



Implementation Plan for Gold Standard Science: Second Annual Report

June 23, 2026

Office of Policy Development & Research

Contents

Introduction.....	1
Current Implementation of Gold Standard Science	2
Reproducible	2
Transparent.....	3
Communicative of Error and Uncertainty	4
Collaborative and Interdisciplinary	5
Skeptical of Its Findings and Assumptions	6
Structured for Falsifiability of Hypotheses	6
Subject to Unbiased Peer Review	7
Accepting of Negative Results as Positive Outcomes	7
Without Conflicts of Interest.....	7
Year Two Achievements.....	9
Revise HUD’s Evaluation Policy and Internal Policies	9
Develop Training on Gold Standard Science for HUD Leadership and Staff	10
Further Integrate Gold Standard Science into Funding Opportunities.....	11
Leverage Technology to Enhance Gold Standard Science	11
Plans for Future Implementation of Gold Standard Science	14
Train HUD Leadership and Staff on Gold Standard Science.....	14
Publish HUD’s Updated Evaluation Policy	14
Leverage Technology to Further Enhance Gold Standard Science.....	14
Finalize and Pilot an Approach to Assessing HUD’s Adherence to Gold Standard Science ...	14
Conclusion	15
Appendix: Training for HUD Staff on Gold Standard Science	16

Introduction

On May 23, 2025, President Trump signed [Executive Order 14303](#), Restoring Gold Standard Science, to ensure that federally funded research is transparent, rigorous, and impactful and that federal decisions are informed by the most reliable, credible, and impartial scientific evidence available. EO 14303 defines *Gold Standard Science* as science that is conducted according to the following nine tenets:

1. Reproducible.
2. Transparent.
3. Communicative of error and uncertainty.
4. Collaborative and interdisciplinary.
5. Skeptical of its findings and assumptions.
6. Structured for falsifiability of hypotheses.
7. Subject to unbiased peer review.
8. Accepting of negative results as positive outcomes.
9. Without conflicts of interest.

The White House's Office of Science and Technology Policy (OSTP) issued guidance to agencies on integrating Gold Standard Science into all aspects of their scientific activities, from the design of research to public communication of results. OSTP also requires agencies to report annually on their progress. Updates should include descriptions of how the agency is addressing each of the nine tenets, development of standardized metrics and evaluation mechanisms to assess implementation and impact, plans for training staff on Gold Standard Science, discussion of how technology is being leveraged to improve implementation, and descriptions of any challenges encountered along the way.

The U.S. Department of Housing and Urban Development (HUD) welcomes EO 14303 and OSTP's guidance as an opportunity to strengthen the culture of rigor, transparency, and objectivity that characterizes the Department's production of scientific information. In July 2025, HUD submitted its first annual report to OSTP.¹ This second report updates the first by outlining the Department's latest implementation of Gold Standard Science, including (1) a description of how the agency is addressing the tenets of Gold Standard Science; (2) achievements over the past year, including challenges encountered; and (3) HUD's plans for future implementation of Gold Standard Science.

¹ HUD's first annual report is available on the Department's Gold Standard Science website: <https://www.hud.gov/gss>.

Current Implementation of Gold Standard Science

Evidence building occurs across HUD, but the primary responsibility for producing scientific information rests with HUD's Office of Policy Development and Research (PD&R). PD&R's mission is to improve life in American communities by building evidence to inform and strengthen housing and community development policy and practice and accelerate progress on HUD's priorities.

PD&R evaluates HUD's policies and programs, identifies emerging policy challenges and opportunities, supports innovation in building technologies and policy, manages HUD's scientific data, provides policy advice and support to HUD's Secretary and program offices, and elevates best practices in housing and community development across the federal government and beyond. PD&R conducts most of its scientific research through contracts and cooperative agreements with external researchers.

Since its founding in 1973, PD&R has cultivated and sustained a national reputation for rigor and independence and for effectively translating research into policy.² The tenets of Gold Standard Science are codified in HUD's Evaluation Policy,³ as well as in its research culture, funding opportunities, award selection and reporting, and other scientific activities. The section below elaborates on how HUD is addressing each of these tenets, including a definition of each tenet excerpted from OSTP's guidance.

Reproducible

Reproducibility in science is the ability of independent researchers to test a hypothesis through multiple methods and consistently achieve results that confirm or refute it, ensuring findings are generalizable and robust across different approaches. Replicability is the ability to perform the same experiment or study using the same methods and conditions to achieve the same result.

Reproducibility and replicability in the social sciences depend upon clear concepts and careful documentation of research methods. PD&R's research culture, reflected in HUD's Evaluation Policy, places a high value on clarity of conceptualization and careful documentation of research methods. For example, when PD&R undertakes a methodologically complex evaluation of a HUD program, it typically publishes the research design to provide transparency to the research community and ensure that researchers are accountable to the original design, explaining any deviations if necessary.

Data access is often a key ingredient for replication. HUD publishes final data and programming code to the extent feasible and archives administrative and evaluation data for secondary use by interested researchers where possible. External researchers can access data through data licenses,

² PD&R was created when the Department combined its previously separate research and policy functions to make research more relevant to policy and policy more grounded in empirical evidence.

³ At the writing of this report, HUD's Evaluation Policy is being revised to explicitly align with Gold Standard Science. For updates, see <https://www.huduser.gov/portal/about/evaluation-policy.html>.

data use agreements, interagency agreements, and formal research agreements with relevant entities.

Some of HUD's most important studies are too large and complex to be replicated in their entirety, but publishing resulting datasets allows the findings to be replicated and verified. For example, HUD's [Moving to Opportunity](#) demonstration randomized 4,600 participants to one of three housing conditions and lasted more than a decade—an experiment that would be impossible to replicate fully. However, a public use file with the study data was made available through the Inter-University Consortium for Political and Social Research (ICPSR), which permitted replication of the study's results. In recent years, HUD has also sponsored several replication studies, such as the [Jobs Plus Replication Study](#) (2021), which evaluated HUD's attempt to replicate the outcomes of the first round of Jobs Plus demonstration sites, and the [Analysis of Housing Finance Issues Using the American Housing Survey](#) (2003), which tested the reliability of the American Housing Survey by replicating measures of mortgage activity from other reliable sources of data.

Many studies that cannot be replicated in their entirety—such as the Moving to Opportunity Demonstration or the [Effects of Housing Vouchers on Welfare Families](#) study—lay the groundwork for future studies that build the evidence base by testing similar hypotheses with different approaches. Indeed, reproducibility has been a hallmark of HUD's research over the past few decades. HUD's research agenda supports multiple studies of the impact of housing assistance and services on key household outcomes, such as housing stability, health, employment, and earnings, and Congress has historically funded studies that examine the same types of outcomes in different contexts.⁴ For example, since the 1990s, HUD has sponsored a series of distinct studies that examined how the receipt of tenant-based rental assistance affects where households live and how much they work.

Transparent

Transparency in science entails the open, accessible, and comprehensive sharing of all components of the research process—methodologies, data, analytical tools, and findings—to enable stringent scrutiny, validation, and reuse by the scientific community and the public.

HUD primarily achieves transparency by publishing its research and data products on the HUDUser.gov website. PD&R created HUD User in 1978 to distribute relevant research and information. Today, HUDUser.gov is a multimedia resource for housing stakeholders, with nearly 44 million monthly hits (FY 2025). PD&R's research culture places a high value on transparency and publication of HUD reports and data products. To the extent possible, PD&R endeavors to publish all interim and final reports within 6 months of completion. In addition, in most cases, PD&R permits contractors to publish their findings within 6 months of the contract ending if HUD has not already published them. PD&R's research publications typically include

⁴ HUD's research budget and priorities are determined by its research agenda and congressional appropriations and direction.

detailed methods sections and methodological appendixes, including disclosure of experimental protocols (if such exist) and analysis methods.

As noted earlier, HUD's Evaluation Policy explains that HUD will archive administrative and evaluation data for use by interested external researchers when possible. In cases in which research data are especially high quality (such as data produced through a randomized controlled trial or representative sampling methods), and data are useful to the general research community, HUD endeavors to make the data available in a public use file through vehicles such as the U.S. Census Bureau's Data Linkage Infrastructure and ICPSR at the University of Michigan. Funding for research contracts and cooperative agreements may include support for the grantee or contractor to prepare and document data files for public use.

To support the implementation of EO 14303, HUD's Office of the Chief Information Officer (OCIO) is coordinating efforts to ensure that technology systems align with the principles of Gold Standard Science. This work includes facilitating the public disclosure of data, models, and source code; improving data traceability; and promoting the use of advanced tools, including artificial intelligence (AI), to enhance reproducibility and transparency. OCIO is also leading the development of internal mechanisms to monitor compliance with scientific integrity, consistent with federal open data and evidence-building policies.

Transparency also extends to HUD's processes for funding research through cooperative agreements and contracts. The evaluation criteria used to review and score applications for cooperative agreements and contract bids are published as part of the Notices of Funding Opportunity (NOFOs) (cooperative agreements) or the Request for Contract Services (contracts). The evaluation criteria for both include requirements for data sharing if appropriate and feasible. HUD also has procedures for debriefing unsuccessful applicants for cooperative agreements and contract bidders upon request.

Communicative of Error and Uncertainty

Communicating error and uncertainty in science entails the clear, precise, and accurate disclosure of limitations, variability, and potential sources of error or limitations in measurements or research findings, enabling other scientists to critically assess, replicate, and extend the work.

PD&R's research culture places a high value on clearly communicating error and uncertainty in relation to all studies, including program evaluations, policy-relevant research, and economic analysis of regulations. Further, the culture strongly discourages speculative claims or extrapolations that extend beyond the scope of the data. This sentiment is reflected in the Evaluation Policy, which states that rigorous evaluations must clearly communicate the generalizability of the findings as well as caveats and areas of uncertainty.

For economic analyses of regulations, HUD endeavors to produce the best objective estimates of the benefits, costs, and transfers resulting from the regulation, while accounting for gaps and uncertainties in available data and methodologies. In reviewing research designs and reports, PD&R staff look for information—such as confidence intervals and measures of multicollinearity—that can affect the validity of the analysis and interpretation of results. For

studies conducted by contractors and grantees, PD&R staff work with the external researchers to ensure that this information is clearly presented in the report or its technical appendixes.

HUD communicates error and uncertainty in its reports and data products by providing clear explanations of methodological constraints and assumptions and reporting confidence intervals, error margins, p-values, and results of sensitivity analyses. For example, the [Long-Term Impact Report](#) from HUD's First-Time Homebuyer Education and Counseling Demonstration includes multiple appendixes that detail the study's analytic methods, reports on sensitivity analyses the study team conducted using alternative outcome specifications, presents the findings for all impact analyses conducted for the study (not just those featured in the main body of the report), and offers clear instructions for the lay reader on how to interpret impact estimates, confidence intervals, minimum detectable effects, and other key concepts for interpreting the study results.

Collaborative and Interdisciplinary

Collaborative and interdisciplinary science refers to the strategic integration of a wide range of expertise, methodologies, and perspectives across disciplines and sectors to address complex scientific challenges and catalyze transformative discoveries.

Collaboration and interdisciplinarity are fundamental components of the research culture at HUD. PD&R's mission is to build "evidence to inform and strengthen housing and community development policy and practice and accelerate progress on HUD's priorities." This mission requires drawing on a range of disciplines, from architecture to urban studies. PD&R research staff come from a variety of disciplines spanning the humanities; economics and finance; architecture and planning; the social, biological, and natural sciences; and engineering. PD&R research staff collaborate with HUD program offices and external stakeholders to gather input into HUD's research agenda and project-specific research designs. Funding opportunities are not restricted to single disciplines and often require multidisciplinary teams. Grants and contracts for research often include an external panel of experts from several disciplines to comment on key project deliverables, such as the research design, data collection and analysis plan, and substantive reports.

In addition to bringing together interdisciplinary teams, PD&R staff collaborate with colleagues across offices and federal agencies to benefit from their expertise or data resources. For example, PD&R works regularly with HUD's Office of Lead Hazard Control and Healthy Homes and has collaborated with the U.S. Department of Health and Human Services to inform a research agenda on housing and health. In another example of collaboration, PD&R deposits data from its large randomized controlled trials with the [Census Bureau's Data Linkage Infrastructure](#), where the data are available for linkage and analysis.

HUD supports internal and external collaboration by ensuring that HUD staff have access to collaborative digital tools, including platforms that can be used to facilitate real-time communication, data sharing, and document sharing. Ensuring that HUD staff and research stakeholders have access to centralized data storage solutions also ensures the timely transfer of knowledge.

Skeptical of Its Findings and Assumptions

Maintaining constructive skepticism of findings and assumptions in science refers to the critical and open-minded evaluation of research findings, methodologies, and underlying assumptions to ensure their validity, robustness, and reliability.

HUD's research culture emphasizes the need for constructive criticism and a skeptical eye throughout the research process. PD&R staff are trained to critically review all steps in the research and evaluation process, question findings, and assess underlying assumptions. Research staff routinely engage in constructively critical and deliberately skeptical discussions of research, including staff's own work. The teams that rate and review applications for cooperative agreements and proposals for contracts also engage in healthy debate and open-minded evaluation.

Cityscape, PD&R's multidisciplinary journal of housing and community development, plays a role in fostering debate and constructive skepticism. As PD&R's Assistant Secretary Michael Stegman wrote in his introductory essay to the journal's third volume, "*Cityscape* began publication in 1994 with a commitment to present research that would 'challenge long-held assumptions . . . and encourage innovative thinking' on the crucial housing and urban development issues facing our Nation." To that end, *Cityscape* regularly features symposia presenting different perspectives on a topic, for example, "Federalism and Flexibility: Fifty Years of Community Development Block Grants." *Cityscape* also sometimes publishes a "Point of Contention," in which scholars with differing viewpoints are encouraged to respond to a common question, such as whether eviction can be accurately measured in the American Housing Survey.

Structured for Falsifiability of Hypotheses

Structuring science for falsifiability of hypotheses entails designing research studies and experiments to enable hypotheses to be carefully tested and potentially disproven through empirical evidence.

HUD is committed to using the most rigorous methods feasible, using experimental or quasi-experimental methods when possible to enable the falsification of hypotheses and the assignment of causation. Randomized controlled research designs create counterfactuals so that observers may ascertain whether outcomes would have been the same without the intervention, thereby enabling falsification of hypotheses.

Recent HUD studies with randomized controlled research designs or experimental or quasi-experimental analysis include [Moving to Opportunity](#); [Welfare to Work Voucher Program Evaluation](#); [Family Options Study](#); [Small Area Fair Market Rent Demonstration Evaluation](#); [Supportive Services Demonstration](#); [Housing and Children's Healthy Development Study](#); [Rent Reform Demonstration](#); [Choice Neighborhoods Evaluation](#); [Family Self-Sufficiency Program Evaluation](#); [HUD First-Time Homebuyer Education and Counseling Demonstration](#); [Evaluation of the Community Choice Demonstration](#); and [Evaluation of the Moving to Work Demonstration Expansion](#).

Subject to Unbiased Peer Review

Subjecting science to unbiased peer review (sometimes referred to as merit review) refers to the impartial and independent evaluation, by qualified experts, of both research proposals and manuscripts that report results of federally supported research, to ensure validity, quality, and credibility prior to funding, publication, or dissemination.

HUD uses unbiased peer review to review, select, and award federal grants and contracts. During the application review process, HUD reviewers are required to disclose any conflicts of interest with applicants and recuse themselves if a conflict exists. In keeping with this policy, research proposals undergo independent, impartial peer review guided by clear, transparent review and evaluation criteria. The review process is standardized to ensure objectivity and consistency. Reviewers are selected on the basis of expertise and independence. Reviewers for grants must be able to attest that they have no conflicts of interest, complete a financial disclosure report, and commit in writing to avoid disclosure of material used in the review process. Contracts incorporate the Federal Acquisition Regulation clause 52.203-16, Preventing Personal Conflicts of Interest, which covers reviewers of proposals. Reviewers are instructed to provide unbiased technical reviews in relation to the published rating factors and to recommend awards based on merit. Rating factors and evaluation criteria are published with each Request for Contract Services and each NOFO. For both contracts and cooperative agreements, reviews and recommendations are documented and stored. Many of the articles in HUD's journal *Cityscape* also undergo peer review before acceptance and publication.

Accepting of Negative Results as Positive Outcomes

Accepting negative results as positive outcomes in science refers to recognizing and valuing—as meaningful contributions to knowledge generation—null or unexpected findings that fail to support a hypothesis.

HUD's research culture values the publication of all methodologically valid results, including negative results. HUD has a track record of publishing reports with null findings for some or all the outcomes tested. Recent publications with null findings on key hypotheses include the [Rent Reform Demonstration](#), the [Family Self-Sufficiency Program Evaluation](#), and the [HUD First-Time Homebuyer Education and Counseling Demonstration](#).

Without Conflicts of Interest

Conducting science without conflicts of interest refers to ensuring that research is designed, executed, reviewed, and reported free from financial, personal, or institutional influences that could bias outcomes or undermine objectivity.

HUD's research culture acknowledges and prohibits conflicts of interest. The Department allocates much of its research funding through contracts and cooperative agreements and ensures that this process is conducted without undue influence, including the appearance and reality of bias.

Reviewers who participate in HUD's peer review process must comply with all laws and regulations applicable to the procurement of research through contracts and to federal grantmaking. For example, before any contract review process, contracting officers (COs) ensure

that applicable participating staff (for example, members of Technical Expert Panels and Source Selection Authority) certify that they have no conflicts of interest via formal paperwork (e.g., form SF 278 for presidential appointees and senior executives and form OGE 450 for career staff). When conflicts are identified, the Agency Ethics Officer reviews all reported financial conflicts of interest. COs are responsible for ensuring that the Agency Ethics Officer has reviewed and certified all disclosure forms before finalizing the review process.

During the review process, several mechanisms are employed to avoid conflict-of-interest issues. For example, proposal information is not shared with Technical Expert Panel advisors. If an advisor identifies a conflict upon learning of proposing firms, they must immediately notify relevant parties, stop advising the panel, and comply with any disclosure-reporting duties and requirements. To ensure that HUD's staff comply with conflict-of-interest regulations and processes, staff maintain required certifications, such as the Contracting Officer's Representative (COR) certification, and participate in regular trainings about ethics, procurement, and federal grantmaking.

Year Two Achievements

HUD's 2025 report to OSTP described how HUD, primarily through PD&R, has a research culture, policies, and practices that align with Gold Standard Science. However, last year's report also identified areas where HUD could improve. The Department has strengthened its adherence to Gold Standard Science through four main actions:

1. Revise HUD's Evaluation Policy and Internal Policies.
2. Develop training for HUD leadership and staff on Gold Standard Science.
3. Further integrate Gold Standard Science into funding opportunities.
4. Leverage technology to enhance Gold Standard Science.

The following section provides a more detailed description of HUD's achievements.

Revise HUD's Evaluation Policy and Internal Policies

A key goal over the past year was updating HUD's Evaluation Policy, which captured some tenets of Gold Standard Science better than others. First published in 2016, the Evaluation Policy articulates HUD's commitment to the six principles that govern its evaluation work: rigor, relevance, transparency, independence, ethics, and technical innovation. The policy covers evaluations, as defined by the Evidence Act (Foundations for Evidence-Based Policymaking Act of 2018); regulatory impact analysis; and the Department's other research and evidence-building activities. It applies to all contractors, grantees, and HUD staff involved in this work.

In revising the Evaluation Policy, the Department prioritized integrating all nine tenets of Gold Standard Science, improving alignment with the Evidence Act, and streamlining language. At the writing of this report, the revised Evaluation Policy is in Departmental clearance. HUD plans to publish the new policy on the Department's Gold Standard Science landing page and in the Federal Register following Departmental clearance.

The Department also identified opportunities to update some of its internal policies that address scientific research. A key achievement was codifying PD&R's data-sharing policy. HUD shares a variety of data with other federal agencies and the public, but the process for doing so has not been consistently communicated or articulated in one place. The updated internal policy, currently being finalized, covers restricted-use data, including individual- and household-level administrative data and high-quality evaluation data with personally identifiable information (PII). It also covers public-facing data, such as aggregated administrative data, survey data, geospatial data, and statutory datasets derived from census data. The new policy will reduce the burden associated with sharing data, enhance the Department's efficiency, and improve the transparency of HUD's research.

HUD has also drafted internal policies to govern the use of artificial intelligence (AI) in its periodicals—*Evidence Matters*, *PD&R Edge*, and *Cityscape*. *Evidence Matters*, published quarterly, presents evidence-based analyses of research findings about key housing and urban development topics to inform practitioners, advocates, state and local policymakers, Congress, and researchers on future policy directions. *PD&R Edge* is an online magazine with articles on PD&R and HUD partners' research, a message from PD&R senior leadership, and a range of

information on housing and community development issues, policies, and case studies. *Cityscape*, published three times a year, is PD&R's journal of policy development and research.

Drawing from existing AI policies of major scholarly publishers and professional organizations, the draft internal policies establish guidelines for the responsible, ethical, and effective use of AI. The draft policies address creating, editing, and reviewing materials. They also describe acceptable uses of AI and required disclosures to promote efficiency in research while maintaining PD&R's reputation for rigor and credibility. HUD will continue to work on these policies in the coming year.

Finally, HUD has established a new internal data security working group. The goals of the group include (1) formalizing the procedures the agency uses for collecting, managing, and safeguarding data; (2) streamlining overly bureaucratic processes; and (3) training staff. Topics of interest include Statement of Records Notices (SORNs), Paperwork Reduction Act (PRA) procedures, Privacy Impact Assessments (PIAs), and more.

One challenge in updating HUD's internal policies was reaching consensus across different policy stakeholders. The availability of personnel to review and contribute to policy updates was another challenge.

Develop Training on Gold Standard Science for HUD Leadership and Staff

To ensure that agency personnel understand and adhere to the tenets of Gold Standard Science, HUD provided a series of training courses to the Department's researchers. In March, HUD provided an in-depth presentation to PD&R personnel directly involved in producing scientific information. The training explained the importance of Gold Standard Science, covered key definitions, and described each of the nine tenets, often using examples from the Department's research. For example—

- **Reproducible:** Data from HUD's Moving to Opportunity demonstration, a randomized controlled trial (RCT) that randomized 4,600 participants and lasted more than a decade, are made available through the Inter-University Consortium for Political and Social Research (ICPSR), which permits replication of the study's results.
- **Transparent:** HUDUser.gov hosts research, publications, and datasets in housing, community development, and more.
- **Structured for Falsifiability of Hypotheses:** The Family Options Study was a multisite, random assignment experiment designed to study the impact of housing and service interventions for homeless families. Almost 2,300 families were randomly assigned to one of four housing interventions so that researchers could study their outcomes.

In April, HUD provided training to PD&R personnel on the updated data-sharing policy. The training covered the importance of sharing data, the types of data HUD shares, and the ways HUD shares data with other agencies, external researchers, and the public. The training highlighted the particular importance of receiving data products as deliverables when studies are undertaken by external researchers. Best practices included prioritizing data deliverables in the pre-award process and ensuring that proper consents are obtained.

HUD also drafted an introductory course on Gold Standard Science to ensure that HUD staff and leadership are aware of EO 14303, OSTP’s guidance, and HUD’s responsibilities for complying with the EO and guidance. This draft introductory course was designed with both producers and consumers of scientific information in mind. Accordingly, the training prioritizes visual storytelling and minimizes the use of technical terms. The training content (minus the visuals) is provided in the appendix to this report. HUD plans to offer the training in FY 2027.

As with other components of implementation, the main challenge in implementing this activity has been the availability of staff to develop, lead, and participate in training.

Further Integrate Gold Standard Science into Funding Opportunities

HUD’s Grants Management and Oversight Division (GMO) is responsible for providing guidance and policies related to competitive grant programs. Each year, GMO develops the template that the Department will use when publishing its NOFOs. The Fiscal Year 2026 template makes multiple references to Gold Standard Science, including the following:

- The template advises all personnel to familiarize themselves with the requirements of Gold Standard Science before drafting a NOFO.
- If applicants are applying for an award for scientific research, they must check a box attesting that they “commit to complying with administration policies, procedures, and guidance respecting Gold Standard Science (EO 14303).”
- In the selection process, the template states that HUD may also consider (to the extent applicable by law) “applicants with demonstrated success in implementing Gold Standard Science (applicable to research awards).”

In April, GMO highlighted the importance of adhering to Gold Standard Science in a departmentwide training, in which it discussed updates to the NOFO template. HUD published four research NOFOs this year and anticipates that consistent inclusion of Gold Standard Science references will continue to strengthen the rigor of HUD’s grant-funded research.

HUD also conducts contracted research. HUD’s newest research procurements include the following reference to the Gold Standard Science EO: “The services identified in this PWS will adhere to the rules, regulations, laws, standards, and conventions ...as well as the elements of Gold Standard Science that are outlined in the Executive order published May 23, 2025, titled *Restoring Gold Standard Science*.” The Department is working toward including such references more systematically in procurement and contract documents.

Leverage Technology to Enhance Gold Standard Science

HUD works toward meeting the technology expectations of EO 14303 and related directives, including applicable federal requirements and guidance for AI governance, cybersecurity, records management, and enterprise technology management primarily through the leadership of its Chief Technology Officer (CTO), Chief Data Officer (CDO), and Chief AI Officer (CAIO) within the Office of the Chief Information Officer (OCIO). HUD’s OCIO works across HUD’s program offices to ensure that modern, scalable technologies directly support the production, analysis, and dissemination of scientific information. OCIO’s approach emphasizes scientific integrity, transparency, and reproducibility, including safeguards designed to reduce the potential

for ideological or other nonscientific bias or interference in the collection, management, analysis, and communication of data and evidence. In FY 2026, HUD focused on improving HUD’s data quality and use to streamline operations and promote better decisionmaking, trust, and adoption of emerging technologies. OCIO’s key activities in FY 2026 focused on supporting the enterprise data platform and enterprise data governance, as described below.

Enterprise Data Platform

The enterprise data platform is one of two strategies enabling HUD to improve data usage and to unleash the power of emerging technologies. The enterprise data platform is envisioned as a shared, trusted, departmentwide data systems structure that will enable agency leadership to find, understand, and use data at scale. The platform will improve visibility into HUD data assets through standardized metadata, data lineage, stewardship, quality indicators, and documented-use constraints so users can better assess whether data are fit for the purpose.

In FY 2026, HUD has been working on one of the foundations of the enterprise data platform: the enterprise data catalog. The catalog will describe all of HUD’s data systems, making it the authoritative source for what data HUD has and how they should be used, shared, and protected. The catalog is intended to increase data visibility and transparency across HUD while supporting consistent stewardship, access decisions, and scientific use. It will address such questions as the following:

- What data exist, where do they come from, and where do they live?
- What do the data mean, and how can they be used?
- Who “owns” the data, how current are they, and how reliable are they?

One of the goals of the catalog that aligns directly with the tenets of Gold Standard Science is to reduce the risk of data misuse. The catalog will establish clear ownership of and responsibility for data assets and will identify duplicative, underused, and obsolete data. Perhaps most relevant for Gold Standard Science, the catalog will set the stage for HUD to use AI to query its data and perform other functions by ensuring that the underlying data are appropriately documented, quality assessed, access controlled, and suitable for AI-approved-use cases, with human oversight and risk controls consistent with applicable federal AI governance requirements. Those controls will also help HUD reduce reliance on ad hoc tools or unapproved data workflows that can undermine transparency, reproducibility, and security.

HUD began work on the catalog in the fourth quarter of FY 2025 by establishing the foundations and charters for the project and conducting an initial data identification process. In FY 2026, HUD designed and validated the catalog framework and is methodically working to connect to HUD’s data systems in the catalog and prepare for user onboarding. HUD expects to begin enterprise rollout in FY 2027.

Enterprise Data Governance

Enterprise data governance is HUD’s second strategy for improving the use of data and emerging technologies. Governance is at the core of effective data management, providing the framework for decisions, agreements, and accountability. HUD has a two-tiered governance structure, with a

Data Governance Board (DGB) and a Senior Data Council (SDC). Chaired by the CDO and consisting of senior leadership across the Department, the board's job is to set priorities and provide executive oversight. The SDC consists of data users and producers across the Department and is charged with recommending data policies, standards, taxonomies, and models to the board. The governance structure also supports transparent methods, clear documentation of assumptions and limitations, and enterprise oversight of AI-enabled tools and data workflows so that scientific and analytic activities are conducted through approved, secure, and auditable processes rather than ad hoc or unapproved solutions.

Plans for Future Implementation of Gold Standard Science

Implementing Gold Standard Science is a process of continual adaptation, learning, growth, and innovation. HUD will continue to pursue scientific excellence through four main actions:

1. Train HUD leadership and staff on Gold Standard Science.
2. Publish HUD's updated Evaluation Policy and refine internal policies.
3. Leverage technology to further enhance Gold Standard Science.
4. Finalize and pilot an approach to assessing HUD's adherence to Gold Standard Science.

Each action is described below, along with anticipated challenges.

Train HUD Leadership and Staff on Gold Standard Science

HUD will offer introductory training to personnel. The audience of the introductory course will be both consumers and producers of scientific information. HUD will consider several options for offering the training—for example, providing live training at multiple times or creating a recorded course to reside on HUD's website. A draft of the introductory training is included in the appendix to this report.

For producers of scientific information, HUD is also considering an in-depth speaker series. For this more targeted training, internal or external experts would be invited to present on individual tenets of Gold Standard Science. The series would highlight real-world examples and challenges.

The main challenge will be coordinating across HUD to provide the training.

Publish HUD's Updated Evaluation Policy and Refine Internal Policies

After revising HUD's Evaluation Policy to incorporate the nine tenets of Gold Standard Science more fully, HUD plans to publish the updated policy via the Federal Register. HUD will also continue to develop internal policies that address scientific research, including data-sharing policies and policies related to the use of AI in research.

Leverage Technology to Further Enhance Gold Standard Science

HUD's OCIO plans to further its implementation of Gold Standard Science through the following five activities:

1. Reestablish functioning data governance.
2. Catalog all HUD data and associated metadata, lineage, stewardship, and use restrictions.
3. Establish a baseline for HUD data quality and monitoring.
4. Release a new HUD Enterprise Data Management Policy, which will set the guidelines for how HUD organizes, shares, and maintains its data across the department.
5. Release an updated Open Data Plan.

Finalize and Pilot an Approach to Assessing HUD's Adherence to Gold Standard Science

After publishing the updated Evaluation Policy and training agency staff and leadership on EO 14303, HUD will assess adherence to the tenets of Gold Standard Science and their impact on scientific quality using standardized metrics and evaluation mechanisms. At the writing of this report, HUD is completing several major research and evaluation projects and has a draft tool for assessing the adherence of HUD research projects to the nine tenets of Gold Standard Science. In

FY 2027, HUD intends to finalize the tool and review the completed projects for adherence to Gold Standard Science as a pilot test of the approach. This review could potentially use AI to assemble much of the information and produce a preliminary assessment, which would then be reviewed and confirmed by HUD's Evaluation Officer or delegate.

Conclusion

In FY 2026, HUD continued to make progress in meeting the goals of Executive Order 14303, Restoring Gold Standard Science. Noteworthy accomplishments included incorporating Gold Standard Science into HUD's NOFO template, revising HUD's Evaluation Policy to reference and align with the tenets of Gold Standard Science, developing specialized and general training materials to educate HUD staff about Gold Standard Science, and making continued progress on an enterprise-wide data platform and data governance procedure. HUD looks forward to continuing this momentum in the coming year.

Appendix: Training for HUD Staff on Gold Standard Science

Following is the structure and content for the all-staff training on Gold Standard Science planned for FY 2027. The actual training will feature engaging format and delivery.

Slide #	Title	Content
1 (cover slide)	Restoring Gold Standard Science: What the Executive Order Means to HUD Staff	All Staff Training, FY 2027.
2	Welcome, We're Glad You're Here	Agenda: • Importance of Gold Standard Science and Key Definitions. • Key Tenets of Gold Standard Science. • Implementation at HUD. • Resources.
3	Importance of Gold Standard Science	• President Trump issued Executive Order (EO) 14303, Restoring Gold Standard Science, on May 23, 2025. • Alongside EO 14151 and EO 14179, EO 14303 is part of a unified strategy to center scientific integrity, technological leadership, and neutral governance in federal operations.⁵
4	Definition of Gold Standard Science	• EO 14303 defines Gold Standard Science as “science conducted in a manner that is: (i) reproducible; (ii) transparent; (iii) communicative of error and uncertainty; (iv) collaborative and interdisciplinary; (v) skeptical of its findings and assumptions; (vi) structured for falsifiability of hypotheses; (vii) subject to unbiased peer review; (viii) accepting of negative results as positive outcomes; and (ix) without conflicts of interest.”
5	Tenets of Gold Standard Science	1. Structured for falsifiability of hypotheses. 2. Collaborative and interdisciplinary. 3. Communicative of error and uncertainty. 4. Accepting of negative results as positive outcomes. 5. Reproducible. 6. Skeptical of findings and assumptions. 7. Transparent. 8. Without conflicts of interest. 9. Subject to unbiased peer review.
6	[transition slide]	Let's unpack these tenets through some examples...

⁵ EO 14151 is Ending Radical and Wasteful Government DEI Programs and Preferencing, and EO 14179 is Removing Barriers to American Leadership in Artificial Intelligence.

Slide #	Title	Content
7	Evaluation Scenario 1: Employment Basic	• Congress funds a hypothetical demonstration to increase income for working-age adults living in public housing. The program is called “Employment Basic.”
8	1. Structured for Falsifiability of Hypotheses	• Structuring science for falsifiability of hypotheses entails designing research studies and experiments to enable hypotheses to be carefully tested and potentially disproven through empirical evidence.
9	Evaluation Scenario 1: Employment Basic	• Hypothesis: The program increases income for individuals at properties with the program. • Study Design: HUD randomly assigns 40 properties to treatment (i.e., receive the program) and 40 properties to control (i.e., do not receive the program). • Results: An evaluation by Research Firm A finds that people at treated properties experienced a 10-percent increase in income compared with people in control properties.
10	Why Falsifiability Matters	• A hypothesis can be tested. Without testability (or falsifiability), research can tend toward speculation. For example— ○ Testable: The employment program increases income for individuals living at properties with the program. ○ Not testable: Employment programs are good for the country • Defining a hypothesis also protects against cherry-picking results.
11	2. Collaborative and Interdisciplinary	• Collaborative and interdisciplinary science refers to the strategic integration of a wide range of expertise, methodologies, and perspectives across disciplines and sectors to address complex scientific challenges and catalyze transformative discoveries.
12	Evaluation Scenario 1: Collaboration	• HUD’s evaluation team consulted with the Department of Labor to understand the other employment programs available to study participants. • Research Firm A convened an expert panel with labor economists, housing experts, and behavioral psychologists to support the study. • Research Firm A shared the research approach and results with the nonprofit organization running the program.

Slide #	Title	Content
13	Why Collaboration Matters	• Complex problems benefit from incorporating many disciplines/backgrounds. • Collaboration helps ensure that research— ○ Understands the broader context. ○ Doesn't miss important dynamics that could affect outcomes.
14	3. Communicative of Error and Uncertainty	• Communicating error and uncertainty in science entails the clear, precise, and accurate disclosure of limitations, variability, and potential sources of error or limitations in measurements or research findings, enabling other scientists to critically assess, replicate, and extend the work.
15	Evaluation Scenario 1: HUD communicates results alongside...	• Methodological constraints. • Assumptions. • Confidence intervals. • Error margins. • P-values. • Sensitivity analysis results. • All impact analyses.
16	Why Communicating Error and Uncertainty Matters	• It explains how confident we should be in the results. • It prevents misinterpretation or misuse of findings. • It builds public trust. • It points to areas of future research; for example, strengthening the research base for employment programs in public housing...
17	Evaluation Scenario 2: Employment Plus	• Following the success of Employment Basic, Congress funds a subsequent demonstration to test a new program titled "Employment Plus." This program offers a larger number of services at a higher cost. HUD hypothesizes that Employment Plus will yield greater increases in income than Employment Basic.
18	4. Accepting of Negative Results as Positive Outcomes	• Accepting negative results as positive outcomes in science refers to recognizing and valuing—as meaningful contributions to knowledge generation—null or unexpected findings that fail to support a hypothesis.
19	In Practice: Evaluation Scenario 2	• A new evaluation by Research Firm A finds no difference between Employment Basic and Employment Plus. • HUD publishes this finding on its website alongside the results from the initial evaluation of Employment Basic. • Policymakers and the public can learn about the comparative effectiveness of these programs.

Slide #	Title	Content
20	Why Negative Results Matter	• They discourage programs/policies that do not work or are less effective and may offer clues or direction for program improvements or alternative interventions. • They prevent unnecessary duplication in research. • They deepen our understanding of previous research (if interventions only work in certain contexts, if an existing theory is incomplete or wrong, etc.).
21	Evaluation Scenario 3	• Before funding Employment Basic in public housing nationwide, Congress wants to be sure that the findings from the initial evaluation can be trusted.
22	5. Reproducible	• Reproducibility in science is the ability of independent researchers to test a hypothesis through multiple methods and consistently achieve results that confirm or refute it, ensuring that findings are generalizable and robust across different approaches. • Replicability is the ability to perform the same experiment or study using the same methods and conditions to achieve the same result.
23	In Practice: Evaluation Scenario 3	• Congress funds two new evaluations to test the robustness of the initial evaluation of Employment Basic. • An evaluation by Research Firm B uses a different research approach and reproduces Research Firm A's findings: Employment Basic yields a 10-percent increase in income. • Research Firm C reanalyzes the data collected by Research Firm B and obtains the same results, replicating Research Firm A's findings.
24	Why Reproducibility Matters	• If the results of Employment Basic can be consistently reproduced using different methodologies, it gives us greater confidence that the study's findings are accurate and can be relied on for policy decisions. • If the results of Employment Basic cannot be replicated (e.g., a different researcher arrives at a different answer analyzing the same data), more research may be needed before the findings can be trusted.
25	6. Skeptical of Findings and Assumptions	• Maintaining constructive skepticism of findings and assumptions in science refers to the critical and open-minded evaluation of research findings, methodologies, and underlying assumptions to ensure their validity, robustness, and reliability.

Slide #	Title	Content
26	In Practice: HUD Hosts a Symposium	• HUD hosts a symposium to discuss the results of the two replication studies and the initial evaluation of Employment Basic. • Researchers and practitioners discuss and offer constructive skepticism of all three studies.
27	Why Skepticism Matters	• Even well-designed studies can yield inaccurate or misleading results (e.g., due to measurement error or chance findings). • Skepticism helps guard against drawing the wrong conclusions and potentially wasting time, money, and effort. • When in doubt, ask: Is this result real, or could something else explain it?
28	7. Transparent	• Transparency in science entails the open, accessible, and comprehensive sharing of all components of the research process—methodologies, data, analytical tools, and findings—to enable stringent scrutiny, validation, and reuse by the scientific community and the public.
29	In Practice: HUD Publishes Both Replication Studies	• HUD publishes both replication studies, associated code, and the data on HUDUser.gov. • HUD also publishes a brief that summarizes key takeaways from the symposium.
30	Why Transparency Matters	• Findings can more easily be reproduced and/or replicated, thereby deepening our understanding of policies and programs. • Disclosing methods and assumptions permits the dialogue and healthy critique necessary to improve upon the research and/or advance complementary research.
31	[transition slide]	HUD policy requires all staff to follow the following Gold Standard Science tenets.
32	8. Without Conflicts of Interest	• Conducting science without conflicts of interest refers to ensuring that research is designed, executed, reviewed, and reported free from financial, personal, or institutional influences that could bias outcomes or undermine objectivity.
33	In Practice: HUD's Conflict of Interest Policies	• HUD provides annual ethics training. • HUD requires annual conflict of interest filings (SF 248/OGE 450). • HUD makes conflict of interest disclosures available for grant and contract reviewers.

Slide #	Title	Content
34	Why Disclosure Matters	• Disclosure helps avoid biasing the results and leading the government to make decisions about funding and policy that are not in the public interest. • Even the perception of subjectivity in research can lower public trust. • Disclosing conflicts of interest lends credibility to scientific findings.
35	9. Subject to Unbiased Peer Review	• Subjecting science to unbiased peer review (sometimes referred to as merit review) refers to the impartial and independent evaluation, by qualified experts, of research proposals and manuscripts that report results of federally supported research to ensure validity, quality, and credibility before funding, publication, or dissemination.
36	In Practice: Evaluating Applications for Federal Funding	• HUD uses unbiased peer review to review and score applications for federally awarded grants and contracts. • HUD establishes clear and transparent evaluation criteria. • HUD ensures independent, impartial peer review of proposals.
37	Why Unbiased Review Matters	• Unbiased review ensures that choices about funding and publication are based on merit, not personal influence. • It leads to the most efficient use of taxpayer dollars. • It supports better decisions about future funding and policymaking. • It safeguards the integrity of federally funded research.
38	[transition slide]	Implementation of EO 14303 at HUD
39	2027 Activities	• Provide training on Gold Standard Science for HUD staff. • Further integrate Gold Standard Science into funding opportunities. • Publish HUD's Evaluation Policy. • Leverage technology to improve data sharing and public access to data. • Submit annual report on EO implementation to the Office of Management and Budget.
40	[transition slide]	Learn more...
41	Resources	• Executive Order 14303: https://www.whitehouse.gov/presidential-actions/2025/05/restoring-gold-standard-science/ • HUD's 2025 Report: www.HUD.gov/GSS

U.S. Department of Housing and Urban Development
Office of Policy Development and Research
Washington, DC 20410-6000



September 2026