D Unit consists of a rotating cohort of examiners from each technology center and had 36 examiners in 2024. According to USPTO officials, the R&D Unit has completed tests on several topics, such as on information disclosure statements, and the agency was conducting additional tests related to these topics at the time of our review (see textbox). According to USPTO officials, ideas that prove useful in the R&D Unit could be implemented across the agency and thus improve patent examination.

[37]GAO-23-105460.

USPTO Initiative to Examine Possible Improvements

The USPTO research and development (R&D) Unit is exploring the factors and relevancy of the information disclosure statements (IDS) and how they could inform decisions about future improvements. In the first phase of testing, the USPTO collected 236 survey responses from 36 examiners in the R&D Unit from March through May of 2024. The agency used these survey responses for multiple statistical analyses to determine which characteristics of the IDS impact the complexity of the IDS the most, among other things.

According to the results of the first phase of this study, the number of prior art references included in the IDS does not always affect the amount of time an examiner spends reviewing the IDS. For example, of the applications that had over 100 references in the IDS, approximately 29 percent took less than 1 hour to review, while approximately 41 percent took 3 to 4 hours to review.

The second phase of the test was conducted from May 2024 through July 2024 and involved two groups of examiners. Examiners in the first group conducted a search for prior art before examining the IDS. Examiners in the second group ignored the IDS when determining if an application was patentable and afterwards examined the IDS. The purpose of this phase of the testing was to determine how the inclusion of an IDS affects patentability decisions. Preliminary results of this phase showed that approximately 93 percent of examiners in the second group did not change their first office action after reviewing the IDS.

Source: U.S. Patent and Trademark Office (USPTO). | GAO-25-107218

The second body the USPTO established is the Patent Internal Control Board (PICB), created in 2022 to provide oversight, accountability, and analysis of select patent initiatives and activities. PICB consists of senior USPTO officials and is responsible for reviewing and analyzing data and proposals related to the USPTO's long-term goals. These responsibilities include conducting risk assessments, prioritizing the allocation of resources for operations and technology improvements, reviewing trends in agency data, monitoring agency operations, and recommending changes to management.

Although the structure of the PICB is still being finalized, officials said they have developed guidance for internal control practices to inform the board's oversight of programs and initiatives. Using input from the Commissioner of Patents, the board is currently assessing changes to the examiner hiring process, as well as changes to examination time and application routing. USPTO officials told us that the board was designed for new initiatives and that any assessment of ongoing initiatives would occur only if pertinent to the board's current oversight work. Given this, PICB does not currently have plans to evaluate all of the ongoing initiatives described above.

While the R&D Unit and PICB have a role in evaluating future USPTO initiatives, there is still a need to evaluate the effect of ongoing initiatives given the persistent nature and extent of challenges patent examiners face as described in our focus groups. For example, the agency has not expanded its current examiner surveys to collect data on all changes affecting patent examination, such as collecting examiners' views on changes to performance appraisals. Such input from examiners could identify deficiencies or improvements that are not captured in current examiner surveys or the USPTO's monitoring of examiner tools. While the USPTO has said they used OPQA data to improve the clarity of office actions, the USPTO has not used data from OPQA random quality reviews to conduct causal analyses related to changes to the patent examination process such as prior art search changes.[38] Such analyses could help the agency determine which initiatives most support patent examination and quality goals and how to use its limited assessment resources.

We found that the USPTO's lack of clarity on the effects of the initiatives described above exists because USPTO management has not required officials in charge of programmatic changes to set clear goals, develop measurable performance indicators, or fully evaluate the results of internal policy changes. As noted above, GAO has identified key practices that can help federal agency officials develop and use evidence to effectively manage and assess the results of federal efforts.[39] Evidence can improve management decision-making, which helps to ensure that the organization's activities are targeted at further addressing problems and achieving desired results. Without properly planning for policy changes and monitoring and evaluating the resulting outcomes, the USPTO may not be able to determine if the policy changes accomplished their intended objectives, should continue as implemented, or should be adjusted to help ensure their effectiveness.

The USPTO Has Not Consistently Followed Leading Practices for Pilot Programs

In addition to initiatives described above, the USPTO also uses pilot programs to develop and test changes to the patent examination process. According to a former agency official, pilot programs are beneficial because they allow the agency to quickly make changes to patent operations. We have previously reported on the benefits of pilot programs

[38]According to the USPTO, the agency used OPQA data to identify the need to improve the quality of office actions and developed training, which resulted in an 18 percent improvement in examiners drafting and editing clear and concise office actions.

[39]GAO-23-105460.

to produce information needed to make effective program and policy decisions and ensure effective use of time and resources.[40] In our analysis of documentation and discussions with the agency, we identified 14 pilot programs that are either currently active or were active since 2016.

Patent Examiners' Perspectives on Pilot Programs

Examiners in three focus groups mentioned that pilot programs to prioritize or expedite certain applications affect their ability to manage their work. Specifically, two examiners in one focus group said such pilot programs complicate their docket management because applications assigned through prioritized or expedited pilot programs come in unexpectedly and change the order in which they need to review applications.

Further, one of these examiners explained that applicants pay more fees to expedite their applications. However, examiners are not given extra compensation for examining them more quickly, and it is difficult for examiners to balance docket management and productivity ratings with multiple deadlines assigned to them for each action. Another examiner said that some pilot programs make examination more complicated since they are not granted any additional time for the tasks required by the pilot program.

Source: GAO. | GAO-25-107218

- Six of the 14 pilot programs expedite the examination of patent applications. Five of these pilot programs expedite the examination of patent applications for certain technologies, and one of these pilot programs expedites the examination of patent applications for first-time patent applicants. For example, the Semiconductor Technology Pilot Program expedites patent examination for technologies related to the manufacturing of semiconductors. According to the USPTO, the agency often uses these types of pilot programs to support White House initiatives, such as the Cancer Moonshot Expedited Examination Pilot Program, which expedites applications related to cancer and supports White House efforts on cancer research.
- Five of the 14 pilot programs we identified are designed to improve different aspects of the patent examination process. For example, the Collaborative Search Pilot Program provides additional resources for prior art searches. The Full First Action Interview Pilot Program allows applicants to participate in interviews with their assigned patent examiner before the issuance of a first action.
- Three of the 14 pilot programs focus on other areas of patent examination. For example, the Deferred-Fee Provisional Patent Application Pilot Program allowed applicants to defer the payment of associated application fees if the applicant's invention was related to COVID-19.

GAO previously identified five leading practices that, taken together, form a framework for effective pilot design.[41] By following these leading practices, agencies can promote a consistent and effective pilot design process. A well-developed and well-documented pilot program can help ensure that agency assessments produce information needed to make effective program and policy decisions. Such a process enhances the quality, credibility, and usefulness of evaluations in addition to helping to ensure that time and resources are used effectively. In our analysis of

[40]GAO, *Data Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting Burden*, GAO-16-438 (Washington, D.C.: April 19, 2016).

[41]GAO-16-438.

information from the USPTO, we found that the agency's pilot programs have not consistently followed leading practices (see table 2 and fig. 3).

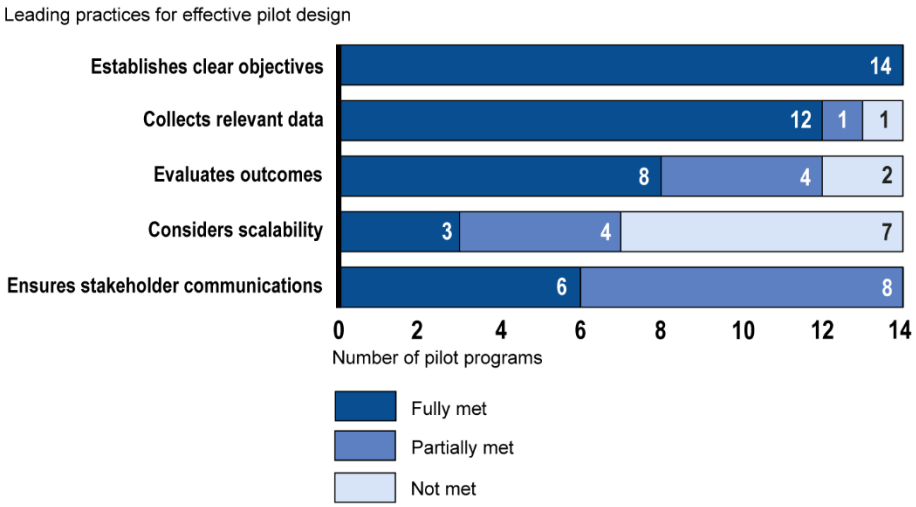
Table 2: Alignment of the USPTO's Pilot Programs with GAO's Leading Practices for Effective Pilot Design

Leading Practice	GAO Assessment
Establishes clear objectives Establish well-defined, appropriate, clear, and measurable objectives.	We found that all 14 pilot programs had well-defined, appropriate, clear, and measurable objectives. For example, the First-Time Filer Expedited Examination Pilot Program is designed to increase accessibility to the patent system for inventors in historically underserved geographic and socio-economic areas. The program supports these inventors, who are new to the patent application process, by reducing the time needed to reach a first action for their applications.
Collects relevant data Clearly articulate assessment methodology and data-gathering strategy that address all components of the pilot program and include key features of a sound plan.	We found that 12 of the 14 pilot programs had a clearly articulated assessment methodology and data-gathering strategy, one of the 14 pilot programs somewhat followed this leading practice, and one of the 14 pilot programs did not follow it. For all six of the pilot programs that expedite patent examination, the USPTO collected relevant data, including the number of requests to use the programs, the status of requests, and the status of related patent applications.
Evaluates outcomes Develop a detailed data-analysis plan to track the pilot program's implementation and performance, evaluate the final results of the project, and draw conclusions on whether, how, and when to integrate pilot activities into overall efforts.	We found that eight of the 14 pilot programs had developed a detailed data-analysis plan to assess the effectiveness of the programs, four of the 14 pilot programs partially followed this leading practice, and two of the 14 pilot programs did not follow it. For example, the Office of Patent Quality Assurance's Search Feedback pilot program had a data-analysis plan that incorporated multiple forms of feedback from patent examiners to track the pilot program's outcomes. However, the Complex Work Unit Pilot Program does not have records of the data collection or evaluation procedures.
Considers scalability Identify criteria or standards for identifying lessons about the pilot program to inform decisions about scalability and whether, how, and when to integrate pilot activities into overall efforts.	We found that three of the 14 pilot programs had established criteria or standards for identifying lessons to inform decisions about scalability or integrating the pilot programs into overall agency efforts, four of the 14 pilot programs partially followed this leading practice, and seven of the 14 pilot programs did not follow it. For example, the First-Time Filer Expedited Examination Pilot Program did not have any standards for identifying lessons about the scalability of the program. Alternatively, the USPTO tested the Full First Action Interview Pilot Program on a small scale to inform decisions about making the program available to other patent applications.
Ensures stakeholder communication Ensure appropriate two-way stakeholder communication and input at all stages of the pilot project, including design, implementation, data gathering, and assessment.	We found that six of the 14 pilot programs provided two-way communication with stakeholders and eight of the 14 pilot programs partially followed this leading practice. Often, the USPTO publishes updates on the progress of pilot programs on the agency's website. For example, the agency used several forms of communication to receive feedback and provide updates for the First-Time Filer Expedited Examination Pilot Program, such as emails to stakeholders and biweekly reports.

Source: GAO analysis of USPTO pilot questionnaire responses. | GAO-25-107218

Note: The results of our analysis were determined by the questionnaire responses and supporting documentation sent to us by USPTO officials. We did not conduct an in-depth review of each pilot program.

Figure 3: USPTO Implementation of Leading Practices in Its 14 Pilot Programs



Source: GAO analysis. | GAO-25-107218

By not consistently following leading practices for pilot programs, the USPTO is missing opportunities to learn valuable information that could inform future pilot design and implementation, as well as which pilot programs should be expanded. Prior GAO work has shown that designing pilot programs in alignment with leading practices increases an agency's ability to evaluate the pilot program's outcomes. We found that two of the 14 pilot programs met all five leading practices for effective pilot design. Appendix IV shows the full results of our assessment by pilot program.

Beyond inconsistent application of the leading practices for pilot programs, we also found inconsistencies in other elements of pilot program implementation. Some of the USPTO's pilot programs have had their end dates extended. For example, the USPTO started the Complex Work Unit pilot program in 2005, and the pilot program was still active at the time of our review.[42] We found that the agency does not have records of the data gathered or the evaluation procedures for this pilot program. USPTO officials told us they are missing several records for the pilot

[42]The USPTO created the Complex Work Unit pilot program to test the possibility of requiring applicants to submit chemical and 3D biological structural data in an electronic format. According to USPTO officials, the Complex Work Unit Pilot program applies to a small number of overall patent applications.

program because all the officials that started the pilot program are no longer at the agency.

Driving these inconsistencies is the USPTO's lack of a formalized approach for the creation and oversight of pilot programs. According to USPTO officials, pilot programs are generally led by an Assistant Commissioner and supervised by an assigned Deputy Commissioner. However, the agency has not taken steps to formalize and document these roles or the process for pilot program creation. A formalized and documented process could also promote the use of leading practices for pilot programs. According to *Standards for Internal Control in the Federal Government*, management should document its responsibility for an operational process's objectives and related risks, implementation, and operating effectiveness.[43] In the absence of a formalized structure, the USPTO's pilot programs have not consistently implemented leading practices for effective pilot program design. Therefore, the agency is missing opportunities for lessons learned from its pilot programs and information that could inform decisions about the future of pilot programs.

The USPTO's Quality Assessment Processes Do Not Ensure the Validity of Patent Quality Metrics and Data

We found several methodological limitations with the USPTO's supervisory quality review process that can affect the accuracy of the data produced by these reviews. Additionally, we found that the quality control processes OPQA uses when changing completed quality reviews lack transparency and rigor.

Data from Supervisory Quality Reviews Likely Overstate Actual Adherence to Patent Requirements

Supervisory quality reviews are the primary mechanism that the USPTO uses to measure patent examination quality for individual examiners. Supervisors conduct the reviews and assess whether an examiner made any clear errors in deciding whether to grant a patent. The USPTO uses data from supervisory reviews to understand the extent to which examiners adhere to quality standards and to determine individual examiner performance ratings for quality. We identified several aspects of supervisory quality reviews of examiner's work that likely affect the reliability of examiner performance data for quality and could contribute to an environment that does not encourage high-quality examination. In our

[43]GAO-14-704G.

review of supervisory review practices and USPTO data, we observed the following issues.

Supervisory quality reviews are not required to use sound criteria for selection. Relevant USPTO guidance states that "any final form work product may be reviewed, regardless of how it is selected or comes to the [s]upervisor's attention." This guidance does not establish any sound criteria for selection, such as random or risk-based selection. One focus group participant told us their supervisor allows them to choose which office actions the examiner would like reviewed, so the examiner makes sure to do a good job on the actions they plan to submit to their supervisor for review. The current lack of criteria for selection may limit the ability of the supervisory reviews to provide an accurate reflection of examination quality, as the actions selected for review may not be representative of an examiners typical work. A USPTO official told us that, while there is no agency-wide requirement for random selection, the USPTO offers tools that interested supervisors can use to facilitate random selection. This official also stated that some individual technology centers or art units have an expectation of random selection for their supervisors.

Supervisors can exclude identified errors from error rate calculation. According to USPTO guidance, when supervisors identify a "clear error" in an examiner's office action, they have discretion in determining how, if at all, the error factors into the error rate that contributes to the examiner's quality rating.[44] For example, supervisors can choose to address the error through coaching and mentoring, rather than including the error in the examiner's error rate calculation, if they deem it is the most effective approach for improving the examiner's performance. A USPTO official stated there is not a set process for making this determination, and that supervisors have discretion to determine how they want to address errors. USPTO officials we met with who have experience conducting supervisory quality reviews stated they avoid including an identified clear error in an examiner's quality rating unless the examiner has repeatedly made the same type of error. Instead, they will typically take a coaching approach the first time or two an examiner makes an error. One official

[44]According to the patent examiner Performance Appraisal Plan, a clear error occurs when an examiner's office action does not reasonably comply with quality standards and "could not have been permitted at the time and under the circumstances that the action was taken." Error rate is calculated by dividing the number of supervisory quality reviews that identify a clear error by the total number of office actions issued by the examiner during the fiscal year.

noted that the goal of supervisory reviews is to help examiners improve their examination skills, and that charging an error for every potential issue can sometimes be more discouraging than helpful. Given that supervisors can choose not to include all identified errors in the examiner error rate calculation, examiner performance data for quality may overstate actual examiner performance.

Error rates count multiple errors as a single error. The USPTO's Performance Appraisal Plan for examiners states "when multiple errors are charged in a single [o]ffice action…a single error will be used in the computation of the error rate." Whether an office action has five clear errors or one clear error, it will be counted as one error when the error rate is calculated. Because error rate calculations treat a single office action with many errors the same as work with one error, error rate metrics can understate the extent of examiner errors.

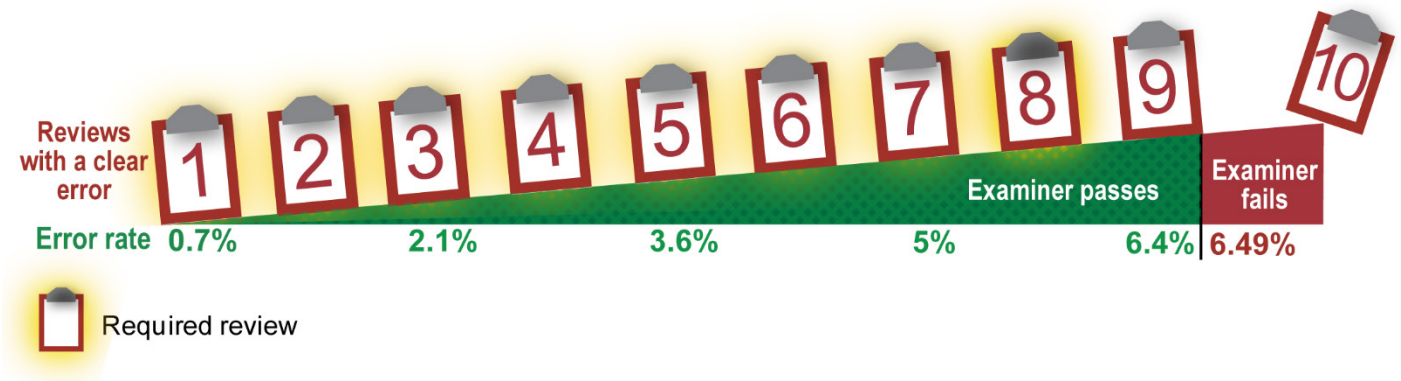
Examiners can receive a clear error in all reviews and still get a passing quality rating. According to USPTO guidance, supervisors are expected to conduct at least two quality reviews each quarter for each examiner they supervise, for a total of at least eight annual supervisory quality reviews for each examiner.[45] To receive a "fully successful" or better performance rating for quality, an examiner's error rate cannot exceed 6.49 percent, according to the USPTO Performance Appraisal Plan for patent examiners. If an examiner receives a clear error for all eight of their required supervisory quality reviews and completed the average number of office actions in a year (about 140), their error rate would be calculated as 5.7 percent.[46] Thus, a primary examiner who completes the average number of office actions in a year can receive a clear error in all eight of their required supervisory quality reviews and still receive a "fully successful" or better performance rating for quality (see fig. 4). For an examiner's error rate to exceed 6.49 percent, and thus receive a "marginal" or worse rating for quality on their performance rating, a supervisor would need to conduct ten quality reviews for that

[45]Our review of USPTO data showed that approximately 50 percent of primary examiners received exactly eight supervisory quality reviews in fiscal years 2022 and 2023.

[46]Error rate is calculated by dividing the number of supervisory quality reviews that identify a clear error by the total number of office actions issued by the examiner during the fiscal year. In this example, the error rate equals 5.7 percent because we divided the 8 required supervisory reviews by 140, which is the approximate average number of office actions an examiner completes in a year.

examiner and charge the examiner with a clear error in all ten reviews.[47] This is unlikely to occur given that, in our review of USPTO data, we found that less than 20 percent of examiners received ten or more total reviews each fiscal year between 2021 through 2023.

Figure 4: Effect of Number of Supervisory Quality Reviews with Clear Errors on Patent Examiner Error Rate



Source: GAO analysis of USPTO information. | GAO-25-107218

Notes: Error rate percentages assume an examiner has completed 140 office actions, which is the average number of office actions each examiner completed in fiscal years 2022 and 2023.

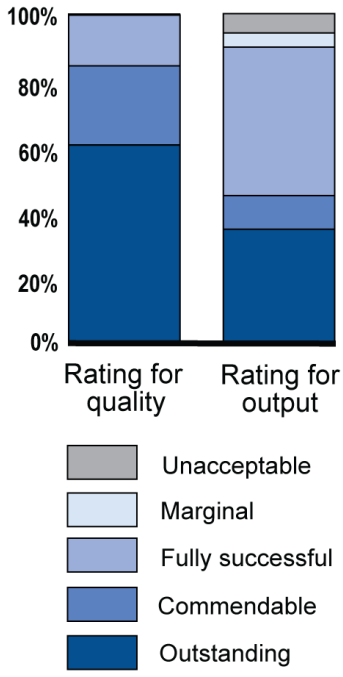
"Examiner passes" indicates that the examiner would receive a "Fully Successful" or better rating for quality on their performance assessment. "Examiner fails" indicates that the examiner would receive a "Marginal" or worse rating for quality on their performance assessment.

Examiner quality ratings do not align with rating standards. USPTO data we reviewed showed that about 84 percent of examiners received a quality rating of "outstanding" or "commendable" in fiscal year 2023. (see fig. 5) According to Commerce Department guidance on performance ratings, an "outstanding" performance rating indicates "rare, high-quality performance" that "rarely leave[s] room for improvement" and a "commendable" rating indicates "a level of unusually good performance." A patent expert we met with suggested that because a large share of examiners is receiving performance scores that indicate unusually good performance or rare, high-quality performance, it raises questions about whether this performance is truly unusual or rare. This is a long-standing issue that was raised by Commerce OIG, which described similar

[47]In this example, we assume that the examiner completed 140 office actions, which is approximately the average number of office actions completed by examiners in fiscal years 2022 and 2023.

concerns with the distribution of quality ratings in a 2015 report.[48] However, when the USPTO updated the examiner Performance Appraisal Plan in fiscal year 2022, it raised the error rate thresholds for an outstanding or commendable rating, making it easier for examiners to achieve those quality ratings.

Figure 5: Distribution of Patent Examiner Performance Ratings for Output and Quality (FY2023)



Source: USPTO. | GAO-25-107218

The USPTO's supervisory quality review process does not align with internal control standards, which, in turn, can limit the usefulness of the data produced by these reviews. *Standards for Internal Control in the Federal Government* calls on agencies to use quality information to achieve their objectives, to ensure data are free from error and bias, and to evaluate both internal and external sources of data for reliability.[49]

[48]Department of Commerce, Office of Inspector General, *USPTO Needs to Strengthen Patent Quality Assurance Practices*, OIG-15-026-A: (Apr. 10, 2015).

[49]GAO-14-704G

Currently, the USPTO's guidance to supervisors regarding quality reviews provides them with significant latitude in how they carry out their reviews, but the lack of controls for these reviews likely produces performance data that overstate examiners' actual adherence to quality standards and may not encourage examiners to consistently perform high-quality examination. Additionally, current USPTO processes for counting errors identified in supervisory quality reviews and calculating examiner error rates may artificially inflate measures of quality. Because the USPTO uses examination quality data to understand the extent to which examiners adhere to quality standards, it is important the agency takes steps to help ensure these data are valid and free from error and bias.

OPQA Processes When Changing Quality Review Outcomes Lack Transparency and Rigor

In addition to the supervisory quality reviews, which the USPTO uses to provide examination quality data at the individual examiner level, OPQA conducts random quality reviews to provide examination quality data at the agency and technology center levels. These quality reviews are conducted by OPQA reviewers, who assess randomly sampled office actions for compliance with patentability standards.[50] Each fiscal year, OPQA reviews approximately 12,000 completed office actions, which is about 1 percent of the total yearly volume of office actions. OPQA reviewers determine an office action to be compliant if it meets all patentability standards and noncompliant if it fails to meet at least one patentability standard.[51] The USPTO considers the metrics produced by OPQA's random quality reviews to be the agency's primary patent quality metrics regarding compliance with patentability requirements. The metrics produced from this data are reported to Congress and the public.

After the formal OPQA random quality review process has concluded, OPQA conducts data integrity reviews on some of the completed random quality reviews.[52] OPQA management uses these data integrity reviews to change review outcomes if they determine an OPQA reviewer

[50]To facilitate random sampling of office actions, OPQA randomizes all office actions sent to applicants within a seven-day period to create a randomized list of actions for review. OPQA review quality assurance specialists are then assigned cases from the list based on the technologies they review.

[51]When OPQA identifies a noncompliance, it is left to the technology center the office action originated from to determine what corrective actions should be taken. For example, if a noncompliant allowance is identified, the technology center may be able to correct the allowance before the patent is issued.

[52]A USPTO official described the data integrity review process as "checking the checkers."

incorrectly applied a quality standard.[53] OPQA management does this to help ensure quality standards are being consistently applied by OPQA reviewers. Changes to random quality reviews are tracked within a USPTO data system called the review log. However, we found limitations with the transparency and rigor of the OPQA data integrity review process that can hinder OPQA's ability to use the review process to meet its stated goals of ensuring the "integrity and accuracy of OPQA-generated data" and providing "feedback to the [OPQA supervisor] who oversaw the review."

Lack of Transparency

A lack of transparency in review records complicated our efforts to understand OPQA's process for changing the outcomes of random quality reviews after conducting data integrity reviews. In our review of the USPTO's quality review data, we identified 41 completed OPQA random quality reviews that were reopened by OPQA and had their outcome changed between fiscal year 2021 and the end of May 2024.[54] The vast majority of these changes—39 of the 41—-resulted in a noncompliant review being changed to a compliant review, which improves the USPTO's quality metrics.

Information needed to understand the reasoning behind changes to quality review outcomes is largely missing from the USPTO's review log. We found that 36 of the 41 reversals included information in the review log that identified the specific change being made to the random quality review. More specifically, it was possible to identify which of the patentability requirements described in the Patent Act, such as patent eligible subject matter or novelty, had its compliance decision changed after a data integrity review. However, the formal review record of 30 of the 41 reversals did not include information describing the basis for why OPQA changed the compliance decision. As such, it is often possible to understand which of the patentability requirements had its compliance decision changed, but not understand why the change was made. An OPQA official told us OPQA could improve transparency around these

[53]For example, a review that identified an instance of noncompliance may have that instance of noncompliance removed from the review after a data integrity review. As such, the outcome of the review is changed from "noncompliant" to "compliant" for the relevant statutory requirement.

[54]We identified a total of 69 reviews that had their compliance determinations changed. However, 28 of these changes were excluded from our analysis because they were attributed to technical issues or other processing mistakes.

reviews by documenting the basis for any changes in the formal review log.

Other important information is also missing from documentation regarding reversals. For example, 36 of 41 reversals did not clearly identify in the review log the process that led to the change being made to the review. USPTO guidance on OPQA data integrity reviews states that the OPQA Director can sample reviews at their discretion on the basis of factors such as review feedback, first-hand knowledge, or data analysis such as an outlier review, among others. Currently, documentation regarding reversals does not typically include information on the process the OPQA Director uses to select a review for additional scrutiny.

While OPQA guidance states that the ultimate authority for deciding what changes will be made to a review lies with the OPQA Director, OPQA guidance also states that determinations about potential data corrections will be made by a data integrity review panel consisting of the OPQA Director and at least two other OPQA managers. However, OPQA does not document any information regarding these data integrity review panels in the review logs.[55] As such, the USPTO's quality review data does not show the extent to which the agency is following its guidance of convening data integrity review panels. An OPQA official stated that OPQA does not currently record information regarding data integrity review panels in USPTO data systems but that OPQA could begin doing so. A USPTO official involved in the OPQA quality review process stated they had never heard of or been involved with a data integrity review panel, even though they had been involved with random quality reviews that had changes made to their compliance decisions.[56]

The lack of transparency regarding OPQA's process for changing random quality review outcomes limits the ability of this process to achieve its stated goal of ensuring the integrity and accuracy of OPQA-generated data. Currently, USPTO guidance does not require the agency to clearly document relevant information related to data integrity reviews—such as

[55]None of the 41 reversals we identified included information regarding the review groups in the review log.

[56]According to USPTO officials, the data integrity review panels are convened whenever changes are made to random quality review results, even though information regarding these groups is not formally tracked within the review log. Another USPTO official involved in the OPQA quality review process stated that they have participated in data integrity review panels.

the basis for changing review outcomes.[57] The OPQA Director may select any completed random quality review for additional scrutiny for any reason and has the ultimate authority to determine what changes, if any, should be made to a completed review.[58] Without clear documentation of the changes that result from OPQA management's data integrity reviews, it is not possible to fully understand how OPQA is using this authority, including any potential effects on the accuracy or integrity of official USPTO quality metrics. OPQA's goal of ensuring the accuracy of quality review data is significant, as the metrics produced from this data are the official patent quality metrics for compliance that are reported to Congress and the public. The metrics are also significant for the USPTO, as the agency uses them to inform strategic decision-making and ties them to management performance bonuses. Additionally, because OPQA is updating its own data without additional external review, it is important that OPQA is transparent when making changes to avoid any potential perceptions of impropriety.

Lack of Rigor

According to a USPTO official, the OPQA data integrity review process does not typically re-assess random quality reviews that determined an office action to be compliant. Similarly, in our analysis of USPTO data, we found 39 of the 41 relevant reopened reviews were changed from noncompliant to compliant. Given that more than 80 percent of all OPQA random quality reviews find office actions to be compliant with all patentability requirements, this means a significant number of reviews are being excluded from the data integrity review process. USPTO officials provided several explanations for why OPQA data integrity reviews do not typically focus on reviews that found compliance, including

- **OPQA can withdraw concerns but cannot introduce new concerns.** The USPTO has a policy of not raising new issues, such as a missed noncompliance, in a review once the initial review has been shared with a technology center. As such, during data integrity reviews, OPQA can change a "noncompliant" review to a "compliant"

[57]Other examples of information that is not required to be documented include information about the specific change made to a random quality review, the process that led to OPQA selecting a review for additional scrutiny, and the data integrity review panels.

[58]USPTO guidance regarding OPQA data integrity reviews states that completed random quality reviews may be selected for additional scrutiny at the discretion of the OPQA Director and that selection can be determined by anything the OPQA Director considers to be relevant, including but not limited to, technology center feedback, first-hand knowledge, or data analysis such as an outlier analysis.

review, but OPQA generally cannot change a “compliant” review to a “noncompliant” review.[59]

- **OPQA is unlikely to identify reviewers who disproportionately issue compliant reviews.** According to a USPTO official, OPQA conducts analyses to identify OPQA quality reviewers whose decisions in random quality reviews seem to be misaligned with other reviewers. If the analysis finds misalignment, OPQA management may use that information as a basis for selecting some of that reviewer’s quality reviews for data integrity reviews. A USPTO official told us these analyses are better suited to identifying quality reviewers who disproportionately issue noncompliant reviews than to identifying those who disproportionately issue compliant reviews.[60]
- **Technology centers rarely alert OPQA to missed instances of noncompliance.** According to a USPTO official, technology centers can request that OPQA revisit a specific random quality review. However, the official acknowledged this rarely happens for compliant reviews, as technology centers have little incentive to alert OPQA that a reviewer missed an instance of noncompliance. If a technology center alerted OPQA to a missed noncompliance, this would lower the technology center’s quality metrics.

Taken together, the issues described above signal a lack of rigor in OPQA data integrity reviews, which may limit the extent to which these reviews can achieve the USPTO’s stated goals and the accuracy and usefulness of OPQA review data. USPTO guidance on data integrity reviews states the goals of the reviews are to “ensure the integrity and accuracy of OPQA-generated data” and “provide feedback to the [supervisor] who oversaw the review.” Currently, OPQA data integrity reviews focus almost exclusively on reviews that identify instances of noncompliance. Because OPQA largely excludes random reviews that only find compliance from its data integrity reviews, potential errors in these reviews are not being identified and corrected, meaning that the process is not meeting its goal of ensuring the “integrity and accuracy” of the data generated from these reviews. Also, supervisors are not receiving feedback when they incorrectly identify an office action as

[59]We identified two random quality reviews that were changed from compliant to noncompliant in our analysis of OPQA quality review data, indicating that USPTO may not always follow this guidance.

[60]A USPTO official stated that, because most random quality reviews find compliance, examiners who disproportionately issue noncompliances have a more significant effect on the average compliance rate, which makes them easier to identify in an outlier analysis.

compliant, meaning that the process is not meeting its goal of providing such feedback and that supervisors could continue to make similar errors.

The USPTO Does Not Have an Overall Patent Quality Goal or Measure the Economic or Inventive Value of Patents

The USPTO measures compliance with the four statutory patentability requirements of novelty, disclosure, nonobviousness, and subject matter eligibility, but does not report or have a goal for the number of patents that comply with all four requirements at once. In addition, the agency has not explained why issued patents are overturned at PTAB at rates higher than some patent owners would expect based on the agency's measures of statutory compliance. In addition, the agency has not routinely used other patent metrics, such as those that measure patent inventiveness or originality or metrics related to patents' economic or scientific value.

The USPTO Does Not Have an Overall Patent Quality Goal or Explain Why Many Patents are Later Overturned

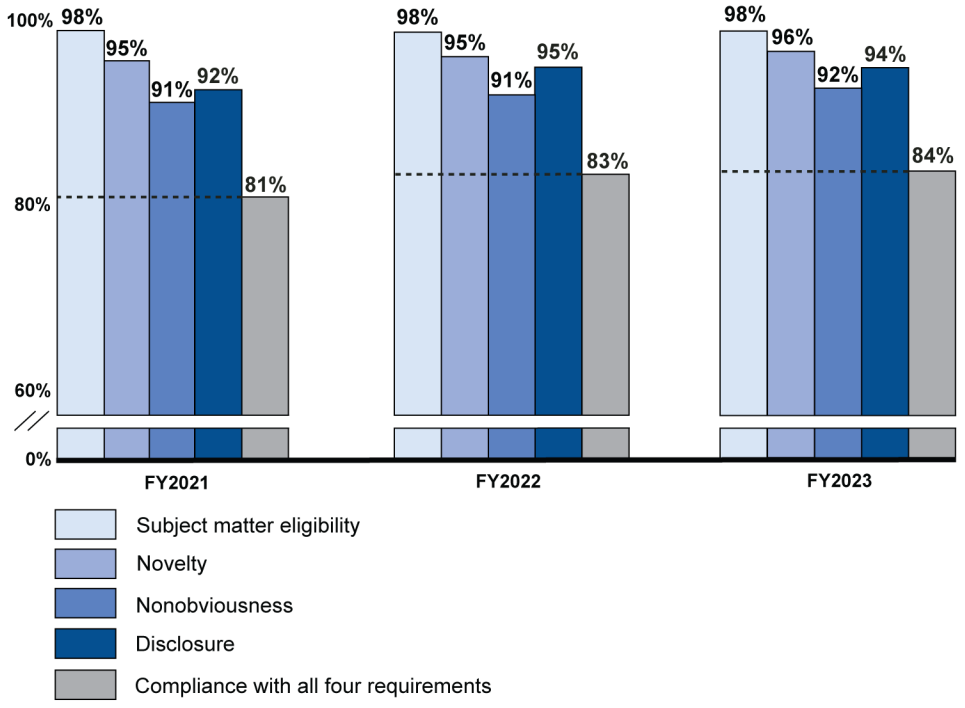
The USPTO's annual performance report and plan does not contain an overall metric of patent quality. In public reporting on its goal of "promoting the efficient delivery of reliable patent rights," the USPTO reports patent quality metrics from OPQA quality reviews of examiners' compliance with each of the individual four statutory patentability requirements.[61] However, the USPTO does not report an overall patent quality metric or have a goal related to the percentage of patents and examiner office actions that are simultaneously compliant with all four of the relevant patentability requirements.

While the USPTO reports goals and metrics for compliance with the individual requirements of the Patent Act, an overall compliance goal and metric are not publicly reported in the USPTO's annual performance report. USPTO does calculate an overall compliance metric, which it makes available through data that can be downloaded from the USPTO website, but they do not have a compliance goal for this metric. This overall compliance metric shows a lower level of patent quality than the individual compliance metrics. Specifically, compliance with each of the four patentability requirements ranged between 92 percent and 98 percent, while the percentage of patents simultaneously compliant with all four requirements was around 80 percent between fiscal years 2021 and 2023, according to USPTO OPQA quality review data (see fig. 6). Figure

[61]The USPTO reports this information in its annual performance report and plan. See "USPTO Fiscal Year 2023 Annual Performance Report - Fiscal Year 2025 Annual Performance Plan" available at https://www.uspto.gov/about-us/performance-and-planning/uspto-annual-reports.

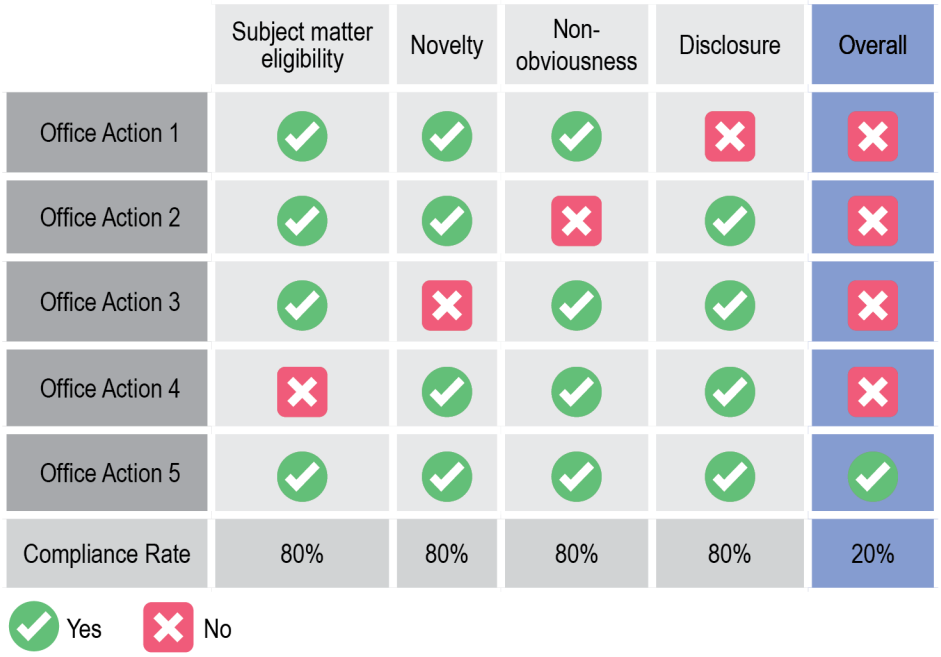
7 illustrates how individual compliance rates can differ from an overall compliance rate.

Figure 6: USPTO Compliance Rates with Patentability Requirements, Fiscal Years 2021 to 2023



Source: USPTO. | GAO-25-107218

Figure 7: Illustration of How an Overall Patent Quality Compliance Rate Can Differ from Individual Requirement Compliance Rates



Source: GAO (data and icons). | GAO-25-107218

USPTO officials said the agency has not yet developed an overall compliance goal, but they see the potential value in doing so. One USPTO official said that OPQA patent quality goals were formulated the way they are in part because applicant feedback showed diminishing marginal benefits of pursuing perfect compliance rates and that higher quality outcomes would not tangibly improve customer experiences.[62]

[62]The same USPTO official said that information from customers on their perspectives for reasonable quality goals was collected through the biannual external customer experience survey administered by the USPTO. These surveys gather respondent opinions regarding patent examiners' adherence to rules and procedures; the correctness, clarity, and consistency of rejections.

Patent Trial and Appeal Board

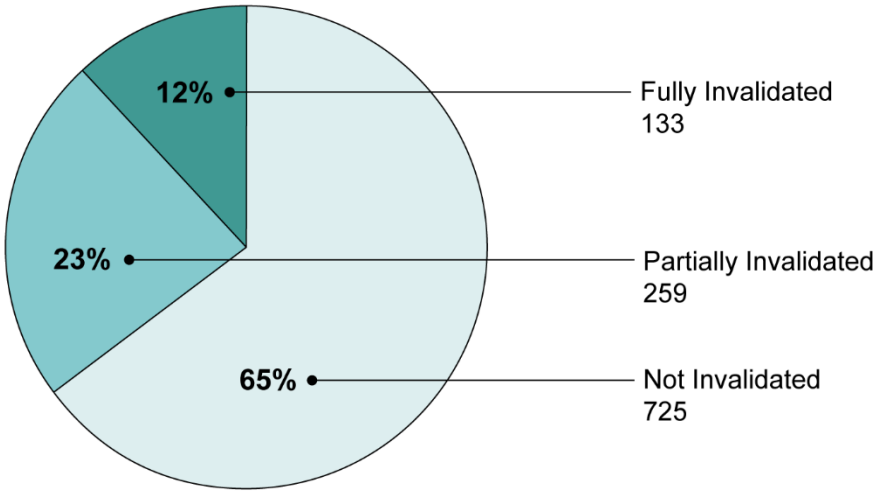
The Patent Trial and Appeal Board (PTAB) exists within the U.S. Patent and Trademark Office (USPTO) and, among other things, handles disputes with respect to patentability for granted patents—whether the claims in an issued patent are valid.

Because challenging a patent at PTAB can be less expensive than doing so in federal courts, those accused of infringing a patent often challenge patent claims in a PTAB trial as part of their litigation defense strategy. A defendant in a patent infringement lawsuit, or any other party, can challenge a patent at PTAB during the lawsuit. If PTAB overturns the patent, the patent owner loses the lawsuit.

Source: GAO analysis of USPTO information. | GAO-25-107218

A separate concern raised by a variety of stakeholders, including patent attorneys and researchers, is that some external indicators suggest that patent quality may be lower than the USPTO's quality metrics indicate.[63] A commonly cited example of this is the outcomes of patent challenges in federal courts or in PTAB trial proceedings (see sidebar).[64] According to USPTO data, approximately one-third of patents involved in AIA proceedings that ended in fiscal year 2023 were fully or partially invalidated (see fig. 8).

Figure 8: Results of the Patents Challenged at PTAB (Fiscal Year 2023)



Source: GAO Analysis of USPTO Information. | GAO-25-107218

A USPTO official told us that the agency conducted a study to understand the factors that contribute to patents being overturned at PTAB. USPTO data show that fewer than 1 percent of patents overall are challenged at PTAB, and the study found that these patents may have characteristics

[63]The USPTO conducts a semiannual External Stakeholder Perception Survey of frequent-filing applicants. The results of recent surveys are available at https://www.uspto.gov/patents/quality-metrics.

[64]Summary statistics and detailed outcomes of fiscal year 2023 PTAB proceedings can be found here: https://www.uspto.gov/sites/default/files/documents/ptab_aia_fy2023__roundup.pdf

that are not representative of issued patents more broadly.[65] The study also determined whether the original patent examiner who had reviewed the patent application had known of the prior art used later in PTAB challenges. The study found that in most instances the examiner had not seen the prior art brought forth at PTAB during patent examination. The study identified that a lack of familiarity with emerging technologies and terminology likely prevented examiners from finding relevant prior art during examination. This information could help stakeholders understand why patents are overturned at PTAB and why PTAB outcomes differ from the USPTO's patent quality metrics, although it has not been shared widely and is not presented in conjunction with data on PTAB outcomes.[66]

Stakeholders described another reason why PTAB outcomes would differ from the USPTO's other quality metrics. Namely that USPTO patent examiners have less resources than the outside legal community does. More specifically, as discussed earlier, patent examiners have limited time to examine each patent application, including searching for prior art. Outside patent attorneys, however, can invest many hours in conducting prior art searches, allowing them to find prior art to challenge issued patents at PTAB or in the courts, according to stakeholders we spoke with. This sentiment is also shared by the USPTO, which stated that the patent litigation process allows for significantly more extensive and expensive prior art searches by litigating parties that are unavailable to a patent examiner at the time of initial examination of the patent application.

The USPTO has not clearly communicated why PTAB outcomes are misaligned with internal measures of patent quality and could contribute to poor perceptions of issued patents. For example, one inventor group stated that their organization has concerns with the USPTO reporting high patent quality metrics when this group sees PTAB proceedings resulting in many patents being overturned. This inventor group asked, specifically, how the USPTO can report OPQA data showing nearly 95 percent across the board compliance with patentability requirements while they perceive that the rates of patents being overturned at PTAB are high. While USPTO officials contend that PTAB data do not show a high rate of patents being overturned, these stakeholders still said that there is a

[65]According to USPTO, patents challenged at PTAB are not a representative sample of the overall population of patents due to selection biases both in terms of which patent claims are challenged and which cases go to final adjudication.

[66]The results of the study were presented at the November 2024 meeting of the Patent Public Advisory Committee.

perceived disconnect that creates confusion for inventors—who simply want their inventions patented—as well as investors, who consider investing in businesses on the basis of patents.[67] Confusion caused by misaligned metrics may lead to a decrease in inventing and business investment, according to these stakeholders. Investors may be hesitant to invest if they do not have enough certainty that a company's patents are valid and will hold up to a legal challenge. A decrease in inventing caused by a decrease in investment could limit the USPTO's ability to meet its strategic goals, including the goal of driving U.S. innovation and competitiveness.

A USPTO official acknowledged that the perceived misalignment between OPQA quality metrics and PTAB trial outcomes could cause confusion. They also acknowledged that presenting more data and contextual information could benefit stakeholders. The USPTO's strategic plan also recognizes the relationship between patent examination and PTAB, calling for the USPTO to "strengthen the feedback loop between patents and the PTAB." Standards for Internal Control in the Federal Government also call for agency management to communicate the necessary quality information—internally and externally—to achieve the agency's objectives and to allow external parties to help the entity achieve its objectives and address related risks.[68]

By communicating an overall quality goal, the USPTO could provide stakeholders with more robust and accurate information on patent quality. Furthermore, by continuing to study and present information to the public to explain why patents are overturned at PTAB at higher rates than one might expect by looking at the USPTO's quality metrics, the USPTO could help stakeholders understand the tradeoffs in balancing examination quality with examination timeliness requirements. In helping stakeholders better understand overall patent quality and how it relates to PTAB outcomes, the agency could reduce confusion among stakeholders and help the agency achieve its goals, including its goal of driving U.S. innovation and competitiveness.

[67]A USPTO official stated that patents that were dismissed from a PTAB challenge early (i.e., not instituted) should be included in calculations, which would lower the overall PTAB overturn rate.

[68]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 2014).

The USPTO Does Not Measure the Economic or Scientific Value of Patents for Strategic Planning

While the USPTO has several measures of patent quality and examination timeliness, the USPTO has not adopted patent measures that could help it and stakeholders understand trends in the extent of innovation in the U.S., consistent with the USPTO's strategic and performance goals. In our analysis of patent-related literature, including academic studies and reports from policy organizations, we identified additional measures developed by researchers that could provide valuable insights on trends in innovation in the economy.[69] To monitor innovation trends, USPTO officials told us they track the number of patent applications associated with certain critical and emerging technologies, such as advanced computing and AI.[70]

While researchers have noted that monitoring these application trends can be useful, there are additional measures that can provide greater insights into the inventiveness and originality of a patent and ultimately its scientific or economic value. These measures can suggest whether new patents represent small technological changes or more substantive breakthroughs, with potentially significant benefits to the economy.[71] For

[69]These measures include patent citations, patent renewals, patent family size, and nonpatent references present in a patent application. See for example the OECD report on the definition and measurement of patent quality; Squicciarini, M., H. Dernis and C. Criscuolo (2013), "Measuring Patent Quality: Indicators of Technological and Economic Value", *OECD Science, Technology and Industry Working Papers*, No. 2013/03, OECD Publishing, Paris, https://doi.org/10.1787/5k4522wkw1r8-en.

[70]Fast Track Action Subcommittee on Critical and Emerging Technologies of the National Science and Technology Council, *Critical and Emerging Technologies List Update* (February 2024), https://www.govinfo.gov/content/pkg/CMR-PREX23-00185928/pdf/CMR-PREX23-00185928.pdf.

[71]Ryan C. Hughes, 2024, "Examining U.S. Patent Values: Renewal Choices, Citation Dynamics, and Economic Growth." USPTO Economic Working Paper No. 2024-5 (December 2024)—the author used a combination of patent characteristics and patent renewal outcomes to develop individual patent-level estimates for the total lifetime private values of granted U.S. patents. The study found that the timing of patent forward citations explains significantly more variation in patent values than simple counts of forward citations. Also, compared to other researchers, the estimates suggest an even stronger linkage between innovation activity and growth in output and productivity, while being applicable to a more extensive group of patents and suggesting a positive relation between new technology shocks and employment. (cont.)

example, some measures suggest a patent could be more innovative when it is cited more often by other patents or cites scientific literature more frequently than other patents.[72] The potential effect of patents on innovation or technological development could be associated with the number of breakthrough inventions or with the originality of inventions, according to some experts.[73] USPTO economists told us they are familiar with these metrics and the evolving literature and have used them at times for research purposes.[74]

Using measures like these would align with the USPTO's strategic goals. Several goals from the USPTO's fiscal years 2022–2026 strategic plan relate to innovation. For example, under goal 1 in the strategic plan, the

In another study—Kelly, Bryan, Dimitris Papanikolaou, Amit Seru, and Matt Taddy. 2021. "Measuring Technological Innovation over the Long Run." American Economic Review: Insights, 3 (3)—the authors analyzed the text of patent documents to create "importance" indicators of technological innovation. The study identified important patents based on how similar a given patent was to previous and subsequent work—these patents were considered distinct from previous work (novel) but related to subsequent innovations (impactful). While the indicators correlate with existing measures of patent quality such as citations, they are also significant predictors of future citations than citation counts and significantly correlate with the patent's economic value.

[72]For instance, backward citations, which are determined by the number of citations made in a patent (to other older patents) can help assess the degree of novelty of an invention and investigate knowledge transfer in terms of networks of citations. The number of citations a given patent receives in the future (forward citations) mirrors the technological importance of the patent for the development of subsequent technologies, and also reflects to a certain extent the economic value of inventions. Backward citations to non-patent literature, which cite science, may reflect how close a patented invention is to scientific knowledge and help depict the proximity to novel technological and scientific developments.

[73]Breakthrough inventions are highly novel innovations which serve as a basis for future technological developments, new products and services. These have been found to be strongly associated with entrepreneurship and with further technological development. For example, a study showed that high-quality (i.e. breakthrough) patents may induce subsequent innovations in some energy technology sectors (David Popp, Nidhi Santen, Karen Fisher-Vanden, and Mort Webster, 2012, "Technology Variation vs. R&D Uncertainty: What Matters Most for Energy Patent Success?", http://www.nber.org/papers/w17792). Patent originality refers to the breadth of the technology fields on which a patent relies and has been used in studies showing the importance of innovation, such as the creation of venture-backed start-ups (Paul Gompers, Josh Lerner, and David Scharfstein, 2005, "Entrepreneurial Spawning: Public Corporations and the Genesis of New Ventures, 1986 to 1999, The Journal of Finance, vol. LX, no. 2).

[74]Further, the USPTO Office of the Chief Economist disseminates working papers and reports to the public on the USPTO website. For example, some reports document trends in the extent of innovation related to COVID-19 diagnostics and artificial intelligence as measured by patent applications in those key areas.

USPTO identifies the importance of assessing the effectiveness of supporting innovation through key performance indicators, including indicators of U.S. innovation, especially in key technology areas, as measured by patent data. In measuring progress towards this goal, USPTO officials stated that they have largely focused on measuring the extent of agency outreach to stakeholder communities. Despite the USPTO's strategic goals, the agency does not currently have an established process for tracking or presenting measures of innovation that are not derived from the patent examination process.[75]

Tracking or presenting additional measures of innovation and patent value would better position the USPTO to educate and inform Congress, federal agencies, and the stakeholder community about key trends in innovation across various sectors of the economy. Because the research community has not identified a single best measure in this regard, composite scores of such measures—which some studies suggest would not be difficult to calculate—could provide additional insight into the health of innovation.[76] Other measures could be associated with economic outcomes or indicators of innovation in specific critical technology areas. Additionally, assessing and then adopting additional metrics could help the USPTO—as well as its wide variety of interested stakeholders—gain a more complete understanding of how U.S. patents, and the technological innovation they reflect, contribute to economic growth and the economic resilience of the nation. Conversely, having such measures could help the USPTO and Congress to detect and act on meaningful changes in patent-driven innovation.

Conclusions

Patents promote innovation and economic growth, and the examination of patent applications is complex and challenging. For years, the USPTO has undertaken a variety of initiatives and pilot programs to improve patent examination and overall patent quality, although many challenges persist. By improving the evaluation of its ongoing initiatives and ensuring that the design, implementation, and assessment of pilot programs

[75]However, the USPTO Office of the Chief Economist has a patent inventor metric called the "women's inventor rate" that uses external data to infer gender and track the participation of women inventors named on patents.

[76]See, for example, Squicciarini, M., H. Dernis and C. Criscuolo (2013), "Measuring Patent Quality: Indicators of Technological and Economic Value", OECD Science, Technology and Industry Working Papers, No. 2013/03, OECD Publishing, Paris, https://doi.org/10.1787/5k4522wkw1r8-en. The study proposes a number of indicators and an experimental composite indicator aimed at capturing the quality of patents. These indicators measure the technological and economic value of patented inventions and the possible effect the inventions might have on subsequent technological developments.

consistently align with leading practices, the USPTO would better determine the extent to which programs and policy changes have accomplished their intended objectives and identify potential improvements for future efforts.

Measuring patent examiner performance effectively is important for maintaining and incentivizing high quality patent examination. Taking steps to ensure that performance measures for patent examiners reflect whether issued patents adhere to patentability requirements would help the USPTO incentivize high quality patent examination. In addition, ensuring stronger data integrity in the OPQA review process could help the USPTO improve the transparency and rigor of OPQA's random quality reviews and could limit the agency's exposure to potential perceptions of impropriety related to data manipulation.

Finally, the USPTO's public patent data allow stakeholders to understand the quality of issued patents but do not fully communicate important limitations. Implementing an overall patent quality goal could provide the public with a clearer picture of patents' adherence to patentability requirements. In addition, further studying and presenting information on why PTAB outcomes appear to be misaligned with official quality metrics could provide stakeholders with more context on why some patents are overturned after they are issued. This information could help alleviate stakeholder confusion about patent quality and encourage business investment. Additionally, adopting patent measures to help assess the economic or scientific value of patents could better help the agency understand the extent to which it is achieving its strategic goals of driving inclusive U.S. innovation and global competitiveness.

Recommendations for Executive Action

We are making the following eight recommendations to the USPTO:

The Director of the USPTO should identify ongoing initiatives designed to improve patent examination and quality and take steps to ensure that each initiative is following evidence-based policy-making practices to manage and assess results. For example, initiatives should include clear goals and performance measures, and data collection to support evaluation. (Recommendation 1)

The Director of the USPTO should formalize, document, and implement an approach for creating, managing, and assessing pilot programs that incorporates leading practices for effective pilot program design. (Recommendation 2)

The Director of the USPTO should update guidance to better ensure that supervisory quality reviews result in a valid assessment of examiner performance. This should include consideration of how office actions are selected for supervisory quality reviews and how identified errors are reflected in data. (Recommendation 3)

The Director of the USPTO should implement policies to improve the documentation and transparency of changes made to random quality review outcomes resulting from the OPQA data integrity review process. Such policies should include requiring clear documentation of any change being made to the outcomes, the basis for the change, and the process that led to the change. (Recommendation 4)

The Director of the USPTO should ensure that the Office of Patent Quality Assessment updates processes to have OPQA's data integrity reviews include an appropriate number of random quality reviews that found compliance. (Recommendation 5)

The Director of the USPTO should establish an overall statutory patent quality compliance goal and communicate how that goal relates to the issuance of quality patents. (Recommendation 6)

The Director of the USPTO should examine and communicate externally about the factors that lead to patents being overturned in PTAB trials. (Recommendation 7)

The Director of the USPTO should assess and adopt patent metrics that measure the economic or scientific value of patents, to inform the agency's strategic planning and annual performance report. (Recommendation 8)

Agency Comments

We provided a draft of this report to the Department of Commerce and the USPTO for review and comment. The USPTO concurred with all our recommendations and provided technical comments via e-mail which we incorporated as appropriate. In its comments, reproduced in appendix V, the USPTO highlighted the agency's efforts to continue to balance patent quality and timely examination.

In concurring with our first recommendation to ensure that initiatives follow evidence-based policy making practices, the USPTO noted some efforts to follow these practices and highlighted the agency's efforts to measure the effectiveness of increases in examiner time as one example. We acknowledge the agency's evaluation efforts in some areas; however

the agency has not fully implemented the practices across other initiatives. We continue to believe that doing so will help them better understand whether the agency has achieved its objectives. The USPTO agreed that improving consistency in the agency's patent quality initiatives will benefit their ability to accurately assess results of those efforts.

The USPTO concurred with our second recommendation on formalizing, documenting, and implementing an approach for creating, managing, and assessing pilot programs. The USPTO noted that they consider some of the pilot programs we evaluated to be small trials that are not designed to be scaled up, and thus should not be evaluated for the scalability component of leading practices for pilot programs. We continue to believe that considering scalability in its planning, even on small efforts or trials, will better position USPTO to make informed decisions on whether and how to move forward with initiatives intended to enhance the patent examination process. The USPTO said it will focus on assuring consistent documentation of the process for every pilot program moving forward.

The USPTO concurred with our third recommendation that the agency should update guidance to better ensure that supervisory quality reviews result in a valid assessment of examiner performance. The USPTO said it will reevaluate supervisory examiner guidelines to determine if updates are needed to support consistency regarding the sampling of Office actions and the distinction between when a clear error counts toward a performance rating versus a coaching and mentoring opportunity.

The USPTO concurred with the fourth recommendation and said that the agency will continue to support improved documentation and transparency regarding any changes to outcomes of any random review performed by OPQA.

The USPTO concurred with our fifth recommendation that they also review instances of compliance within the OPQA data integrity review process. USPTO acknowledged the importance of assuring that both compliant and noncompliant reviews are regularly and equally validated in an objective manner.

The USPTO concurred with our sixth recommendation that they develop an overall statutory compliance goal. The USPTO said it recognized that data representative of office actions that are compliant regarding all the patentability statutes is meaningful, and the USPTO is dedicated to ensuring that this information is communicated effectively.

Regarding our seventh recommendation, the USPTO concurred and said that customer confidence and satisfaction can be affected, and lessons can be gleaned when any issued patent claim is later determined unpatentable. The USPTO added that it will continue examining and communicating factors that lead to patent claims being overturned in PTAB trials.

The USPTO agreed with our eighth recommendation and said that the Office of the Chief Economist will continue its work to assess economic and scientific metrics related to patent value and will incorporate these metrics into internal and external strategic plans and performance reporting as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 7 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretary of Commerce, and the Director of the USPTO. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at WrightC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.

Sincerely,

//SIGNED//

Candice N. Wright
Director, Science, Technology Assessment, and Analytics

Appendix I: Objectives, Scope, and Methodology

This report (1) examines challenges that USPTO patent examiners face that could affect the quality of issued patents; (2) assesses initiatives the USPTO has taken to improve patent quality, including pilot programs, and the extent to which the agency has measured the effectiveness of those initiatives; (3) evaluates how the USPTO assesses patent quality and examiner performance regarding quality; and (4) assesses how the USPTO communicates patent quality externally.

For all objectives, we reviewed agency documentation and interviewed USPTO agency officials, including several Deputy Commissioners for Patents. Specifically, we met with officials from the following offices:

- Office of the Commissioner for Patents,
- Office of Patent Quality Assurance,
- Office of the Chief Economist,
- Office of the Chief Financial Officer,
- Office of Patent Legal Administration,
- Office of Patent Training,
- Office of Information Technology for Patents, and
- Office of Enrollment and Discipline.

We also met with officials responsible for the Patent Internal Control Board and the Research and Development unit. We met with several Management Quality Assurance Specialists in the Office of Patent Quality Assurance. These specialists also spoke about their experiences as Supervisory Patent Examiners.

In addition, we met with a representative from the Patent Public Advisory Committee and members of the Patent Examination Professionals Organization (POPA), the patent examiners' union. We also reviewed the

results of the USPTO's Internal Quality Perception surveys of patent examiners from fiscal years 2021 to mid-2024.[1]

For all objectives we also interviewed patent experts and stakeholders, including practicing patent lawyers, academics, industry group representatives, and former USPTO officials. We identified experts and stakeholders by reviewing past GAO products related to patents, conducting a literature search, reviewing relevant congressional testimonies, and requesting recommendations for additional stakeholders and experts from those we had already identified.

To obtain perspectives on the challenges patent examiners face that could affect the quality of issued patents, we conducted six focus groups with patent examiners between May and June 2024. Topics in our discussion guide included perspectives on the quality and output portions of examiner performance reviews, potential impacts of additional examination time, methods for balancing quality and output expectations, policy changes the USPTO has made, and potential policy changes that examiners would like to see. We held two groups consisting of GS-14 patent examiners, two groups consisting of GS-12 and GS-13 patent examiners, and two groups consisting of GS-9 and GS-11 patent examiners.[2] Each group included six to 10 randomly selected patent examiners. Examiner participation in the focus groups was voluntary and a representative from the patent examiners' union attended each group but did not participate. The focus groups were moderated by a trained GAO methodologist using a standardized list of questions to identify and understand examiners' perspectives on patent quality and examination.

For the two groups with GS-14 patent examiners, we did not mix patent examiners from different technology centers in the same focus group,

[1]The USPTO conducts Internal Quality Perception surveys of patent examiners twice each fiscal year to assess satisfaction with topics such as patent examination tools, training, coaching, and mentoring. According to the USPTO, the survey is administered to a representative sample of randomly selected patent examiners, covering all technology areas and seniority levels. The internal quality survey administered to patent examiners focuses on internal and external factors affecting examiners' ability to provide high quality patent examination. Questions on internal factors ask about examiner satisfaction with topics such as patent examination tools, training, and the coaching and mentoring they receive. Questions on external factors ask about examiner satisfaction with incoming patent applications and applicant interactions during prosecution. Recent surveys are available at https://www.uspto.gov/patents/quality-metrics.

[2]All GS-14 examiners we met with had signatory authority. All examiners we met with at other GS levels did not have signatory authority.

meaning that within each group, all participating examiners were from the same technology center.[3] For the GS-14 groups, we also excluded any examiners with less than five years of experience at the USPTO from our focus group selection population to ensure participants had in-depth experience with the patent examination process. Once these restrictions were applied, we then randomly selected examiners as potential participants until each group was filled. For our groups without GS-14 examiners, we used the same random selection process, but we allowed the groups to include a mix of participants from different technology centers and did not apply any restrictions based on years of experience.

For all groups, we excluded design patent examiners from our population.[4] We chose to exclude design patent examiners because they account for less than 4 percent of all patent examiners and the design patent examination process is distinct from the utility patent examination process. Across the focus groups, we met with at least one examiner from each technology center that handles utility patents except for technology center 2600, which handles patent applications related to communication.[5]

Following completion of the groups, GAO reviewed the interview record for each group and categorized the major themes that were discussed. Once all major themes had been identified and characterized, GAO determined how many of the groups discussed each theme. In addition to the focus groups, we also obtained examiner perspectives by reviewing the results of USPTO examiner perception surveys related to quality from fiscal year 2021 through mid-fiscal year 2024.

We reviewed prior GAO reports related to the design of pilot and evaluation programs, and identified leading practices that form a

[3]While we did not mix technology centers within our GS-14 groups, we did meet with GS-14 examiners from two different technology centers across the two groups.

[4]According to USPTO guidance, a utility patent protects the way an article is used and works, and a design patent protects the way an article looks.

[5]We did not intentionally exclude technology center 2600 from the analysis. Rather, no examiners from technology center 2600 made it through the random selection process, either because they were not selected, or because they declined to participate in the group.

framework for effective pilot design.[6] The leading practices for effective pilot design are

1. Establish well-defined, appropriate, clear, and measurable objectives.
2. Clearly articulate assessment methodology and data gathering strategy that addresses all components of the pilot program and includes key features of a sound plan.
3. Identify criteria or standards for identifying lessons about the pilot to inform decisions about scalability and whether, how, and when to integrate pilot activities into overall efforts.
4. Develop a detailed data analysis plan to track the pilot program's implementation and performance, evaluate the final results of the project, and draw conclusions on whether, how, and when to integrate pilot activities into overall efforts.
5. Ensure appropriate two-way stakeholder communication and input at all stages of the pilot project, including design, implementation, data gathering, and assessment.

To identify the 14 pilot programs that we assessed, we first generated a list of programs from public information on the USPTO's patent initiatives website and from communications and documentation the USPTO sent to us.[7] Then we asked the USPTO to verify this list. To collect information on each of the 14 pilot programs from the USPTO, we created a questionnaire with 5 questions related to the five leading practices for effective pilot design.[8] For each of the five questions, we requested that the preparer(s) describe if and how the pilot program met the leading practices and provide documentation to support their responses. We reviewed the agency's responses and supporting documentation to evaluate the extent to which each of the 14 pilot programs followed the five leading practices for effective pilot design to determine whether each practice was

[6]For example, see GAO, *Data Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting Burden*, GAO-16-438 (Washington, D.C.: April 19, 2016); GAO, *Highway Infrastructure: Better Alignment with Leading Practices Would Improve DOT's Reconnecting Communities Pilot Program*, GAO-23-105575 (Washington, D.C.: May 24, 2023).

[7]See https://www.uspto.gov/patents/initiatives.

[8]See GAO, *Data Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting,* GAO-16-438 (Washington, D.C.: April 19, 2016).

- Fully met. The pilot program meets all or most of the components of the leading practice based on the review of the USPTO's response and the provided documentation;
- Partially met. The pilot program met some aspects of the leading practice based on our review, but the program either did not meet every aspect of the leading practice or it was unclear if the pilot program followed some aspects of the leading practice;
- Not met. The pilot program did not implement the leading practice based on our review.

The findings from our analysis of the USPTO's pilot programs are based on the information provided in their responses to our questionnaire and supporting documentation. Any information that was not included in the agency's responses or supporting documentation is not reflected in our findings. We also assessed the USPTO's approach towards pilot programs against federal standards for internal control.[9]

To support our efforts to evaluate how the USPTO assesses patent quality and examiner performance regarding issuance of quality patents, we analyzed data from the USPTO's Integrated Quality System data. This included data from the USPTO Integrated Quality System history log, which provides the history of actions that the USPTO has taken on random quality reviews. We reviewed data from the start of fiscal year 2021 through May 31, 2024. Our analysis of the USPTO's Integrated Quality System examined supervisory quality reviews, as well as the random quality reviews conducted by the Office of Patent Quality Assurance. Our review of the Internal Quality System data allowed us to identify how many supervisory quality reviews each examiner has been subject to. Our analysis of the history log data allowed us to see how the status of OPQA random quality reviews changes over time. Some observations in our history log analysis were excluded from further analysis because the history log showed that the changes only occurred because of technical errors or mistakes. To assess the reliability of USPTO data, we submitted data reliability questionnaires to the agency and conducted data testing. We determined the data to be sufficiently reliable for the purposes of our engagement.

To inform our understanding of the USPTO's current patent quality metrics relative to patent quality metrics that have been used or

[9]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington D.C.: Sept. 10, 2014).

suggested in academic and professional literature, we worked with GAO's Applied Research and Methods team's Center for Library Sciences (CLS) to identify relevant articles. Metrics in our search included those that measure patent breakthrough, originality, or metrics related to patents' economic or scientific value. We started our search using databases including Scopus, ProQuest, and EBSCO for relevant academic articles published between 2015 and 2024 for the U.S. and non-U.S. (particularly, Europe, Japan, and Korea).

The results of our literature search comprised peer-reviewed academic publications, working papers, government reports, and publications by experts and stakeholders. We identified additional articles by conducting internet searches on specific patent quality metrics such as timing of forward citations, breakthrough inventions, radicalness, and originality. We identified eight articles that were appropriate for our purposes, and we reviewed the studies' objectives and assessed the methodologies used. We reviewed the studies' limitations to determine if there were any methodological or data issues that significantly affected the findings or conclusions. We found no methodological or data issues that significantly affected their relevance. For those publications, we followed a two-step process. First, one economist reviewed the study in depth to assess its quality against minimum standards to ensure the data and methodology were sufficient to support key findings and also identified relevant assumptions and limitations. Second, another economist determined whether they agreed with the initial reviewer's quality assessment and the publication's inclusion in our report.

We conducted this performance audit from December 2023 to April 2025 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Overview of Steps in Patent Examination Process

This appendix provides a detailed overview of steps in the patent examination process, which is summarized in this report's background.

Table 3: Overview of Steps in Patent Examination Process

Step in the Patent Examination Process	Description
Receipt of patent application	When the U.S. Patent and Trademark Office (USPTO) receives a patent application, it first reviews the application to determine that it is complete. A patent application includes certain key elements, particularly the specification and the claims. The specification contains a description of the invention, and the claims define the scope of the invention for which the applicant seeks patent protection. Applications can also include an abstract, drawings, and an information disclosure statement of references to prior art—sometimes referred to as citations.
Classification	Because of the significant number of patent applications and issued patents in thousands of different technologies, USPTO, using a contractor, classifies patent applications in categories according to their technical subject matter. Patent classification is useful for prior art searches because it allows an examiner to review a class of applications and issued patents to identify prior art in a specific area of technology that the examiner is familiar with.
Assignment to patent examiner	Based on its classification, an application is then routed to one of the USPTO's technology centers for examination. These technology centers together cover electrical, chemical, and mechanical technology fields, and each center is organized into smaller art units—clusters of examiners who focus on related technologies. Once an application is routed to a technology center and art unit, USPTO assigns it to an examiner. Within the art units, according to USPTO officials, supervisory patent examiners assign applications to examiners based on each examiner's workload, not the application's complexity or the examiner's skills.
Prior art search and examination	During patent examination, the examiner determines whether the invention is novel and not obvious by comparing its claims to relevant prior art—prior patents, patent applications, or nonpatent literature describing a technology, among other things. To do so, the examiner conducts a search to find prior art that, if found, would help the examiner determine that the invention is not novel or is obvious. In addition, the examiner is to determine whether an application's claims clearly and precisely inform persons skilled in the art of the boundaries of the patent requested. According to USPTO guidance, the scope of the claims must be clear in order to inform the public of the boundaries of the patent, and to clearly indicate what the applicant regards as the invention.
Examiner's first decision on application	In determining if a patent is warranted, USPTO examiners use what are referred to as office actions to convey the outcomes of the patent examination process. Through what is called a first office action, or a First Action on the Merits, examiners initially notify applicants about the patentability of their inventions and are to fully communicate any deficiencies in the applications. The applicant may then amend their application or otherwise address any deficiencies in order to continue the examination process. Supervisory examiners may also review some office actions.
Examiner's final decision on application	At the conclusion of the examination, examiners determine whether a patent will be granted in a final office action. If the application is rejected, the applicant may request additional examination. If a patent is to be granted, USPTO issues the patent to the applicant once certain fees are paid. The patent can generally remain in effect for up to 20 years. Supervisory examiners may also review some final office actions.
Office of Patent Quality Assurance reviews	Quality assurance specialists review a subset of first and final decisions after the examiners' work is complete.
Appeals	Applicants and others can appeal an examiner's decisions—including issued patents—before the USPTO's Patent Trial and Appeal Board. In addition, USPTO decisions may be appealed in federal courts.

Source: GAO-16-479 and USPTO information. | GAO-25-107218

Appendix III: List of Reviewed Pilot Programs

This appendix provides a list of 14 USPTO pilot programs we reviewed related to patents that are either currently active or were active since 2016. The table below includes a description of the pilot programs and our categorization of each program.

Table 4: List of Reviewed U.S. Patent and Trademark Office (USPTO) Pilot Programs

Name of Pilot Program	Pilot Program Description	Category
First-Time Filer Expedited Examination Pilot Program	The First-Time Filer Expedited Examination Pilot Program expedites the first office action for inventors who are new to the patent application process.	Expedited Examination
Quick Path Information Disclosure Statement (QPIDS) (Pilot is now closed and has been implemented as a full program.)	The QPIDS program allowed applicants to file an information disclosure statement (IDS) without filing a request for continued examination or paying the associated fees.	Other
Cancer Immunotherapy Pilot Program (Closed)	The Cancer Immunotherapy Pilot Program provided a fast-track review for cancer immunotherapy-related patent applications without the need for applicants to pay a petition fee or to meet the requirements of the accelerated examination program.	Expedited Examination
Cancer Moonshot Expedited Examination Program	The Cancer Moonshot Expedited Examination Pilot Program replaced the Cancer Immunotherapy Pilot Program. This pilot program accepts a broader scope of cancer-related applications and includes applications related to oncology and smoking cession.	Expedited Examination
Climate Change Mitigation Pilot Program	The Climate Change Mitigation Pilot Program is designed to positively impact the climate by accelerating the examination of patent applications for innovations that mitigate climate change.	Expedited Examination
Semiconductor Technology Pilot Program	The Semiconductor Technology Pilot Program expedites the examination of patent applications for innovations that increase semiconductor device production, reduce semiconductor manufacturing costs, and strengthen the semiconductor supply chain.	Expedited Examination
Full First Action Interview Pilot Program	Under the Full First Action Interview Pilot Program, an applicant can attend an interview with the examiner to discuss cited prior art references before the examiner issues a first office action.	Improve examination process
COVID-19 Prioritized Examination Pilot Program (Closed)	Under this pilot program, the USPTO granted qualified requests for prioritized examination for COVID-19 related applications without the payment of fees associated with prioritized examination. This pilot program was for applicants that qualified for small or micro-entity status.	Expedited Examination

Deferred-Fee Provisional Patent Application Pilot Program and Collaboration Database to Encourage Inventions Related To COVID–19 (Closed)	To encourage inventions related to COVID-19, this pilot program permitted applicants with COVID-19 related applications to defer payment of the provisional application filing fee until the filing of a corresponding nonprovisional application. To participate, applicants agreed that the technical subject matter in their provisional applications would be made available to the public via a searchable database that is maintained on the USPTO's website.	Other
OPQA Search Feedback Pilot (Closed)	For a set of randomly selected mailed cases, Review Quality Assurance Specialists (RQAS) conducted their own search of the applications' prior art and evaluated the examiners' recorded search strategy and history. After receiving feedback, the examiners had the option to request a meeting with the RQAS to discuss the feedback and share best practices.	Improve examination process
After Final Consideration Pilot 2.0 (Closed)	This pilot program provides additional time for examiners to search for prior art and consider an applicant's responses after a final rejection. Examiners can also use the additional time to conduct an interview with the applicant to discuss the results of their search	Improve examination process
Technology and Timing Designator Pilot	The purpose of the pilot is to explore a proposed idea for using a new Technology and Timing Designator to improve the assignment of expectancy time to an application.	Improve examination process
Collaborative Search Pilot Program (CSP)	The expanded CSP provides applicants who cross-file their patent applications internationally with search results from multiple patent offices early in the examination process. It is designed to accelerate examination and provide the applicant with more comprehensive prior art by combining the search expertise of examiners at the USPTO and the Japan Patent Office or the Korean Intellectual Property Office before issuing a first office action.	Improve examination process
Complex Work Unit Pilot	The Complex Work Unit Pilot Program was designed to determine the feasibility of requiring the submission of electronic three-dimensional structural data for applications that contain various types of chemical or biological data.	Other

Source: GAO analysis of USPTO information and pilot questionnaire responses. | GAO-25-107218

Appendix IV: Detailed Results of GAO Analysis of USPTO Patent Pilot Programs

This appendix provides detailed findings from our assessment of USPTO pilot programs against leading practices for effective pilot program design.

Figure 9: Detailed Results of GAO Analysis of USPTO Patent Pilot Programs

Name of USPTO Pilot Program / Leading practices for effective pilot design	Establishes clear objectives	Collects relevant data	Evaluates outcomes	Has considerations for scalability	Ensures stakeholder communications
First-Time Filer Expedited Examination Pilot Program	●	●	●	○	●
Quick Path Information Disclosure Statement (QPIDS)	●	◐	○	○	◐
Cancer Immunotherapy Pilot Program (Closed)	●	●	◐	●	◐
Cancer Moonshot Expedited Examination Program	●	●	◐	○	◐
Climate Change Mitigation Pilot Program	●	●	●	○	◐
Semiconductor Technology Pilot Program	●	●	●	○	◐
Full First Action Interview Pilot Program	●	●	●	●	●
COVID–19 Prioritized Examination Pilot Program	●	●	◐	○	◐
Deferred-Fee Provisional Patent Application Pilot Program and Collaboration Database To Encourage Inventions Related To COVID–19	●	●	◐	○	◐
OPQA Search Feedback Pilot	●	●	●	◐	●
After Final Consideration Pilot 2.0	●	●	●	◐	●
Technology and Timing Designator Pilot	●	●	●	◐	●
Collaborative Search Pilot Program (CSP)	●	●	●	●	●
Complex Work Unit	●	○	○	◐	◐

● = Fully met ◐ = Partially met ○ = Not met

Source: GAO analysis of USPTO information. | GAO-25-107218

Note: The results presented in this table were determined by the questionnaire responses and supporting documentation sent to us by USPTO officials.

Appendix V: Comments from the United States Patent and Trademark Office

United States Patent and Trademark Office (USPTO) response
on the GAO Draft Report entitled *Intellectual Property: Patent Office Should Strengthen Its Efforts to Address Persistent Examination and Quality Challenges* (GAO-25-107218*)*

General Comments

We appreciate the detailed work that you and your staff undertook in reviewing the United States Patent and Trademark Office's (USPTO) issues related to patent examination and quality. We know these are complicated issues with overlapping risks and benefits, and the efforts made by your team to understand all our USPTO processes are to be commended. Moreover, the thoughtful, detailed recommendations in your report evidence your staff's appreciation of the importance of the work being performed by the USPTO. USPTO is eager to overlay these recommendations on our current, related efforts as detailed at the end of this memorandum where USPTO responds to each recommendation individually. Before addressing the recommendations particularly, we would like to provide some additional context for matters in the report.

The GAO report cites challenges in patent examination related to time limitations, application complexity, and technology and training, with time constraints as a common thread to all these challenges to examination and quality. The optimal balance between time, quality and cost is a well-documented challenge that ubiquitously faces the USPTO. While the "perfect quality" patent seems like a laudable goal, if USPTO cannot examine and issue a patent timely, the technology can turn stale and less marketable for the patent owner. Longer examination is also costly in USPTO patenting fees that would be required to devote more resources to "perfect quality." Most recently, the UAIA 2024 report, commissioned by the USPTO as part of its fee study report to Congress, extensively discusses the tradeoffs among these factors.[1] In fact, the USPTO regularly reviews these factors and makes necessary adjustments to ensure an optimal balance between them. These efforts are set forth in more detail below and provide a more comprehensive understanding of the ongoing efforts taken by the USPTO offering broader context for the time constraint challenges cited by examiners.

USPTO Has Recently Recalibrated Examination Time

- *A 2019 USPTO study reevaluated examination time in view of changes in technology, prior art, classification and application complexity.*
- *Recent adjustments to examination time and subsequent analyses have demonstrated adequate examination time while maintaining high quality standards.*

In 2019, the USPTO completed a comprehensive reevaluation of examination time. Significant changes in patent prosecution had occurred leading up to this study, among them, new and

[1] The UAIA refers to the Unleashing American Innovators Act of 2022. For the report, see https://www.uspto.gov/sites/default/files/documents/UAIA_Fee_Study_Framework_for_Analysis.pdf

converging technologies of increasing complexity, a growing volume and sources of prior art, and a change to the U.S. system used to classify patent applications and search for prior art. This reevaluation identified an imbalance that put quality at a disadvantage and accordingly examination time was increased. Starting in FY 20, an updated method of assigning examination time was utilized, based on the application's classification "picture," which represents the full complexity of the technology covered in the application and accounts for multi-disciplinary inventions, as well as specific application attributes including the overall number of claims, the length of the specification, and the number of pages in any filed information disclosure statements. This updated method was fully implemented for examiners at the beginning of FY 20 and addresses concerns for both time limitations and application complexity.

The USPTO's recent production and quality data reflects this update and demonstrates that examiners have adequate examination time. As to production, in FY 23, almost half (>45%) of all examiners reached a high level of annual production (>103% of their goal) while less than 6% produced at an unacceptable level (<88% of their goal); see Figure 1.

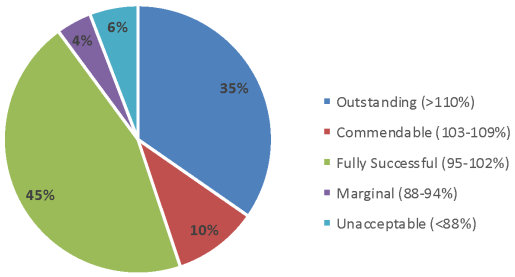


Figure 1: Examiner production achievement in FY 23

As to quality, since implementation of the recalibrated method of assigning examination time, the Agency's patent quality metrics, which are a reflection of Office actions' compliance with each of the four patentability statutes, have dramatically improved in every statute; see Table 1. Additionally, this improvement equates to the issuance of approximately 27% fewer Office actions that included an issue of noncompliance in FY 23; see Table 2.

Fiscal Year	35 USC 101	35 USC 102	35 USC 103	35 USC 112
FY 23	98.2%	96.0%	92.2%	94.4%
FY 20	97.7%	94.3%	88.9%	90.7%
improvement	↑ 0.5%	↑ 1.7%	↑ 3.3%	↑ 3.7%

Table 1: Patent Quality Metrics FY 23 v. FY 20

Fiscal Year	Total # of Random Reviews of Office actions	# Of Random Reviews with at least one noncompliance
FY 23	12,027	1,984
FY 20	12,012	2,708
Difference	----	↓ 724
% Decrease by FY 23	----	↓ 26.7%

Table 2: Number of Noncompliant Office actions FY 23 v. FY 20

As evidenced by the data shown above, the recalibrated examination time appears to be striking an appropriate balance between quality and production today and, in fact, has supported quality improvement over this time span.

USPTO Is Driven by Both Pendency and Quality Goals

- *High production (to affect low pendency) can be achieved through enhanced quality by supporting efficiency gains.*
- *Production and quality are equally valued in detailed updates to the examiner performance appraisal plan.*
- *Quality improvement efforts are targeted and data-driven at the TC and Corps levels to limit negative effects on pendency.*

The USPTO aims to achieve target levels of pendency **and** quality – keeping both in constant view enables us to operate efficiently and effectively to meet the expectations of the IP community. These Agency goals directly translate from individual examiner goals of production and quality since higher production rates reduce pendency. The dynamic relationship between examiner production and quality is complex, and while properly calibrated examination time is critical to achieving an appropriate balance between production and quality examination, it is not the sole consideration. Quality itself drives efficiencies through minimizing rework, permitting more effective applicant responses and reaching quicker prosecution resolutions. Efficiencies are also gained through other quality-focused mechanisms, such as leveraging cutting-edge technological tools like AI to modernize and streamline examination in addition to regularly training patent examiners throughout their career so that they examine in accordance with the latest patent laws and remain abreast of new technological advances.

In FY 21, the USPTO updated the examiner Performance Appraisal Plan (PAP) in support of a more granular evaluation of examiners' quality performance. This new examiner PAP aligned examiner and Agency goals with a greater emphasis on search and including the best prior art as early as possible in prosecution. It provides a roadmap for all examiners, regardless of GS level, to enhance quality by offering a collection of exemplary activities that embody best practices in search, clarity of the prosecution record and compact prosecution. The quality element is assessed through both an error rate and the degree to which Office actions reflect best practices. Moreover, the performance elements related to production and quality are

equally weighted at 30% as a regular reminder to examiners that quality is no less important than production; see Figure 2.

Performance Element	Critical or Non-critical (C or NC)	MBO	Individual Weights (Sum must total 100)	Element Rating (1-5)	Score
I. Production	C		30%		
II. Quality	C		30%		
III. Docket Management	C		30%		
IV. Professionalism and Stakeholder Interaction	C		10%		
			100%	Total Score	

Figure 2: Examiner PAP Performance Element Weighting

The implementation of the new examiner PAP provided an additional tool to encourage exemplary examination practices, to distinguish different levels of performance, and to hold examiners accountable for patent examination quality. Since FY 21, over 500 examiners have faced adverse actions based on unacceptable quality, over 400 resulting in separation from the Agency. This updated examiner PAP not only provides a roadmap to performing quality examination, but also affords clear evidence when quality is not achieved.

Beyond maintaining quality demands at the individual examiner level, the USPTO leverages its patent quality data to address quality improvement through targeted Technology Center (TC) quality action plans. For example, in FY 24, TC 2100 leveraged patent quality data from the Office of Patent Quality Assurance (OPQA) to identify deficiencies in writing proper nonstatutory double patenting rejections using either anticipation or obviousness analysis. TC experts, along with training specialists from the Office of Patent Training (OPT), updated double patenting training materials to deliver an engaging, directed training to TC 2100 examiners to improve their understanding of double patenting and writing proper double patenting rejections. Pre- and post-assessments of learners' skills showed an 11% increase in mastery of the learning outcomes of the double patenting training.

The Office of Patent Quality Assurance (OPQA) collaborates with USPTO's Office of Patent Training (OPT) on a regular basis to discuss how nuances of our overall patent quality metrics can inform Corps-wide and/or technology-specific targeted training. OPQA's detailed quality assessment tool, the Master Review Form or MRF, collects a plethora of root-cause reasons that drive statutory compliance and quality. Focusing training on specific issues, like detailed mapping of the claims to the prior art, rather than broad concepts, like anticipation and obviousness, is more impactful as evidenced by skills assessments before and after training. For example, in FY 22, OPQA patent quality data indicated that while overall statutory compliance decisions were consistent with quality data from previous years, clarity of the decisions written in Office actions could be improved. OPT then crafted a data-driven workshop on Clear and Concise Writing that was mandatory for all examiners. Pre- and post-assessments of learners' skills showed an overall 18% improvement in drafting and editing clear and concise Office actions.

The USPTO's careful recalibration of examination time, updated examiner performance indicators, accountability for quality and targeted TC and Corps-wide examiner training

evidence our constant attention to quality and ensure that quality does not take a back seat to productivity.

USPTO Modernizes Tools to Increase Efficient and Effective Examination

- *Innovative tools are leveraged to assist examination.*
- *State-of-the-art search tools can reduce the time needed for searching and increase the likelihood of identifying the best prior art earlier in examination.*

The USPTO continues to modernize existing tools and innovate new ones to provide state-of-the-art electronic tools to assist examiners in efficiently identifying the most relevant, applicable prior art and to maximize productivity. Continuously leveraging such tools helps to alleviate time constraints overall, and specifically those related to the ever-increasing complexities of applications themselves and the technologies they describe.

For example, to assist examiners in performing more efficient and effective reviews of foreign patent documentation, the Agency recently incorporated AI reverse image search technology, leveraged across 65 global industrial design authorities, providing augmented examination of design patent applications. Additionally, the USPTO has introduced two new AI-based searching tools, "More Like this" and "Similarity Search," into PE2E Search, which is the modern, web-based platform used by patent examiners to perform prior art searches today. "More Like This" uses AI algorithms to generate a list of domestic or foreign patent documents that are most like a specific patent document; "Similarity Search" inputs examiner-selected application information and uses trained AI models to output a list of domestic and foreign patent documents that are similar to the patent application being searched.

As USPTO's examination tools continue to advance and develop, the challenges of time constraints and application complexity can be effectively offset while maintaining our quality standards. We remain ever-diligent in strengthening examination tools so that examiners are well-outfitted with robust tools to enable efficient and high-quality examination, and we will monitor the balance between complexity and efficiency gains from these tools to ensure examination time continues to be properly calibrated.

USPTO Provides Comprehensive Training for World-class Patent Examiners

- *A comprehensive, continual training program ensures examiners have the skills needed to perform their tasks efficiently and effectively.*
- *A variety of teaching modes e.g., virtual and in-person classroom trainings, one-on-one mentoring, instructor-led, computer-based, for newly hired and experienced examiners, ensures all examiners are well-trained in patent examination.*
- *Focused technical training, again through various modes, augments examiner understanding of the technologies they examine.*

The USPTO takes intense pride in its comprehensive training program which provides patent examiners with an exceptional level of training to equip them with the essential skills needed to efficiently perform assigned job functions at the highest standards in support of mission critical USPTO patent pendency and quality goals. The Office of Patent Training regularly assesses training needs, by analyzing data generated by the Office of Patent Quality Assurance and through an annual training needs assessment survey, and responds with appropriate training or programs. See Appendix 1 and 2 for a listing of learning opportunities for examiners at USPTO in FY 24.

Augmenting and updating the knowledge of patent examiners, as they progress through their career, is key to producing reliable and predictable IP rights. With this in mind, the USPTO provides a comprehensive and continual training program, which involves legal, procedural and technical training, that grows in complexity as an examiner grows in experience. These programs include technology specific examples and/or workshops to target issues faced by examiners in their specific area as well as general training in automation tools, soft skills and search training. This diverse, multi-dimensional training program ensures that examiners stay abreast of changes in patent laws, procedures, and advances in technology thereby maintaining reliability, consistency, and certainty of issued patents.

An examiner's training starts with residency in the Patent Training Academy, which begins with a period that is training-intensive followed by a period where examiners spend most of their time reviewing applications and writing Office actions under the guidance of a coach and mentor (i.e., on-the-job training). Both Instructor-Led and Computer Based Training is offered for experienced examiners designed to keep examination skills sharp. These courses are taught by subject matter experts on examination practice and procedure, automation, and software that target workload management as well as communicating with stakeholders.

In addition to the more formal technical training discussed above, technologists, scientists, engineers, and other experts from industry and academia volunteer as guest lecturers to provide technology training and expertise targeted to the patent examiner's specific technology area under the Patent Examiner Technical Training Program (PETTP). Real-world technologies are also showcased to patent examiners through the Site Experience Education Program (SEE Program) where examiners are hosted by commercial, industrial, and academic institutions, within the continental U.S., to learn about their technologies at their source – the inventors. The organizations who volunteer to host these visits contribute to improving the quality of patent examination by keeping patent examiners updated on the latest technologies and innovations in their field of examination. The USPTO continues to look for innovative mechanisms to provide opportunities to deepen the examiners' understanding of the technology where they examine. For example, under the Technical Training on Demand (TTOD) program, the USPTO has partnered with top AI experts in Carnegie Mellon University to create a specialized 21-course curriculum tailored to the needs of patent examiners. The benefits of this collaboration include access to the latest research, best practices, and cutting-edge knowledge in the field of AI. The structured, curriculum-based approach of the courses provides patent examiners with the opportunity to deepen their understanding of AI and build a strong foundation of knowledge that is applicable in their daily work.

USPTO Accurately Measures Examiner Adherence to Quality Standards

- *Quality achievements in examination are readily publicly available.*
- *Quality achievement data is extensively validated throughout the fiscal year.*
- *Quality review procedures in the Office of Patent Quality Assurance are regularly scrutinized for data strength and process integrity.*
- *Aggregate patent quality metrics are most useful when aligned with customers' perceptions of quality and their requests for individual statutory compliance rates.*

The report incorrectly asserts that the USPTO does not track or communicate overall compliance rates with regard to statutory patentability requirements. The USPTO regularly publishes data related to (1) statutory compliance; (2) process measures; and (3) stakeholder perception surveys. At USPTO.gov, the overall compliance rates are published on the Patent Quality Metrics page[2] along with updated perception survey data; detailed process measures are regularly updated on the Patents dashboard as found on the Data and statistics page[3].

The statutory compliance metrics generated by the Office of Patent Quality Assurance (OPQA) are validated through a variety of methods, such as internal OPQA audits, TC feedback in a rebuttal process where disagreements with OPQA are resolved, comparisons to quality reviews performed in the TCs and data collected from external perception surveys. In publishing the statutory compliance metrics, the USPTO communicates compliance rates with each of the individual four patentability statutes as well as the compliance rates with all four statutes simultaneously. The goal of the USPTO is for every Office action to be compliant with all of the patentability statutes.

Reported patent quality metrics are generated from random reviews of Office actions performed by Office of Patent Quality Assurance (OPQA); the volume of random reviews has remained steady at 12,000 since FY 16. OPQA has a staff of primary examiners with demonstrated expertise in search and examination that provide a detailed assessment of the compliance of an examiner's Office action. Since OPQA is not within the same organizational oversight as any Technology Center where examiners prepare Office actions, OPQA's assessment of examiner Office actions is performed in an independent and unbiased manner. In addition, OPQA does not have any targets or incentives for the findings of noncompliance, but does monitor the consistency of OPQA reviews as an additional validation.

OPQA randomizes all Office actions mailed within a previous seven-day period to create a randomized pull list. Reviewers from OPQA are then assigned Office actions for review from the randomized pull list based on their assigned technology area. The random review process provides statutory compliance metrics that have a strong confidence level as evidenced by the sample error rates in Table 3. The yearly volume of reviews provides sufficient data to identify

[2] https://www.uspto.gov/patents/quality-metrics; On this webpage, find Compliance Measures> Review results and click to open the excel spreadsheet for the Data Summary Table; Click on the worksheet tab "Overall" and find at line 35 "Was office action compliant under all statutes?"
[3] https://www.uspto.gov/learning-and-resources/data-and-statistics?MURL=Dashboards; On this webpage, find Patents dashboard to launch detailed processing information from patent operations.

corps-wide trends, provide TC-level insight for select topics, and allows the USPTO to answer many inquiries from our stakeholders in a timely manner.

	Sampling Error for TC Estimates				
	102	103	112	101	Overall
1600	1.1%	1.2%	1.5%	0.7%	2.1%
1700	1.1%	1.8%	1.8%	0.3%	2.3%
2100	1.3%	1.9%	1.1%	1.2%	2.4%
2400	1.2%	1.8%	0.8%	0.8%	2.2%
2600	1.1%	1.5%	1.0%	0.9%	2.0%
2800	1.0%	1.1%	0.8%	0.4%	1.5%
2900	0.9%	0.6%	1.8%	0.0%	2.0%
3600	0.8%	1.1%	1.1%	0.8%	1.7%
3700	1.0%	1.3%	1.1%	0.7%	1.8%
Corps	0.4%	0.5%	0.4%	0.2%	0.7%

Table 3: FY 23 Random Reviews Sampling Errors

In evaluating work product under the statutory compliance standard, OPQA reviewers evaluate how an Office action addresses every claim in an application under examination to ensure that any rejection of a claim was proper relative to each statute under which the claim is rejected and that no proper claim rejections were omitted. By evaluating all claims under each statute, the USPTO is performing many statutory compliance evaluations when reviewing an individual Office action. If the review finds that any single claim has an improper determination under any statute (e.g., an improper rejection was included or a proper rejection was omitted) then the entire Office action is identified as noncompliant regardless of how many proper determinations were made or whether the noncompliance is the result of an independent claim or dependent claim. If all the claims treated in the Office action are treated correctly under every statute, then the Office action is found to be compliant. Any Office action where there was at least one claim found to be noncompliant is ultimately verified by an OPQA supervisor and sent to the relevant TC for consideration and any appropriate action.

Patent quality metrics include not only determinations of statutory compliance rates and assessments of process measures but also analysis of customer perception data. Since 2006, USPTO has semi-annually surveyed 3,000 of our frequent-filing customers (i.e., patent practitioners), who are rotated regularly, to leverage impressions of those who utilize our services most. This perception survey asks questions regarding quality overall and for rejections under each of the patentability statutes. Historical data back to FY 09 provides indicators of how practitioners perceive USPTO's quality in patent prosecution; see Figure 3. As a highlight, in FY 24 Q4, for every 6 responses that found patent examination quality Good or Excellent, there is only 1 response that was Poor or Very Poor. The trends of these perceptions, especially in FY 20 – FY 24, mirror an increase in our statutory compliance measures for the same time period; see Figure 5. Earlier perception trends, such as for FY 11 – FY 15, did not align well with USPTO's former quality metric, the quality composite score, as shown in Figure 4. This lack of alignment, in addition to customer requests, prompted reassessment of USPTO's patent quality metrics in FY 16.

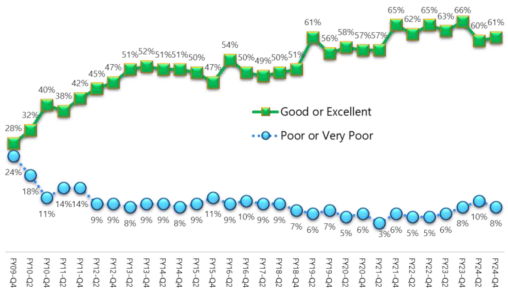


Figure 3: External Stakeholder Perception Survey: "Overall Patent Quality"

Figure 4: Quality Composite FY 11-15

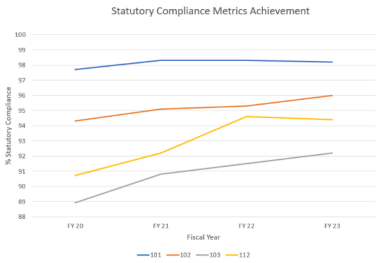


Figure 5: Statutory Compliance Metrics Achievement

The GAO report asserts that "[b]y communicating an overall quality goal, the USPTO would provide stakeholders with a more accurate representation of patent quality." The USPTO and its stakeholders disagree. From FY 11-15, the USPTO communicated an overall quality goal to our stakeholders (i.e., Quality Composite). Our stakeholders expressed that this overall quality goal obfuscated the key drivers of patent quality. As a result, the Agency shifted to the current statutory compliance quality metric approach. Not only did this provide more transparency, it also supported a targeted response to quality issues, and resulted in improved alignment between our internal quality metrics and our external perception survey results. As seen in Figure 4, the quality composite provides little meaning to underlying quality trends. Whereas in Figure 5, one can quickly ascertain the trends for each patentability statute. As such, USPTO maintains that communicating individual statutory compliance metrics is more representative of patent quality than an overall compliance metric and individual metrics are more effective gauges of quality improvements.

As set forth above, the USPTO regularly and accurately measures compliance rates with statutory patentability requirements. The USPTO is committed to assessing the quality of its work products and processes in addition to providing information that is an accurate reflection of examination quality to the public.

9

USPTO Agile Implementation and Assessment of Trial Programs

- *USPTO's "pilot programs" are distinct from true pilot programs that benefit from all GAO's leading practices.*
- *USPTO's small-scale programs track implementation and performance data along with stakeholder participation to assess effectiveness before launching a full program.*
- *Every USPTO program is publicized at inception and memorialized on a single landing page at USPTO.gov*

The report has assessed the pilot programs of the USPTO based on "GAO Leading Practices for effective pilot design" and determined that "the agency's pilot programs have not consistently followed leading practices," including establishing clear objectives, collecting relevant data, evaluating outcomes, considering scalability and ensuring stakeholder communication. The USPTO appreciates GAO's criteria for programs aiming to "pilot" or test potential changes to practice prior to full-scale transformations. However, the USPTO would distinguish the pilot programs noted in the report as small-scale trials with known benefits rather than pilot programs as more commonly understood. As such, some of the GAO leading practices such as considering scalability may not have been applicable for these small-scale, short-term programs. As set forth below, the USPTO followed GAO's leading practices for pilot programs where applicable.

The USPTO regularly implements small-scale programs related to expedited and/or prioritized examination. These would include the First-Time Filer Expedited Examination Pilot, Cancer Moonshot Expedited Examination Program, Climate Change Mitigation Pilot Program, Semi-Conductor Technology Pilot Program, and COVID-19 Prioritized Examination Pilot Program as identified in Figure 5 of the GAO report. In assessing these programs, the report finds that none have considered scalability[4]. The USPTO disagrees.

It is the USPTO's position that this leading practice is not applicable to the COVID-19 Prioritized Examination Pilot Program because it was only intended to be a temporary program (e.g., only during the COVID pandemic). Moreover, data was tracked and participation assessed and final results were evaluated to draw the conclusion that the programs would not be continued due to low participation; see Table 4.

Expedited/Prioritized Examination Small-Scale Program	**Limit of Participation** (i.e., granted petitions)	**Participants** (i.e., granted petitions)
First-Time Filer Expedited Pilot Program	1,000	405
Cancer Moonshot Expedited Examination Program	1,000	57
Climate Change Mitigation Pilot Program	4,000	898
Semi-Conductor Technology Pilot Program	1,000	126

[4] In GAO's leading practice "Consider scalability: Develop a detailed data-analysis plan to track the pilot program's implementation and performance and evaluate the final results of the project and draw conclusions on whether, how, and when to integrate pilot activities into overall efforts" as quoted in the GAO report, Table 3.

COVID-19 Prioritized Examination Pilot Program	N/A	708

Table 4: Participation in Expedited/Prioritized Examination Programs

The report additionally found these programs lacked in "ensur[ing] stakeholder communications." The USPTO disagrees. At USPTO.gov, a landing page for each of these programs is readily found see Table 5, which provides current information to stakeholders regarding the programs. Additionally, the landing pages provide, for example, public comments, questions and answer, and/or "Contact us" information. Each program is robustly advertised via USPTO emails and regular notice is provided via the Federal Register.

Program	Website	Advertised via email	Listed in the Federal Register
First-Time Filer Expedited Pilot Program	https://www.uspto.gov/patents/initiatives/patent-application-initiatives/semiconductor-technology-pilot-program	3/8/2023 3/8/2024 (ext) 3/7/2025 (end)	88 FRN 14607
Cancer Moonshot Expedited Examination Program	https://www.uspto.gov/patents/initiatives/patent-application-initiatives/cancer-moonshot-expedited-examination	12/8/2022 7/18/2024 (virtual event)	87 FR 75608
Climate Change Mitigation Pilot Program	https://www.uspto.gov/patents/laws/patent-related-notices/climate-change-mitigation-pilot-program	6/3/2022 5/31/2023 (ext)	87 FR 33750
Semi-Conductor Technology Pilot Program	https://www.uspto.gov/patents/initiatives/patent-application-initiatives/semiconductor-technology-pilot-program	Press release 11/30/2023	88 FR 83926
COVID-19 Prioritized Examination Pilot Program	https://www.uspto.gov/initiatives/covid-19-prioritized-examination-pilot	5/18/2020 1/3/2022 (ext) 3/24/2022 (ext) 6/28/2022 (ext) 2/13/2023 (ext)	85 FR 23932

Table 5: Programs, Websites, and Exemplary Stakeholder Communications

USPTO Follows Evidence-based Policymaking Practices

- *USPTO's initiatives include clear goals and performance measures, and data collection to support evaluation*

The USPTO relies on evidence-based policymaking practices to manage and assess results. For example, in FY 22, Patents executives recognized a training need based on data from the

Office of Patent Quality Assurance (OPQA) and a training needs assessment survey that is given annually to examiners and their supervisors. The data and survey feedback warranted training on basic writing principles to improve the quality of written correspondence with applicants throughout prosecution. Patent examination is based on a written record and as such, the ability for an examiner to convey the Agency's patentability determinations in a clear and concise manner effects the efficiency of examination process and impacts the ability of patents to withstand challenge.

A pedagogy selected was a 3-part, discipline-specific (Chemical, Design, Electrical, Mechanical) workshop that used independent video learning (Part 1 - recorded by a professional writing coach contracted by the USPTO), Part 2 - a hands-on editing exercise, and Part 3 - instructor-led (TC resources) follow-up discussion to achieve the learning outcomes.

Participants who chose to attend the first session for each discipline agreed to take a pre-video and post-discussion assessment in addition to completing the editing exercise. Assessments were scored using a rubric with 9 standards each rated on a scale of 1-3. The standards were based on the writing principles and common pitfalls taught in the Part 1 video and reinforced in the Part 3 instructor-led discussion.

The assessment results indicated learner writing skills improved 12% from pre-assessment to editing exercise after viewing the video and improved 6% from editing exercise to post-assessment after participating in the instructor-led discussion. Overall improvement from pre-assessment to post-assessment was 18%, which clearly indicated that the learning outcomes were met. Based on this success, the training class was made mandatory for examiners in FY 22.

Patent Invalidation Rates by U.S. Courts and PTAB Are Not Necessarily an Accurate Measure of Patent Quality [5]

- *Litigated patents do not accurately reflect the entirety of USPTO-issued patents often being selected for their commercial success.*
- *Post-grant patent challenges are also distinct from patent prosecution and do not represent patent examination quality.*

While general patent quality perceptions may be informed by court-based and Patent Trial and Appeal Board (PTAB) invalidation rates, it is difficult to draw a conclusion on the overall quality of patents issued by the USPTO using this data. USPTO maintains that this data does not accurately reflect patent examination quality at the USPTO.

As explained in the Sunwater Policy Report on US Patent Quality, adjudicated patents are not a representative sample of the overall population of patents. Rather, such patents are subject to selection biases both in terms which patent claims are challenged and which cases go to final adjudication. In addition, such patents are selected for validity challenges are likely to cover

[5] Sunwater Policy Report on US Patent Quality (September 30, 2024): https://sunwater.org/wp-content/uploads/2024/09/SWI-Policy-Report-Patent-9-23-2024.pdf

innovations that have been proven to be commercially valuable. This not only raises strong selection bias effects governing which patents are litigated, but also allows for significantly more extensive and expensive prior art searches by litigating parties after the patent has issued that are unavailable to a patent examiner at the time of initial prosecution of the patent application. As such, patent invalidation rates are more reflective of the driving factors of litigation and settlement rather than patent quality.

Moreover, post grant challenges under the America Invents Act (AIA) at the PTAB at the USPTO have an extensive time between when the patent application was examined and the AIA challenge as evidenced by OPQA's study of final written decisions issued in 2021.[6] As illustrated in the study, significant changes in patent law and technological advancements occurred during this time; in fact, 93% of the grounds studied relied on at least one prior art reference that was not before the examiner during prosecution. Additionally, the PTAB judges often relied on new information provided by both parties (e.g., expert testimony and analysis of disclosures in references) introduced for the first time in the post grant proceeding leading to a different outcome than found during *ex parte* prosecution.

Altogether, the USPTO maintains that the distinct time periods and driving factors during patent examination versus post grant challenges/patent litigation supports the view that invalidation rates are not necessarily reflective of patent examination quality.

[6] OPQA Study: "A study of unpatentability findings in *inter partes* review (IPR) final written decisions (FWDs): https://www.uspto.gov/sites/default/files/documents/ppac-aia-ipr-study-20241121.pdf

Agreement with recommendations

Recommendation #1:

The Director of the USPTO should identify ongoing initiatives designed to improve patent examination and quality and take steps to ensure that each initiative is following evidence-based policymaking practices to manage and assess results. For example, initiatives should include clear goals and performance measures, and data collection to support evaluation.

USPTO response:

The USPTO concurs with this recommendation.

As highlighted above, the USPTO follows evidence-based policymaking practices tom manage and assess results of initiatives. Improving consistency in all of the Agency's processes, including initiatives designed to improve patent examination and quality, provides benefits with regard to these policymaking practices and the ability to accurately assess results.

Recommendation #2:

The Director of the USPTO should formalize, document, and implement an approach for creating, managing, and assessing pilot programs that incorporates leading practices for effective pilot program design.

USPTO response:

The USPTO concurs with this recommendation and is committed to assuring robust assessment of all pilot programs.

"Pilot programs," by definition, are small-scale, short-term experiments that help an organization learn how a large-scale project might work in practice. The USPTO, however, has expanded the use of this term to include any short-scale program or initiative, even when it is not being run to prove a concept or collect feasibility data such as with the many expedited/prioritized examination initiatives. As a result, some of GAO's leading practices may not be applicable. Moving forward, the USPTO will consider using terms that better describe these programs/initiatives rather than referring to them generally as "pilot programs."

While the USPTO already creates, manages and assesses pilot programs using leading practices, the USPTO will be a focus on assuring consistent documentation of this process for every pilot program moving forward.

Recommendation #3:

The Director of the USPTO should update guidance to better ensure that supervisory quality reviews result in a valid assessment of examiner performance. This should include consideration

of how office actions are selected for supervisory quality reviews and how identified errors are reflected in data.

USPTO response:

The USPTO concurs with this recommendation.

The USPTO has Performance Appraisal Plan (PAP) Guidelines for assessing the performance of patent examiners under the quality element of their PAP.[7] The guidelines provide directions for assuring a valid assessment of an examiner's performance including how Office actions are selected for supervisory quality review and how identified errors are reflected in data. For example, it provides that should the supervisor find that a reviewed Office action fails to demonstrate one or more actions for compliance with the indicia or includes a clear error, the supervisor should review additional Office actions. Additionally, supervisors are instructed to take steps to be aware of examiner's performance throughout the rating period and considerations for selecting the number of reviews to be performed.

The guidelines for the quality element provide depth examples and considerations for determining whether a clear error has occurred. It provides supervisors the discretion to consider whether to provide coaching and mentoring rather than charging a clear error based on the most effective approach for improving the examiner's performance. The guidelines provide the requirement that clear errors, both those that are charged and those that are utilized as coaching and mentoring, are to be clearly documented using appropriate tools (e.g., Integrated Quality System (IQS)).

The review of examiner work product is intrinsic to assuring compliance with examination and quality standards. The USPTO will reevaluate the guidelines to determine if updates are needed to support consistency in practice with regard to the sampling of Office actions and the distinction between when a clear error is held as a PAP error versus as coaching and mentoring opportunity.

Recommendation #4:

T*he Director of the USPTO should implement policies to improve the documentation and transparency of changes made to random quality review outcomes resulting from the OPQA data integrity review process. Such policies should include requiring clear documentation of any change being made to the outcomes, the basis for the change, and the process that led to the change.*

USPTO response:

The USPTO concurs with this recommendation.

[7] Quality Element Utility Patent Examiner Performance Appraisal Plan (PAP) Guidelines (10/01/2021): https://usptogov.sharepoint.com/sites/5ab33ea2/GMTemplate/PAP%20Guidelines%20for%20Utility%20Examiners%20%E2%80%93%20Quality%20element.pdf

The Office of Patent Quality Assurance (OPQA) has established policies that require clear documentation of any change being made to the outcomes, the basis for the change, and the process that led to the change. The policies require that the documentation regarding any change to a review finding, after the regular random review process has concluded, must be consistently housed within OPQA's internal Integrated Quality System (IQS). The USPTO will continue to support improved documentation and transparency with regard to any changes to outcomes of any random review performed by OPQA.

Recommendation #5:

The Director of the USPTO should ensure that the Office of Patent Quality Assessment updates processes to have OPQA's data integrity reviews include an appropriate number of random quality reviews that found compliance.

USPTO response:

The USPTO concurs with this recommendation.

The Office of Patent Quality Assurance (OPQA) performs regular random reviews of examiner Office actions for compliance with the patentability statutes. The random review findings are captured and used to populate a rich, minable data set representative of patent examination quality. This data is considered and used by a number of audiences including Congress. This quality data is also published annually, enhancing transparency for stakeholders. Finally, USPTO leadership relies on this data in making data-informed decisions directed to, among others, quality improvement plans/initiatives, training initiatives, examination tools, as well as in the assessment of examination policy and procedures.

Given the importance of the random review findings, it is crucial to assure consistency and accuracy of all random reviews—both those raising issues of noncompliance and those that find the reviewed Office action to be compliant. To that end, even before GAO initiated its audit, OPQA was testing a new standard operating procedure to assure that both compliant and noncompliant reviews are regularly and equally validated in an objective manner.

Recommendation #6:

The Director of the USPTO should establish an overall patent quality compliance goal and communicate how that goal relates to the issuance of quality patents.

USPTO response:

The USPTO concurs with this recommendation.

The USPTO is dedicated to issuing patents that fully comply with all statutes governing patentability. As discussed above, the USPTO publicly reports overall compliance with all patentability statutes. The USPTO strives for every Office action to be compliant with all patentability statutes by setting compliance targets for each of the individual statutes. It is

recognized that data representative of Office actions that are compliant with regard to all of the patentability statutes is meaningful, and the USPTO is dedicated to ensure that this information is communicated effectively.

Recommendation #7:

The Director of the USPTO should examine and communicate externally about the factors that lead to patents being overturned in PTAB trials.

USPTO response:

The USPTO concurs with this recommendation.

While the number of patent claims invalidated in post grant proceedings under the AIA is small in comparison to the number of patent claims in force, customer confidence and satisfaction are impacted and lessons can be gleaned when any issued patent claim is later determined unpatentable. As discussed above, the USPTO has been actively examining and communicating factors that lead to patent claims being overturned in AIA trials and will continue this effort moving forward.

Recommendation #8:

The Director of the USPTO should assess and adopt patent metrics that measure the economic or scientific value of patents, to inform the agency's strategic planning and annual performance report.

USPTO response:

The USPTO concurs with this recommendation.

The USPTO agrees that patent value metrics can be informative for understanding the use and impact of patents and such metrics can help make patent-founded businesses stronger and more competitive. The Office of the Chief Economist (OCE) conducts studies on the impact and effectiveness of intellectual property protections domestically and abroad. OCE monitors the development and quality of various economic and scientific metrics related to patent value. OCE will continue its work to assess these metrics. Where aligned to the USPTO's interests, the USPTO will incorporate the patent value metrics that the OCE develops into internal and external strategic plans and performance reporting.

USPTO provided technical comments at the end of this document which have been addressed, as appropriate, but not reproduced.

17

The following are GAO's comments on the U.S. Patent and Trademark Office's response on the draft report.

GAO Comments

Balancing quality and timeliness (page 1-2)

We acknowledge the challenge the USPTO has in balancing timeliness and patent quality. Without timely patents innovators cannot bring products to market. We noted this tradeoff in the report. This report does not independently assess or draw conclusions about the quality of USPTO's patents or examiner performance.

Evaluating key initiatives (pages 2 to 6)

We considered new information from USPTO regarding actions to evaluate key initiatives, including examiner time allocations, examiner training, examiner performance appraisals, and search tools. Based on new information the USPTO provided, we removed information on the agency's examiner training efforts as an example of an area that the agency could better evaluate.

Regarding changes to USPTO's examiner performance appraisal plans, we added that the new plans now equally weight examiner output and quality. However, it is not clear what impact these changes have had because the USPTO has not assessed how the new performance appraisal plans affect patent examination thoroughness or other aspects of quality. Regarding the implementation of advanced prior art search tools, we added that the USPTO collects data on how often these tools are used. However, the agency does not assess whether the tools allow examiners to identify more appropriate prior art. Implementing our recommendation to evaluate the effectiveness of its key initiatives can help the USPTO better understand whether the agency's efforts are improving patent examination. As a result, our recommendation to the USPTO regarding the evaluation of key initiatives remains unchanged.

Overall statutory compliance goal (page 9)

We acknowledge that USPTO did not view a "composite" patent quality score as an effective approach to measuring patent quality, and our recommendation was not to return to the composite score or similar approach. Rather, our recommendation is for USPTO develop a goal for statutory compliance with all four sections simultaneously. We clarified that USPTO already calculates this metric but does not have a goal for it.

Patent invalidity as measure of patent quality (page 12-13)

In our report, we provided additional context and caveats with respect to USPTO's comments about the limitations of using federal district court and Patent Trial and Appeal Board (PTAB) invalidation rates as measures of patent quality.

In our work, we found that while the USPTO reports nearly 95 percent compliance with patentability requirements for issued patents, invalidation rates can contribute to confusion about the quality of issued patents, as shared by various stakeholders we spoke with. Our report notes a USPTO effort to study the underlying causes of patent invalidations at the PTAB, which the agency has not widely shared. In light of this, we recommended that the USPTO should examine and communicate externally about the factors that lead to patents being invalidated—i.e., overturned. We maintain that doing so would provide the public with a better understanding of why issued patents are overturned at rates that seem higher than some patent owners might expect based on the agency's measures.

Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact

Candice N. Wright, WrightC@gao.gov

Staff Acknowledgments

In addition to the contact above, GAO staff who made key contributions to this report are Rob Marek (Assistant Director), Michael Krafve (Analyst-in-Charge), Eleni Orphanides (Analyst-in-Charge), Allison Henn, Jacob Selgestad, and Nathaniel B. Walker. Other staff who contributed include Victoria Aysola, John Bornmann, Mark Braza, Peter Del Toro, Branden Dutchess, Patrick Harner, Michael Hoffman, John Karikari, and Curtis Martin.