Statement of Objectives (SOO) for

National Provider Directory (NPD) Data Sourcing, Aggregation, and Quality Assurance Services

24 June 2026

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Product Vision

Scope

The National Provider Directory (NPD) will establish a trusted, accurate, and comprehensive source of healthcare provider information that serves as the foundation for improved care coordination, reduced administrative burden, and enhanced transparency across the U.S. healthcare system.

The NPD supports CMS's interoperability and transparency goals by creating high-quality, reconciled provider data that is freely accessible without licensing constraints. By addressing critical data quality issues that currently plague provider directories —including outdated addresses, incorrect affiliations, and fragmented information across NPPES, PECOS, state licensing boards, and commercial sources —the NPD will enable:

- **2+ million active healthcare providers** to maintain accurate directory information through streamlined processes
- **Medicare Advantage plans, payers, and health systems** to build accurate provider networks and reduce "ghost networks" where providers appear available but aren't
- **100+ million Medicare and Medicaid beneficiaries** to find the right provider at the right location
- **CMS programs** to improve oversight, reduce fraud, and support value-based care initiatives

The National Provider Directory (NPD) — **Work Areas (WA) A and E: Ground Truth Datasets and Data Aggregation, Quality & Assurance Services** award will establish reliable, cost-effective access to authoritative external data sources that form the foundation of accurate provider directory information, and will ensure that the data flowing through and out of the NPD ecosystem meets the highest standards of accuracy and completeness. Together, these two work areas anchor the NPD data lifecycle — WA A supplies the authoritative inputs that feed the data pipeline, and WA E validates and improves data quality at both ends of the workflow, creating a continuous improvement loop that ensures the NPD remains accurate and trustworthy over time.

This award will ensure that CMS has consistent, high-quality data flowing from state licensing boards, credentialing organizations, and other authoritative sources into the NPD data ecosystem — and that the data published by the NPD is continuously validated, corrected, and improved through competitive data aggregation and quality assurance services.

Mission Impact

Success in this work area directly supports CMS's mission to strengthen and modernize the nation's healthcare system. Accurate, interoperable provider data is foundational to:

- **Better beneficiary care** through accurate provider directories
- **Reduced fraud, waste, and abuse** through improved oversight
- **Lower administrative burden** on providers and payers
- **Enhanced interoperability** across the healthcare ecosystem
- **Greater transparency** in healthcare delivery

This acquisition is a critical first step in establishing the National Provider Directory as a trusted, authoritative source of provider information that serves the entire U.S. healthcare system.

Context

Organizational Background

The Centers for Medicare & Medicaid Services (CMS) provides health coverage to more than 100 million people through Medicare, Medicaid, the Children's Health Insurance Program (CHIP), and programs established under the Affordable Care Act. CMS seeks to strengthen and modernize the nation's healthcare system to provide access to high-quality care and improve health at lower costs.

Current State and Critical Problems

Healthcare provider directory data is foundational to the U.S. healthcare system, yet it is currently fragmented, inaccurate, unreliable, and difficult to access. This creates cascading problems that harm Medicare and Medicaid beneficiaries, burden healthcare providers, and undermine CMS's interoperability and transparency goals.

Provider directory data today is fragmented across multiple systems:

- **NPPES (National Plan and Provider Enumeration System)**: Contains 7-8 million registered NPIs with limited validation of accuracy

- **PECOS (Provider Enrollment, Chain, and Ownership System)**: Medicare enrollment data with different update cycles for different providers
- **Other CMS Internal Databases**: Including data on laboratories, hospitals, skilled nursing facilities, payers, and other entities, many of which have associated data published on data.cms.gov, Lantern database, and other HHS and/or CMS data publishing resources
- **State licensing boards and Other Authoritative Sources**: Credential data, licensure status, and disciplinary actions with inconsistent formats and accessibility across 50+ state boards
- **Payer and Healthcare System directories**: Insurance companies and health systems often have conflicting information about healthcare providers
- **Commercial data sources**: Varying quality and licensing restrictions that prevent free redistribution

Provider information is often inconsistent across these sources due to:

- Different data collection methods and validation processes
- Varying update frequencies and lag times
- Lack of standardized identifiers beyond NPIs
- Provider name variations and address formatting differences
- Uncoordinated updates of information, especially telephone and address information – credentialing personnel must update numerous disconnected systems even for a simple change such as phone number update
- Incomplete or outdated contact information

This fragmentation creates significant problems across the healthcare ecosystem:

For Beneficiaries:

- **"Ghost networks"** plague Medicare Advantage plans, where providers appear available in various directories but actually don't practice at listed locations, creating false appearances of network adequacy

- **100+ million Medicare and Medicaid beneficiaries** struggle to find accurate information about where providers practice, what services they offer, and how to contact them
- Outdated directory information leads to wasted time, missed appointments, delayed care, and beneficiary frustration

For Providers:

- **2+ million active healthcare providers** shall manually update their information across multiple disconnected systems (NPPES, PECOS, state licensing boards, payer directories)
- The administrative burden of maintaining accurate data in fragmented systems diverts time and resources from patient care
- Providers have no single authoritative source to update their information once and have it propagated across the healthcare ecosystem

For Payers and Health Systems:

- Medicare Advantage plans, Medicaid managed care organizations, and commercial payers struggle to build and maintain accurate provider networks
- Lack of interoperable data forces reliance on expensive commercial data sources with licensing restrictions
- Data quality issues create compliance risks and operational inefficiencies

For CMS Programs:

- Fragmented provider data prevents a unified view across systems
- Inability to validate data accuracy in real-time allows inaccuracies to persist for months or years
- Lack of FHIR-compliant, freely accessible provider data hinders CMS's interoperability policies and transparency initiatives

Business Drivers and Stakeholder Engagement

In October 2022, CMS published a Request for Information (RFI) on the National Directory of Healthcare (NDH) concept and received 332 unique comment letters expressing strong industry

need for accurate, interoperable provider data. CMS launched Human Centered Design (HCD) research in fall 2022 and established a federal working group to explore solutions. Public comments on the CMS Interoperability and Prior Authorization proposed rule further emphasized the critical need for a National Provider Directory to support interoperability policies.

More recently, CMS conducted an NPD Proof of Concept (POC) in January 2026 with five contractors. The POC demonstrated that:

- Diverse Industry Approaches: Industry solutions and vendors exhibit significant variation in their methods for data reconciliation, quality validation, and API delivery, utilizing a range of techniques from rule-based systems to advanced AI/ML models.
- No Single Vendor Solution: A recurring finding is that no single vendor can comprehensively address all NPD requirements, which necessitates a modular, multi-work-area approach to solve specific use-cases.
- Essential Role of Real-World Validation: Automated data quality checks alone are insufficient. Real-world validation services, such as site visits and phone verification, are essential to complement automated processes and significantly improve data accuracy.
- Promise of AI/ML: Advanced AI/ML techniques show considerable promise for enhancing data quality, particularly in scoring, anomaly detection, and entity resolution.
- Complexity of FHIR Endpoint Discovery: The process of finding and validating FHIR endpoints is complex, often requiring a combination of discovery methods including DNS queries, UDAP directory lookups, and manual verification.

Unfulfilled Needs Being Addressed

This acquisition addresses critical unfulfilled needs identified through extensive stakeholder engagement:

- **No Centralized Strategy for Authoritative Data Access** CMS currently has no systematic approach to procuring and managing access to the authoritative external data sources needed for the NPD. The most trusted provider data — state licensing credentials, board certifications, pharmacy data, hospital and facility information, payer data, and credentialing and accreditation status — resides outside CMS systems, held by organizations with inconsistent formats, varying accessibility, and complex licensing terms. Each source requires separate negotiation, different delivery mechanisms, and

ongoing relationship management. Without a dedicated function to manage this complexity, data access is ad hoc, expensive, and unreliable.

- **Licensing Constraints That Prevent Free Data Distribution** Many authoritative data sources carry licensing restrictions that would prevent CMS from freely redistributing reconciled NPD data to industry, academia, and the public. Without careful licensing negotiation upfront — specifically negotiating terms that preserve CMS's right to freely publish derived data — CMS risks building a provider directory it cannot publish without ongoing commercial licensing obligations. This would directly undermine the NPD's core mission of freely accessible, authoritative provider data.
- **No Systematic Mechanism for Continuous Data Quality Improvement** Even when authoritative source data is acquired, provider directory data degrades continuously as providers change locations, affiliations, credentials, and practice status. CMS currently has no structured, competitive mechanism for engaging data aggregators and enrichment vendors to identify and correct errors in provider records on an ongoing basis. Rule-based validation and periodic manual review cannot keep pace with the scale and complexity of 7–8 million registered NPIs across dozens of data sources.
- **No Closed-Loop Quality Feedback Between Data Outputs and Data Inputs** The NPD's data quality cannot be treated as a one-time problem to be solved at ingestion. Data quality must be continuously assessed at both ends of the workflow — validating the accuracy of data entering the pipeline from authoritative sources, and validating the accuracy of data published through the NPD's public-facing directory. Without a mechanism to feed quality findings back to inform data sourcing decisions, errors and gaps in ground truth sources will persist undetected and unaddressed.
- **No Escalation Path for Source Data Quality Issues** When downstream systems identify problems with source data — wrong formats, missing fields, stale records, or delivery failures — there is currently no dedicated function to triage these issues with data providers and drive resolution. This allows data quality problems to persist and propagate through the NPD ecosystem.

Legislative and Policy Mandates

This acquisition supports CMS's interoperability goals, provider data transparency initiatives, and statutory obligations related to provider enumeration and enrollment. The work performed under Work Areas A and E directly advances several legislative and policy priorities:

- **Interoperability and Provider Directory Accuracy** The CMS Interoperability and Prior Authorization Final Rule and related interoperability policies establish CMS's

commitment to making accurate, accessible provider data available to patients, payers, health systems, and the public. An authoritative, continuously improving National Provider Directory is foundational to these goals.

- **Fraud, Waste, and Abuse Reduction** Accurate provider directory data is a critical tool for identifying and reducing fraud, waste, and abuse in Medicare and Medicaid. Ghost networks — directories that list providers who are not actually available to patients — represent a significant and well-documented problem in the healthcare system.
- **NPPES and PECOS Modernization** CMS has statutory authority to operate provider enumeration (NPPES) and enrollment (PECOS) systems and to replace them with modern infrastructure. The NPD is designed to eventually subsume the core functions of both systems.
- **License-Free Data Output Mandate** All data released from the NPD shall be free from licensing constraints. CMS intends to ensure that published provider data can be fully utilized by industry, academia, payers, health systems, and the public without copyright or licensing restrictions. This requirement flows directly from CMS's interoperability and transparency commitments and from the program's goal of serving as a freely accessible public good.

NPD Program Structure

CMS has organized the NPD program into five distinct, yet interconnected, work areas. The overarching goal is to create a comprehensive data ecosystem that serves as the authoritative source for provider information. This enhances beneficiary care, reduces administrative burden, and increases healthcare transparency.

The table below outlines the focus and acquisition scope for each work area:

Work Area	Focus	In Scope for this Acquisition?
WA A: Ground Truth Datasets	Direct licensing relationships with sole/primary authoritative sources for specific datasets (FSMB, ABMS, CAQH, NABP, AHA, etc.)	**Yes**
WA B: Data Intake, Infrastructure, Cleaning, Reconciliation, and Data Science	ETL pipeline, data infrastructure, reconciliation logic, AI/ML	**NOT in scope**
WA C: AWS Cloud Infrastructure & FHIR Server Hosting	Cloud hosting for NPD; FHIR Server Hosting	**NOT in scope**
WA D: NPD Front End	NPD application development; provider data editing interfaces; enumeration and enrollment functions	**NOT in scope**
WA E: Data Aggregation, Quality, and Assurance Services	Aggregators and enrichment vendors who correct and improve NPD records; competitive quality improvement model	**Yes**

How WA A and WA E Work Together

WA A and WA E are the two work areas in scope for this acquisition. They are complementary functions that together anchor the NPD data lifecycle — one supplying authoritative inputs, the other ensuring the quality of data at both ends of the workflow.

The NPD data lifecycle flows as follows:

> **WA A** (Ground Truth Data Sourcing) → delivers normalized data files to CMS-designated storage → **WA B** (ETL, reconciliation, data science) → processes and reconciles all data → **WA C** (Cloud hosting and FHIR server) → hosts the NPD infrastructure → **WA D** (CMS government team — NPD front end) → publishes provider data to the public-facing directory → **WA E** (Data Aggregation, Quality & Assurance) → validates data quality at both ends of this workflow and feeds findings back to WA A

WA E is not simply another input service. It operates at **both ends of the NPD data lifecycle**:

- **Upstream:** WA E assesses the quality of data entering the pipeline from WA A sources — identifying errors, gaps, and patterns that trace back to specific ground truth sources
- **Downstream:** WA E validates the accuracy of data published through WA D — identifying ghost network indicators, stale records, and directory inaccuracies in the NPD's public output
- **Feedback loop:** WA E findings are documented and fed back to WA A at each Program Increment, informing decisions about which data sources to prioritize, renegotiate, or replace

This creates a **continuous quality improvement cycle** — the NPD data ecosystem becomes more accurate over time, not just at a point in time. All coordination between WA A, WA E, and other work areas flows through CMS government staff; there is no direct contractor-to-contractor coordination.

Note on Acquisition Scope

*This acquisition covers **Work Areas A and E** — Ground Truth Datasets and Data Aggregation, Quality & Assurance Services. Work Areas B, C, and D are supported through separate government and/or contractor teams. Follow-on or concurrent awards may address WA B and WA C as the NPD program matures; the specific structure and sequencing of those procurements is under active development.*

Statement of Need

CMS cannot build an accurate National Provider Directory without reliable access to authoritative external data sources. The most trusted provider data — state licensing credentials, board certifications, and credentialing information — resides outside CMS systems, held by organizations with inconsistent data formats, varying accessibility, and complex licensing terms.

Today, this creates three critical gaps:

- **No Centralized Data Access Strategy** CMS currently has no systematic approach to procuring and managing access to authoritative external data sources needed for the NPD (addressed by WA A), nor a structured mechanism for engaging data aggregators and enrichment vendors to validate and improve NPD data quality across the full data lifecycle (addressed by WA E).
- **Licensing Constraints Prevent Free Data Distribution** Many authoritative data sources carry licensing restrictions that would prevent CMS from freely redistributing reconciled NPD data to industry, academia, and the public. Without careful licensing negotiation upfront, CMS risks building a provider directory it cannot publish without ongoing commercial licensing obligations — directly undermining the NPD's mission of freely accessible, authoritative provider data. The License-Free Output Mandate (see Constraint 1) addresses this by requiring that all agreements executed under this contract explicitly permit license-free redistribution of NPD output as a non-negotiable condition.
- **No Escalation Path for Source Data Quality Issues** When downstream systems identify problems with source data (wrong formats, missing fields, stale records), there is currently no dedicated function to triage these issues with data providers and drive resolution. This allows data quality problems to persist and propagate through the NPD ecosystem.
- **No Systematic Mechanism for End-to-End Data Quality Validation** CMS currently has no structured approach to engaging commercial data aggregators and enrichment vendors to identify and correct errors in NPD provider records — either as data enters the workflow from WA A sources or as data exits the NPD system through WA D. Provider data quality degrades continuously as providers change locations, affiliations, and credentials. Without a mechanism for data quality validation and correction operating across the full data lifecycle, NPD data quality will deteriorate over time regardless of the quality of ground truth source data. WA E addresses this gap by establishing a competitive framework for data quality improvement services that operates at both ends of the data workflow and feeds findings back to WA A to continuously improve data sourcing.

Objectives

The contractor shall deliver data sourcing and licensing management services that achieve the following objectives:

Category 1 – WA A: Ground Truth Data Access and Licensing:

- Negotiate and maintain direct licensing relationships with organizations that are the sole or primary authoritative source for specific provider datasets, including but not limited to: clinician license data, board certification data, pharmacy data, payer data, hospital data, credentialing and accreditation data, and other data sources identified through life of award
- Ensure all data licensing agreements and service agreements comply with the License-Free Output Mandate (Constraint 1) - CMS shall be able to freely publish reconciled NPD data without downstream licensing obligations
- Minimize data acquisition costs to the government by leveraging existing contractor data relationships, negotiating favorable multi-year terms, and identifying opportunities for CMS direct procurement where advantageous
- Provide transparent, itemized pricing for each data source to enable CMS to make informed decisions about data source prioritization and cost management

Category 2 – WA A: Data Normalization and Delivery:

- Deliver normalized data files meeting CMS-specified format, completeness, and cadence requirements
- Monitor data quality at the source level and proactively flag known issues or changes in source data availability
- Respond to CMS-identified data quality issues and coordinate resolution with source organizations

Category 3 – WA E: Data Aggregation, Quality, and Assurance

Upstream Quality Validation (Input Side — data going into WA B):

- Assess the quality of data delivered by WA A contractors before it enters the WA B processing pipeline
- Identify errors, gaps, and inconsistencies in ground truth data from WA A sources
- Deliver corrections and enrichments via CMS-designated storage location or NPD API write-back to improve data quality before WA B processing

Downstream Quality Validation (Output Side — data coming out of WA D):

- Assess the quality and accuracy of provider data published through the NPD system (WA D outputs)

- Identify errors, outdated records, and inaccuracies in published NPD data
- Deliver corrections and enrichments via NPD API write-back to improve the accuracy of published provider records

Feedback Loop to WA A:

- Provide structured findings to CMS government staff identifying patterns of data quality issues that trace back to specific WA A data sources
- Recommend improvements to WA A data sourcing strategies, source prioritization, and agreement terms based on observed data quality patterns
- Support CMS in making evidence-based decisions about WA A data source portfolio management

Competitive Quality Demonstration:

- Demonstrate measurable improvement in NPD data accuracy through per-data-point corrections or delivery of alternative/additional datasets that improve upon existing NPD records
- Provide sufficient documentation and metadata to enable CMS to evaluate the quality and provenance of all corrections and enrichments delivered

License-Free Output Compatibility:

- Ensure all data delivered under WA E is compatible with CMS's requirement to freely redistribute reconciled NPD data without downstream licensing obligations

Category 4 – WA A and E: Data Delivery

- **WA A:** Deliver normalized data files to CMS-designated storage location on a regular cadence. File formats, naming conventions, and delivery specifications to be defined by CMS in coordination with the WA B contractor.

- **WA E:** Deliver data corrections and enrichments via CMS-designated storage location or NPD API write-back integration, as directed by CMS. All deliveries must include sufficient metadata to enable CMS to evaluate the quality and provenance of corrections. WA E deliveries may target both the input data stream (upstream of WA B) and the published NPD data (downstream of WA D).

Anticipated Data Sources and Service Providers

CMS anticipates that the following categories of external data will be needed to support NPD accuracy and completeness. This list is illustrative, not exhaustive — the contractor shall work with CMS to continuously identify, prioritize, and onboard authoritative sources based on evolving NPD data quality needs and feedback from across the NPD work areas.

For each category below, the objective describes *why* CMS needs this data. Specific organizations listed are examples of the types of sources CMS anticipates engaging; the contractor is expected to identify the most authoritative and cost-effective sources within each category in collaboration with CMS.

WA A – Ground Truth Data Sources

WA A covers direct licensing relationships with organizations that are the sole or primary authoritative source for a specific dataset. These organizations maintain foundational, ground-truth information about providers and clinical organizations, perform ongoing maintenance of the underlying data to ensure its accuracy, and possess specialized expertise in the domain their dataset represents. There are no or few reasonable competing alternatives for obtaining the same information.

CMS recognizes that some offerors responding to this solicitation may themselves be the authoritative source for one or more data categories described below — for example, a board certification organization responding directly, or a credentialing platform that is both an authoritative source and a data aggregator. Offerors who are the authoritative source for a data category are encouraged to respond and should describe both their role as the source and any licensing terms applicable to federal government use and license-free redistribution.

Provider Credentialing and Licensure Data

Objective: To verify that providers hold valid, current credentials and licenses in the states where they practice. State licensing boards are the most authoritative source of provider qualification data but are highly fragmented across 50+ jurisdictions with inconsistent formats and accessibility. This data cannot be derived from CMS enrollment systems alone.

- Federation of State Medical Boards (FSMB) and/or State Licensing Boards (50+ states): Clinician license status, disciplinary actions, and credential verification across all states and territories
- American Board of Medical Specialties (ABMS), American Board of Physician Specialties (ABPS), American Osteopathic Association Bureau of Osteopathic Specialists (AOA-BOS),

National Commission on Certification of Physician Assistants (NCCPA), American Nurses Credentialing Center (ANCC), American Academy of Nurse Practitioners Certification Board (AANPCB), American Dental Association (ADA), American Association of Oral and Maxillofacial Surgeons (AAOMS), American Optometric Association (AOA): Board certification and specialty credential data across physician and non-physician provider types

- CAQH and/or equivalent credentialing platforms: Standardized credentialing information used across the healthcare industry

Provider Network Participation Data

Objective: To identify which health plans a provider is contracted with, their network participation status, and whether their panel is open or closed to new patients. This data is directly relevant to ghost network detection and Medicare Advantage network adequacy oversight — it is the data element that most directly enables CMS to identify providers listed in plan directories who are not actually available to patients. Network participation data complements credentialing and licensure data by answering not just "is this provider qualified?" but "is this provider actually available to patients in this network?"

- Health plan provider rosters and network participation files — payer-maintained provider directories, Medicaid managed care organization provider lists, Medicare Advantage plan network data (HPMS), as identified by CMS

- Provider panel status data — open/closed panel indicators, accepting new patients status, network tier designation

Pharmacy Data

Objective: To verify pharmacy provider credentials, licensure status, and drug program participation data that are not captured in standard physician credentialing sources and are essential for complete NPD coverage of the full provider population.

- National Council for Prescription Drug Programs (NCPDP): Pharmacy identification and drug program participation data

Hospital Data

Objective: To capture facility-level identification, classification, and organizational data for hospitals and health systems that is not available through individual provider credentialing sources and is essential for accurate organizational-level directory entries.

- American Hospital Association (AHA): Hospital identification, classification, and organizational data across all U.S. hospitals and health systems

Organizational Credentials and Accreditation Data

Objective: To capture facility-level credentials, certifications, and accreditation status that are not captured in individual provider records and are essential for accurate network adequacy assessment and organizational-level directory accuracy.

- Joint Commission and American College of Surgeons: Trauma Center Status, Burn Unit Status, and other organizational-level credentials, certifications, and accreditation datasets
- Anticipated consumption model: Periodic batch delivery; lower frequency than individual provider data

Health Plan and Payer Data

Objective: To cross-reference provider network participation and identify discrepancies between payer directories and authoritative credentialing sources — directly supporting ghost network detection and Medicare Advantage network adequacy oversight.

- National Association of Insurance Commissioners (NAIC): Payer identification and insurance market data
- Health plan credentialing databases and provider rosters: Payer-maintained provider directories and Medicaid managed care organization provider lists, as identified by CMS

Note on Sensitive and Restricted Data Fields

CMS recognizes that some data sources — particularly in the payer, health plan, and network participation categories — may contain individual fields that are sensitive, proprietary, or subject to legal restrictions that prevent public publication, even where the overall licensing agreement permits federal government use.

CMS distinguishes between three categories of data field handling under this contract:

- **Publish:** Fields that are licensed for federal use AND appropriate for public publication in the NPD — these are the primary target for WA A and are subject to the License-Free Output Mandate (Constraint 1)
- **Use internally only:** Fields that are licensed for federal use but contain sensitive, proprietary, or legally restricted information that CMS will use for internal validation and

quality scoring only — not published in the public-facing NPD. Achieving "use internally only" rights for some fields within an otherwise licensable dataset is an acceptable and anticipated outcome of WA A negotiations and does not constitute a failure to meet the License-Free Output Mandate.

- **Do not use:** Fields that carry licensing restrictions incompatible with CMS's requirements — these shall not be procured under this contract (see "What CMS Is NOT Seeking")

The WA A contractor shall:

- Identify and document any fields in proposed source agreements that fall into the "use internally only" category before CMS approval is sought
- Clearly segregate "use internally only" fields in all data deliveries to prevent inadvertent inclusion in public NPD output
- Not make independent determinations about which fields to publish or withhold — CMS makes all field-level publication decisions in coordination with OGC, OFM, and the NPD program team
- Flag any state legal constraints on publication of specific data fields — particularly for state licensing board data, where state laws may restrict publication of certain disciplinary or personal information

WA E – Data Aggregation and Quality Service Providers

WA E covers vendors who aggregate, validate, or enrich provider data from multiple sources and compete on the measurable quality of their corrections and improvements to NPD records. Unlike WA A, which establishes direct relationships with sole or primary authoritative sources, WA E is structured as an outcome-based quality assurance function. The contractor's WA E team shall not make unilateral decisions about data sourcing or WA A agreement terms based on WA E quality findings — all such decisions flow through CMS government staff. CMS retains full authority over WA A sourcing decisions informed by WA E findings.

For a description of how these two work areas relate to each other and to the broader NPD data lifecycle, see the 'How WA A and WA E Work Together' section

Data Aggregation and Enrichment Services

Objective: To improve the accuracy and completeness of NPD provider records by engaging commercial data aggregators and enrichment vendors who can identify and correct errors — including outdated locations, incorrect affiliations, missing credentials, and inaccurate contact information — that authoritative ground truth sources alone cannot address. WA E vendors

may deliver corrections derived from proprietary datasets, AI/ML-driven analysis, or provider engagement workflows.

- Healthcare data aggregators with demonstrated experience correcting and enriching provider directory data at scale, including clinician, payer, and clinical organization data

Commercial and Supplemental Validation Sources

Objective: To fill coverage gaps where authoritative sources are incomplete, particularly for address validation, provider location data, and provider demographics not captured in credentialing systems. These sources complement WA A ground truth data and WA E enrichment services by providing additional validation signals.

- Commercial address validation and provider location services
- Other sources as identified by CMS based on NPD data quality needs and downstream team feedback

Provider Engagement and Attestation Platforms

Objective: To surface and validate data corrections through direct provider engagement — leveraging established provider networks and attestation workflows to verify and update provider information at the source, complementing automated data correction with provider-confirmed ground truth.

- Platforms with established provider networks that enable providers to review, attest to, and correct their directory information, with corrections delivered to CMS-designated storage or NPD API write-back

What CMS Is NOT Seeking Under This Contract

The following data types are explicitly out of scope for procurement under this contract:

- Data already available to CMS at no cost through government systems — NPPES, PECOS, the Lantern database, and data.cms.gov holdings will be provided as Government-Furnished Information (GFI) and shall not be procured under this contract

- Data that carries licensing restrictions incompatible with the license-free NPD output mandate
- Aggregated or resold data where original source provenance cannot be verified
- Data that duplicates existing CMS holdings without adding incremental accuracy or coverage value
- Data broker arrangements where the contractor aggregates and resells data rather than managing direct source relationships on CMS's behalf
- WA E services that duplicate WA A ground truth sources without demonstrating incremental quality improvement
- WA E services that require direct write access to the NPD data base – all corrections flow through the WA B pipeline
- Data corrections or enrichments that cannot be delivered via CMS-designated storage or the NPD API write-back mechanism

Approach

1. Operating Model

This contract is designed as a lean, outcome-focused managed service — not a large-scale technology development effort. CMS is not buying a platform, a system, or a data product. CMS is buying:

- **WA A:** A sustained, expert-managed function that establishes and maintains direct licensing relationships with authoritative data sources, normalizes and delivers data to CMS-designated storage, and continuously monitors and improves source data quality

- **WA E:** A competitive, outcome-based quality assurance function that validates data quality at both ends of the NPD data lifecycle, delivers measurable corrections and enrichments, and feeds findings back to improve WA A sourcing decisions

Both functions are ongoing operational services, not one-time deliverables. The value of this contract compounds over time — as WA A relationships mature and WA E quality findings accumulate, the NPD data ecosystem becomes progressively more accurate and reliable.

2. How WA A and WA E Work Together

WA A and WA E are complementary functions that together anchor the NPD data lifecycle. For a full description of how these work areas relate to each other and to the broader NPD data workflow, see 'How WA A and WA E Work Together' above.

3. Contractor's Role Within the NPD Program

The contractor operates as an integrated member of the NPD program team — not as a separate vendor organization. All coordination with other NPD work areas (WA B, WA C, WA D) flows through CMS government staff; there is no direct contractor-to-contractor coordination. The contractor shall:

- Participate actively in NPD sprint ceremonies and PI planning alongside CMS government staff
- Treat CMS government staff as the primary customer and decision-maker — the contractor proposes, CMS decides
- Proactively surface issues, risks, and recommendations rather than waiting to be asked
- Operate transparently — all work products, dashboards, issue logs, and documentation shall be accessible to CMS government staff at all times without requiring contractor assistance

CMS retains full responsibility for: product ownership, policy decisions, governance, data standards, provider trust framework, budget authority, and acquisition oversight. The contractor supports CMS in executing the data sourcing and quality assurance functions — it does not own them.

4. Flexibility and Iteration

The data sourcing and quality assurance landscape will evolve over the life of this contract. New authoritative sources will be identified; existing sources will change their terms or delivery mechanisms; NPD data quality needs will shift as the program matures and as WA D output is evaluated against real-world provider data. The contractor shall be designed to accommodate this evolution — not locked into a fixed set of sources or correction methodologies established at award.

Specifically:

- WA A data source portfolio shall be treated as a living inventory — sources may be added, modified, or discontinued based on quality evidence and CMS direction
- WA E correction and enrichment priorities shall be continuously refined based on quality findings, correction acceptance rates, and feedback from CMS government staff
- The contractor shall propose, at each PI, at least one recommendation for improving either the WA A source portfolio or the WA E correction methodology based on evidence gathered during the PI
- CMS reserves the right to direct the contractor to onboard new data categories, discontinue underperforming sources, or adjust WA E correction priorities at any time with reasonable notice

Constraints

The following are non-negotiable requirements for technical acceptability:

1. License-Free Output Mandate (MANDATORY)

All data licensing agreements negotiated under this contract — whether for WA A ground truth data sources or WA E data aggregation and enrichment services — SHALL enable CMS to freely redistribute reconciled NPD data without downstream licensing obligations. This is a non-negotiable condition of every agreement executed under this contract.

Specifically:

- All agreements shall explicitly permit CMS to use licensed data as an input to a publicly available provider directory without triggering licensing fees or restrictions on downstream users of NPD output data
- The contractor shall obtain CMS written approval before finalizing any data licensing or service agreement
- The contractor shall provide legal analysis confirming each agreement's compatibility with this requirement before CMS approval is sought

- The contractor shall immediately notify CMS if any data provider or service vendor proposes terms that would restrict NPD data redistribution
- The contractor shall not enter into any agreement that creates a "pass-through" licensing obligation — where a downstream user of NPD data would be required to obtain a separate license from the original data provider
- This requirement applies equally to WA A ground truth data licensing agreements and WA E data correction and enrichment service agreements — all data and corrections delivered under this contract must be compatible with free redistribution of NPD output

Note: Vendors who can arrange restriction-free distribution of input data may need to include their upstream processing services as part of the arrangement — this is an acceptable and anticipated cost structure. CMS will consider proposals that include upstream processing costs as part of achieving license-free output compatibility.

Field-Level Publication Policy

The License-Free Output Mandate applies to NPD OUTPUT data — the reconciled provider information published through the NPD's public-facing directory and APIs. CMS acknowledges that some INPUT data fields may be designated as "use internally only" and may not be appropriate for public publication, even where the overall licensing agreement permits federal use. This is an anticipated and acceptable outcome of WA A negotiations.

The contractor shall NOT be required to obtain license-free redistribution rights for fields that CMS designates as "use internally only." However, the contractor SHALL ensure that:

- "Use internally only" fields are clearly identified and documented in the licensing compliance log before any agreement is finalized
- "Use internally only" fields are segregated in all data deliveries and are not inadvertently included in public NPD output
- The existence of "use internally only" fields does not reduce the scope of fields available for public publication below what CMS requires for a complete and accurate public-facing provider directory
- Any field-level restrictions are disclosed to CMS before agreement execution — not discovered after the fact

CMS will maintain a field-level publication policy document — updated as agreements are established — that specifies for each data source and each field whether it is designated Publish, Use Internally Only, or Do Not Use. The WA A contractor shall maintain this document in Confluence and keep it current as agreements are negotiated and renewed.

2. Intake Validation Scope (MANDATORY)

WA A — Data Normalization and Delivery Scope: WA A contractor responsibilities are limited to data normalization, format compliance, and delivery to CMS-designated storage. Integration of WA A data into the NPD is performed by the government team through the WA B pipeline. Deep data quality scoring and reconciliation are performed by WA B.

WA E — Data Quality Validation Scope: WA E contractors deliver data corrections and enrichments via CMS-designated storage or NPD API write-back. WA E contractors operate at both the input end (upstream of WA B, assessing WA A data quality) and the output end (downstream of WA D, assessing published NPD data quality). WA E findings are provided to CMS government staff as structured recommendations for WA A portfolio improvement — WA E contractors do not directly modify WA A agreements or sourcing decisions without engagement with CMS government team.

3. Issue Escalation Responsibility (MANDATORY)

The contractor **SHALL** serve as the primary escalation point for source data quality issues, including:

- Issues identified through WA A intake validation
- Issues flagged by downstream NPD teams and escalated through CMS government staff. CMS recognizes that data quality issues may be identified at any point in the NPD data pipeline — including by end users of NPD data — and the contractor shall be prepared to receive and act on escalations originating from any downstream source, routed through the CMS WA A Government SME.
- Contractor shall triage issues, engage data providers, track resolution, and report status to CMS
- Contractor shall maintain an issue log with status, resolution timeline, and root cause documentation

4. CMS Approval for All Agreements (MANDATORY)

The contractor **SHALL** obtain CMS written approval before:

- Finalizing any new data access agreement
- Renewing any existing agreement with changed terms
- Adding any new data source not previously approved
- Modifying delivery format or cadence for any existing source

5. Pricing Transparency (MANDATORY)

Offerors **SHALL** provide separate pricing for management services and data licensing pass-through costs. Bundled pricing that obscures data licensing costs is not acceptable.

6. Security and Compliance (MANDATORY)

The contractor shall comply with CMS Acceptable Risk Safeguards (ARS) for secure handling of licensed data, including encryption of data in transit (TLS 1.2+) and at rest (AES-256).

7. No Direct Database Access (MANDATORY)

WA E contractors shall not have direct write access to the NPD database. All corrections and enrichments must be delivered to CMS-designated storage or the NPD API write-back mechanism. CMS regains full control over which corrections are applied to NPD records and when.

8. What SHALL NOT Be Included

The contractor shall NOT:

- Perform ETL processing or API development, data reconciliation, or core NPD data pipeline development (WA B scope)
- Perform deep AI/ML quality scoring, entity resolution, or anomaly detection as part of the core NPD data pipeline (WA B scope)
- Build or operate the NPD cloud hosting infrastructure or FHIR server (WA C scope)
- Develop or operate the NPD front-end application, provider enrollment portal, or public-facing directory (WA D scope)
- Include costs for WA B, C, or D activities

Data Rights and Portability (MANDATORY)

CMS shall not be locked into any data source, contractor relationship, or proprietary process that cannot be transitioned without penalty or disruption. The contractor shall ensure that all data access agreements and operational processes explicitly preserve CMS's right to transition to alternative data sources or contractors. Specifically:

- All agreements shall include provisions allowing CMS to terminate or transition data access without incurring exit fees or data destruction obligations imposed by the data provider
- CMS shall retain full rights to all licensed data delivered under this contract, including the right to retain copies in CMS-managed storage beyond the contract period
- The contractor shall not enter into any agreement that creates exclusive data access arrangements that would prevent CMS from procuring the same data directly or through a successor contractor
- The contractor shall conduct **periodic portability drills** — at a frequency defined in the QASP — to verify that data, documentation, and processes can be transferred to CMS or a successor contractor without disruption
- The contractor shall always maintain a Transition Readiness Package, documenting: all active agreements and their key terms; data delivery specifications for each source; contact information for all data provider relationships; and any processes used in data intake validation

The Transition Readiness Package shall be reviewed and validated at each Quarterly Review and updated within 5 business days of any material change to the data source portfolio

General Expectations for Agile Teams working at CMS

Understand What People Need

The services shall include exploring and pinpointing the needs of the people who will use the service as well as achieving the desired business value. The Contractor shall continually test the products with real people to ensure delivery is focused on providing user and business value.

As a part of this effort, the Contractor shall:

- **Engage CMS data stewards and subject matter experts** to understand which external data sources are most critical to NPD accuracy, which have historically had quality or delivery issues, and which represent the highest value per licensing dollar
- **Understand downstream data requirements** by working with CMS government staff to learn what formats, cadences, and quality thresholds downstream teams need from each data source — and ensure sourcing agreements reflect those needs
- **Engage data providers** to understand their data collection methods, update frequencies, known limitations, and licensing constraints — so CMS can make informed decisions about which sources to prioritize
- **Continuously refine understanding** as NPD requirements evolve, new data sources become available, and downstream teams identify gaps or quality issues in existing sources

CMS will facilitate introductions to relevant data stewards, subject matter experts, and downstream team leads. The contractor shall treat these relationships as ongoing, not one-time, and proactively seek feedback on data quality and utility.

Work towards outcomes, not outputs

The measure of success for this contract is not the number of agreements signed, files delivered, or corrections submitted — it is whether the closed-loop quality improvement cycle described in 'How WA A and WA E Work Together' is functioning as designed and producing measurably better NPD data over time

The contractor shall focus on the following outcomes across both work areas:

WA A — Ground Truth Data Sourcing

- **Data quality improvement:** Are the ground truth data sources procured under WA A actually improving NPD accuracy? Are downstream teams finding the data useful, reliable, and fit for purpose? Is the data arriving in formats and at cadences that support the NPD data workflow?
- **Cost efficiency:** Is CMS getting good value from each ground truth data source? Are licensing costs minimized relative to data quality and utility? Is the cost per validated provider record declining over time as the WA A portfolio matures?
- **Reliability:** Are WA A data sources delivering normalized files to CMS-designated storage location on schedule and in agreed formats? Are delivery failures

and format issues resolved quickly? Is the mean time to resolve source data quality issues trending downward?

- **Coverage expansion:** Is the WA A data source portfolio growing to address gaps identified by downstream teams, WA E quality findings, and evolving NPD program needs? Are new authoritative sources being identified and onboarded proactively, not just reactively?
- **License-free output:** Are all WA A licensing agreements explicitly permitting CMS to freely publish reconciled NPD data without downstream licensing obligations? Is the license-free output mandate being enforced as a non-negotiable condition of every agreement?

WA E — Data Aggregation, Quality & Assurance

- **Measurable data quality improvement:** Are WA E corrections and enrichments producing demonstrable, measurable improvements in NPD record accuracy? Is the correction acceptance rate — the percentage of WA E corrections accepted and applied by CMS through the WA B pipeline — high and improving over time? Is the percentage of high-confidence NPD provider records increasing?
- **Input quality validation:** Is WA E effectively identifying quality issues in WA A source data before those issues propagate through the NPD data pipeline? Are upstream quality problems being surfaced to CMS and fed back to WA A in a timely and actionable way?
- **Output quality validation:** Is WA E effectively assessing the accuracy of data published through WA D? Are ghost network rates, stale records, and directory inaccuracies declining in the NPD's public-facing output? Are downstream consumers — payers, health systems, beneficiaries — finding NPD data more accurate and reliable over time?
- **Closed-loop improvement:** Is the feedback loop between WA E quality findings and WA A sourcing decisions functioning effectively? Are WA E findings actually informing decisions to add, modify, or discontinue WA A data sources? Is the NPD data ecosystem becoming more accurate over time as a result of this feedback loop — not just at a point in time, but continuously?
- **Coverage and breadth:** Is WA E correction and enrichment activity covering the full NPD provider population, or are there provider types, specialties, or geographic areas where quality improvement is lagging? Is coverage expanding over time?
- **License-free output:** Are all WA E corrections and enrichments compatible with CMS's license-free output mandate? Is WA E activity strengthening — not undermining — CMS's ability to freely publish reconciled NPD data?

Across Both Work Areas

- **Integrated portfolio value:** Taken together, are WA A and WA E producing a data ecosystem that is more accurate, more complete, and more cost-effective than either work area could produce independently? Is the closed-loop quality improvement cycle — WA A supplies authoritative inputs, WA E validates and improves at both ends, WA E findings inform WA A decisions — functioning as designed?
- **Responsiveness to program needs:** Are WA A and WA E adapting quickly as NPD program priorities evolve, new data quality gaps are identified, and downstream teams surface new requirements? Is the contractor proactively recommending changes to the data source portfolio and quality improvement strategy based on outcome evidence — not waiting to be asked?

The contractor shall track and report on these outcomes — not just activity metrics — at every sprint review, Program Increment, and Quarterly Review. Proactive recommendations for changes to the WA A data source portfolio, WA E correction priorities, and the feedback loop between the two work areas are expected at each PI, grounded in outcome evidence rather than activity volume.

Build the Service using Agile and Iterative Processes

The contractor shall apply iterative principles to data source management: prioritize and onboard the highest-value sources first; continuously assess the portfolio based on quality and cost-effectiveness evidence; and synchronize data sourcing activities with CMS's 2-week sprint cycles and 6-week Program Increments.

Make it Simple and Intuitive

The contractor shall maintain a clear, accessible data source catalog in Confluence documenting what each source provides, its licensing terms, delivery cadence, known limitations, and current status. Reporting and escalation paths shall be straightforward for all CMS staff.

Use Data to Drive Decisions

The contractor shall use data to continuously improve the data source portfolio and demonstrate value to CMS:

- **Track utilization**: Monitor how frequently each data source is accessed and used by downstream teams — identify underutilized sources that may not justify their licensing cost
- **Measure quality**: Track intake validation results over time — are sources consistently meeting specifications, or are there recurring issues that need to be addressed with providers?
- **Analyze cost-effectiveness**: Calculate cost per validated provider record for each data source to enable apples-to-apples comparison across sources
- **Monitor issue trends**: Track the frequency, type, and resolution time of data quality issues by source — identify systemic problems that require renegotiation or source replacement
- **Inform portfolio decisions**: Use utilization, quality, and cost data to recommend additions, modifications, or discontinuations to the data source portfolio at each Program Increment

The contractor shall provide quarterly data-driven reports that enable CMS to make informed decisions about the data source portfolio.

Metrics

The contractor shall track and report the following metrics to demonstrate performance and enable continuous improvement:

WA A Performance Metrics

Data Source Portfolio Metrics:

- Number of active data access agreements (by source category: state licensing boards, credentialing organizations, commercial services)
- Number of data sources delivering on schedule vs. delayed
- Data source coverage: percentage of U.S. states with active licensing board agreements
- New data sources onboarded per Program Increment

Data Quality and Intake Metrics:

- Intake validation pass rate by source (percentage of deliveries meeting contractual specifications)
- Number of open data quality issues by source and severity
- Mean time to resolve data quality issues (from identification to closure)
- Percentage of issues resolved within agreed SLA

Cost and Value Metrics:

- Total data licensing costs by source (actual vs. projected)
- Cost per data source per year
- Cost savings achieved through existing contractor agreements vs. market rate
- Percentage of data sources with CMS-approved licensing terms

Licensing Compliance Metrics:

- Percentage of active agreements reviewed for license-free output compatibility
- Number of licensing compliance issues identified and resolved
- Quarterly licensing compliance confirmation status

WA E Performance Metrics

- Number of data corrections delivered per sprint (by data category and workflow position — input side vs. output side)
- Correction acceptance rate — percentage of WA E corrections accepted and applied by CMS through the WA B pipeline
- Data quality improvement rate — measurable improvement in NPD record accuracy attributable to WA E corrections (as assessed by CMS)
- Coverage by provider type — percentage of NPD provider population covered by WA E corrections in each reporting period
- **Feedback loop effectiveness** — number of WA A portfolio improvement recommendations provided to CMS per quarter; percentage of recommendations acted upon by CMS
- Methodology documentation completeness — percentage of corrections accompanied by sufficient metadata for CMS evaluation

These metrics shall be reported in the bi-weekly sprint status updates and the quarterly comprehensive reports. CMS reserves the right to add, modify, or remove metrics as NPD program needs evolve.

Allow Third Parties to Use Our Data and Logic

A core requirement of the NPD program is that all reconciled provider data published by CMS shall be freely accessible to third parties — including industry, academia, payers, health systems, and the public — without licensing restrictions.

Work Area A is the first line of defense in achieving this requirement. The contractor shall:

- Ensure all data access agreements explicitly permit CMS to use the licensed data as an input to a publicly available provider directory without triggering downstream licensing obligations on NPD output data as defined in Constraint 1
- Document the licensing basis for each data source's compatibility with free redistribution of NPD output
- Proactively identify and flag any proposed agreement terms that could restrict third-party access to NPD data

Seek CMS approval before finalizing any agreement with ambiguous or potentially restrictive licensing terms

Open Source/ Re-use

Where applicable to Work Area A and E activities, the contractor shall:

- Leverage existing open or publicly available data sources (e.g., state licensing board public websites, CMS open data) before recommending commercial licensing
- Document all tools, scripts, or processes developed for data intake validation so they can be reused or adapted as the data source portfolio grows
- Share data delivery specifications and intake validation frameworks with CMS government staff so they can be applied to future data sources
- Where open or publicly available tools exist that meet functional requirements, the contractor shall prefer them over proprietary alternatives. When proposing proprietary tools, the contractor shall provide a comparative justification addressing: features and functionality, security and compliance, vendor support, adoption and community

maturity, and total cost of ownership. CMS reserves the right to require migration to open alternatives if proprietary tools create vendor lock-in risk or licensing constraints incompatible with the NPD's open data mandate.

Delivery of Artificial Intelligence (AI) Solutions

- The contractor shall disclose use of AI in proposed solutions.
- If applicable, frontier large language models utilized in performance shall be objective and free from top-down ideological bias.
- If applicable, the contractor shall consider use of open-source and open-weight AI models which are made freely available by developers for anyone in the world to download and modify.
- If applicable, the contractor shall provide only those AI products and services that are developed and produced in the United States of America.
- The contractor shall consider the applicability of agentic AI capabilities — including multi-agent systems capable of autonomous monitoring, summarization, alerting, and intervention recommendation — where such capabilities can improve the efficiency and reliability of data source management, dashboard monitoring, and issue escalation. Any proposed agentic AI solutions shall comply with CMS AI governance policies, be disclosed in the technical proposal, and be developed and produced in the United States of America.

Contractor Personnel

CMS anticipates relatively lean teams for both Work Areas A and E. The nature of this work — vendor relationship management, data licensing, and data quality assurance — does not require large teams. What matters is the right expertise, applied effectively to deliver the outcomes described in this SOO.

CMS is not prescribing specific team sizes or structures for either work area. The role descriptions below are illustrative of the capabilities CMS anticipates will be needed. Offerors are encouraged to propose alternative staffing approaches that demonstrate how their proposed team will achieve the outcomes described in this SOO. CMS will evaluate staffing proposals based on feasibility, demonstrated expertise, and cost-effectiveness — not team size.

Work Area A — Ground Truth Data Sourcing

WA A is primarily a vendor relationship management and data licensing function. Once data access agreements are established and delivery mechanisms are operational, the ongoing work is relationship management, renewal coordination, quality monitoring, and issue escalation. CMS therefore anticipates that WA A can be delivered by a lean team.

Offerors shall propose a staffing approach that demonstrates the capacity to identify, negotiate, and maintain direct licensing relationships with sole or primary authoritative data sources across all categories described in this SOO. Potential staffing may include the following capabilities — offerors may propose how these are structured and staffed:

- **Data Acquisition / Licensing Specialist:** Primary point of contact for all WA A data source relationships; negotiates and maintains direct licensing agreements on CMS's behalf; coordinates data normalization and delivery to CMS-designated storage; monitors data quality at the source level; manages day-to-day relationships with WA A data providers; serves as the primary escalation point for source data quality issues

- **Contract / Licensing Support:** Reviews licensing terms and restrictions; ensures all agreements comply with the License-Free Output Mandate (Constraint 1); coordinates legal reviews with CMS counsel; maintains licensing compliance documentation

CMS recognizes that the initial setup phase — establishing agreements with ground truth sources across multiple data categories, including state licensing boards — requires significant upfront effort that may not be reflected in steady-state team size. Offerors shall address in their technical proposals how they will resource the initial onboarding phase to achieve IOC within 30 days of award, and how team composition may evolve from setup to steady-state operations.

Work Area E — Data Aggregation, Quality & Assurance Services

WA E operates across the full NPD data lifecycle — validating data quality at both the input and output ends of the workflow and feeding findings back to inform WA A sourcing decisions. CMS similarly anticipates a lean, outcome-focused team rather than a large operational organization.

Offerors shall propose a staffing approach that demonstrates the capacity to deliver measurable, continuous data quality improvement across the full NPD provider population and to achieve WA E IOC within 45 days of award. Potential staffing may include the following capabilities — offerors may propose how these are structured and staffed:

- **Data Quality / Enrichment Lead:** Primary point of contact for WA E delivery; responsible for identifying and prioritizing data correction opportunities across clinician, payer, and clinical organization data; manages delivery of corrections via CMS-designated storage or NPD API write-back; coordinates with CMS government staff on correction evaluation and acceptance

- **Data Science / Analytics Support:** Applies analytical methods — which may include AI/ML — to identify provider data errors, generate correction recommendations, and assess NPD output data quality; documents methodology, performance metrics, and quality improvement results; supports the feedback loop between WA E quality findings and WA A sourcing decisions

All Personnel — Requirements Applicable to Both Work Areas

The contractor shall ensure all personnel performing work under this contract are:

- Trained at the contractor's expense and knowledgeable about applicable CMS and federal policies

- Cleared for access to CMS systems as required by the security requirements in Appendix A

- Familiar with CMS's agile delivery cadence, sprint ceremonies, and collaboration tooling (Slack, Confluence, Jira, GitHub)

- Capable of working effectively in a mixed contractor/government environment, including active participation in sprint planning, sprint reviews, and Program Increment ceremonies alongside CMS government staff and other NPD contractors

CMS may revoke access for any contracted personnel for misconduct or violations of CMS or government policies.

Staffing Proposals

Offerors shall address the following in their technical proposals:

- Proposed team composition — roles, FTE levels, and relevant experience for each role, clearly distinguishing between WA A and WA E staffing

- How the proposed team will achieve IOC on the timelines specified (30 days for WA A; 45 days for WA E)
- How the proposed team structure supports the continuous quality improvement feedback loop between WA E outputs and WA A sourcing decisions (see "How WA A and WA E Work Together")
- How the team will scale or flex to accommodate surge periods — such as initial onboarding, simultaneous active negotiations, or high-volume correction cycles
- For offerors proposing for both WA A and WA E: how the two teams will coordinate through CMS government staff without direct contractor-to-contractor coordination

Delivery

The Contractor shall manage the delivery of its own work products using such principles and in accordance with the details below.

Deliverables Summary

What is being delivered, when, how often, and in what format. This is the contractual inventory of required outputs. It answers: "What does the contractor owe CMS, and when? The contractor shall produce and maintain the following deliverables throughout the period of performance:

Deliverable	Work Area	Description	Frequency	Format
WA A Data Files	WA A	Normalized ground truth data files delivered to CMS-designated storage	Weekly or as specified by CMS team	CMS-specified (CSV, JSON, or other as directed)
WA E Corrections / Enrichments	WA E	Data corrections and enrichments delivered to CMS-designated storage or NPD API write-back	Per agreed cadence	CMS-specified storage or NPD API write-back
Sprint Status Update	Both	Data delivery status, open issues, intake validation results, new agreements	Bi-weekly	Confluence/ Jira/ Slack
Data Source Status Dashboard	WA A	Real-time visibility into agreements, delivery status, open issues, and cost data	Continuously maintained; reviewed at each sprint	Confluence / CMS-approved dashboard tool
Data Quality Dashboard	WA E	Real-time dashboard of all active WA E service agreements, correction delivery statuses, and quality metrics	Continuously maintained; reviewed at each sprint	Confluence / CMS-approved dashboard tool

Monthly Status Report / Contract Review Meeting	Both	Accomplishments, risks, QASP self-assessment, financial status, personnel roster	Monthly	Email/ PDF/ Meeting
Quarterly Comprehensive Report / Review Meeting	Both	Portfolio review, cost/utilization analysis, licensing compliance confirmation, PI planning input	Quarterly (aligned with PI)	Email/ PDF/ Meeting
Issue Log	Both	All open data quality issues with status, severity, resolution timeline, root cause	Continuously maintained	Jira / Confluence
Licensing Cost Tracker	WA A	Itemized vs. projected licensing costs per WA A data source	Continuously maintained; reported monthly	Confluence / Excel
Data Source Catalog	WA A	All active agreements, delivery specs, licensing terms, delivery confirmation logs	Continuously maintained; validated per PI	Confluence
Correction Methodology Documentation	WA A	Documentation of all WA E correction and enrichment methodologies, updated whenever methodology changes	Continuously maintained	Confluence
QASP Self-Assessment	Both	Contractor self-evaluation against all QASP performance standards	Quarterly	Confluence / PDF

Feedback Loop Summary	WA E	Documented WA E quality findings with implications for WA A sourcing decisions	Per PI	Confluence
Transition-In Plan	Both	Plan for assuming full contract responsibilities	Within 30 days of award	Confluence / PDF
Transition-Out Plan	Both	Plan for transferring all responsibilities, data, and documentation	180 days before contract end	Confluence / PDF
Transition Readiness Package	Both	Active agreements, provider contacts, delivery specs, contacts, methodologies, tools	Continuously maintained; validated annually via portability drill	Confluence

Standup, Sprint Cadence, Program Increments

Synchronized Delivery Cadence

Work Areas A and E encompass distinct but complementary functions — ground truth data sourcing and licensing (WA A) and data aggregation, quality assurance, and continuous improvement (WA E). While neither work area is primarily a software development effort, both must synchronize their activities with CMS's NPD program delivery cycles to ensure data availability and quality improvement align with the needs of the broader NPD data workflow.

The contractor shall participate in CMS's 2-week sprint cycles and 6-week Program Increments (PIs) for coordination and visibility purposes. During periods of high activity — such as initial contract onboarding, simultaneous active negotiations with multiple data sources, surge in data quality issues, or critical WA E correction cycles — CMS may request a weekly lightweight status check-in in lieu of waiting for the next sprint review. The contractor shall accommodate these requests with reasonable advance notice from CMS.

Every 2 weeks (Sprint Cycle):

WA A – Ground Truth Data Sourcing:

- Status update on active data source negotiations, renewals, and onboarding activities
- Data delivery confirmation – which sources delivered on schedule, which did not, and why
- Intake validation results for data received during the sprint
- Open issue log with status of any escalated source data problems

WA E – Data Aggregation, Quality, and Assurance:

- Status update on active data correction and enrichment activities
- Correction delivery confirmation – volume of corrections delivered
- Quality findings summary – data quality issues identified as both input and output ends of workflow during sprint
- Feedback loop update – any findings from quality assessment that have implications for data sourcing decisions or priorities

Both Work Areas:

- Integrated issue log covering open data quality issues across WA A and WA E, with status, severity, and resolution timeline

- Risks and impediments requiring CMS government staff attention or escalation

Every 6 weeks (Program Increment):

WA A – Ground Truth Data Sourcing:

- Comprehensive data source portfolio review – active agreements, delivery performance, known limitations
- Cost and utilization analysis by source – actual vs. projected licensing costs; cost per validated provider record
- Recommendations for new data sources or discontinuation of underperforming sources based on quality and cost-effectiveness evidence
- Licensing compliance confirmation for all active agreements – confirmation that all agreements remain compatible with the license-free output mandate
- PI planning participation to align data availability with downstream team processing priorities

WA E – Data Aggregation, Quality, and Assurance:

- Comprehensive quality performance review — correction rates, acceptance rates, coverage by provider type and data category, methodology documentation
- Assessment of NPD output data quality — findings from WA E validation of data published through WA D, including identified gaps and recommended improvements
- Feedback loop summary — At each PI, the contractor shall provide a feedback loop summary documenting how WA E quality findings have informed WA A sourcing decisions during the PI (see 'How WA A and WA E Work Together' for the full description of this feedback loop).
- Recommendations for expanding or adjusting WA E correction and enrichment activities based on NPD data quality trends
- PI planning participation to align quality improvement priorities with overall NPD program roadmap

Coordination Ceremonies

The contractor shall participate in:

- **Sprint planning** (every 2 weeks): Align on priorities for upcoming sprint across both WA A and WA E; confirm data delivery commitments and correction delivery targets

- **Sprint review/demo** (every 2 weeks): Report on data delivery status, correction delivery status, new agreements, quality findings, and open issues; demonstrate progress across PI objectives
- **PI planning** (every 6 weeks): Align WA A data sourcing priorities and WA E quality improvement priorities with the overall NPD program roadmap; surface dependencies between WA A, WA E, and the WA B pipeline; confirm feedback loop findings and their implications for the next PI

Contractor Internal Methodology Flexibility

CMS does not mandate the contractor's internal work management approach. The contractor may use agile, traditional project management, or hybrid approaches as appropriate for vendor management work. What matters is synchronized delivery of data and status reporting at the cadence described above.

What matters to CMS is:

- **Synchronized delivery** of ground truth data files (WA A) and data corrections and enrichments (WA E) at 2-week intervals aligned with NPD spring cycles
- **Closed-loop quality improvement** – WA E findings are document, communicated to CMS, and fed back to inform WA A sourcing decisions at each PI
- **Transparency** through participation in sprint planning, sprint reviews, and PI planning ceremonies
- **Responsiveness** to CMS feedback, changing data quality priorities, and evolving NPD program needs
- **Quality outcomes over activity metrics –** the measure of success is not the number of agreements signed or corrections delivered, but whether NPD data quality is measurably improving over time
- **Collaboration** with CMS government staff managing all five NPD work areas – all cross-work-area coordination flows through CMS government staff

The contractor shall propose their internal work management approach in their technical proposal, explaining how it will achieve synchronized delivery, closed-loop quality improvement, transparency, and responsiveness across both WA A and WA E.

Tooling, Metrics, and Dashboards

The tools referenced below are the CMS managed instances and will be furnished by CMS for the Contractor's use:

- **Slack**: Primary real-time communication channel for daily coordination, quick questions, and status updates. Contractor team members shall be responsive during core business hours (9 AM - 4 PM ET).
- **Confluence**: Documentation repository for technical designs, data dictionaries, API specifications, runbooks, and knowledge sharing. Contractor shall maintain up-to-date documentation accessible to CMS government staff.
- **Jira**: Work tracking, sprint planning, and progress visibility. Contractor shall maintain current status of all work items and link to relevant documentation.
- **GitHub**: Code repository for data reconciliation algorithms, API implementations, validation scripts, and infrastructure-as-code. Contractor shall follow CMS branching strategies and pull request processes. Use of github for all source and configuration artifacts in the CMS source repositories is mandatory. Incremental change is expected after a first upload of new functionality, and configuration files as well as source code files are to be stored in github.
- **Email**: Formal communications, contract administration, and stakeholder updates requiring documentation trail.
- **Video Conferencing (Teams)**: Sprint ceremonies, technical discussions, and stakeholder presentations.

Data Source Dashboard

The contractor shall maintain a **Data Source Status Dashboard** in Confluence (or CMS-approved equivalent) providing real-time visibility into:

- Active data access agreements (source, status, expiration date, licensing terms summary)
- Data delivery status (last delivery date, next expected delivery, on-schedule/delayed)
- Open issues (source, issue type, severity, days open, resolution status)
- Cost tracking (actual vs. projected licensing costs by source)
- Intake validation results (pass/fail by source and delivery)

CMS government staff shall have read access to this dashboard at all times without requiring contractor assistance.

CMS may implement automated monitoring capabilities — including AI-assisted summarization, alerting, and anomaly detection — to enhance visibility into dashboard data. The contractor shall ensure the Data Source Status Dashboard is structured and maintained in a manner that supports automated data consumption, including: consistent use of structured data fields, machine-readable status indicators, and standardized formatting that enables programmatic access by CMS monitoring tools.

Communication and Collaboration

The contractor shall serve as a trusted partner to CMS government staff, providing proactive communication, transparent status reporting, and responsive issue escalation. All coordination with other NPD work areas flows through CMS government staff — there is no direct contractor-to-contractor coordination. The contractor shall always maintain open communication with the CMS government team and NPD Program Management Office.

CMS is currently using dedicated tools in a collaborative workspace. The Contractor shall establish a collaborative workspace using these tools. Additionally, the Contractor shall:

- Ensure that all deliverables, products, licenses, designs, data, documentation, tests, user research notes, source code, configuration settings and files, user research materials and findings, and other materials developed throughout this contract will be the property of the U.S. Government.
- Work with the COR, Product Owner(s) and Program Manager from launch to ensure all reference materials and other documents are always accessible to the appropriate Government personnel.
- Ensure any software written is stored using a version control to which the COR and any other relevant government employees will have a minimum read access.
- All monitoring and analytics dashboards and tools will be always accessible to the appropriate Government personnel.
- Provide any necessary assistance to the COR and Program Manager and potentially another vendor to stand-up and ensure the applications, systems, databases, platform, and environments are tested and fully operational.
- Delivery Lead shall facilitate a walkthrough for JIRA and Confluence spaces once those are built out.

- Teams shall maintain open communication across work streams and with CMS partners.
- Documentation: Contractors shall provide detailed documentation of development decisions, coding languages, testing protocols, and other development approaches.

Documentation Standards

All contractor-produced documentation shall:

- Be written in **plain language** accessible to both technical and non-technical CMS staff
- Follow CMS documentation templates and standards (provided by CMS)
- Be version-controlled in Confluence or GitHub as appropriate
- Include clear ownership, last-updated dates, and review cycles
- Be maintained as living documents that evolve with the system

Testing & Validation

WA E testing and validation operates at both ends of the NPD data lifecycle as described in 'How WA A and WA E Work Together.' The specific validation processes for each work area are:

WA A — Intake Validation

Intake Validation Process

The WA A contractor shall define, apply, and continuously refine validation rules for each ground truth data source. At a minimum, the contractor shall:

- Define and document validation rules for each WA A data source covering: file format and schema compliance, completeness thresholds (percentage of expected fields populated at agreed coverage levels), delivery cadence expectations (on-schedule vs. delayed), and volume anomaly thresholds (material deviations from prior delivery volumes that may indicate source data problems)
- Apply validation rules to each data delivery upon receipt and document results before notifying the WA B pipeline team of new data availability
- Flag deliveries that fail validation — classify by severity, initiate escalation with the data provider per the issue escalation protocol, and notify CMS government staff within one business day of any high-severity validation failure

- Track validation results over time to identify trends and systemic issues — persistent format problems, recurring completeness gaps, or deteriorating delivery cadence at a specific source shall be surfaced to CMS at the next sprint review with a recommended corrective action

Validation Documentation

- Maintain validation rule specifications for each WA A data source in Confluence, including format specifications, completeness thresholds, cadence expectations, and volume anomaly thresholds — updated whenever source delivery specifications change
- Document validation results for each delivery in the Data Source Status Dashboard — pass/fail status, completeness score, delivery timing, and any anomalies flagged
- Provide a validation summary in bi-weekly sprint status updates covering: deliveries received, pass/fail by source, open validation failures, and trends identified
- All source code and configurations used to operate data intake validation tooling shall be accepted in GitHub as pull requests (PRs), demonstrated to work in both development and production environments, and pass automated GitHub Actions tests as well as tests run in USG environments — constituting the acceptance test for all source code and configurations used to operate intake validation tools in the USG environment

WA A Scope Limitation

WA A intake validation is limited to confirming that data is "as advertised" by the source — correct format, expected completeness, on-schedule delivery, and no material volume anomalies. Deep data quality assessment — accuracy relative to other sources, entity resolution, confidence scoring, and anomaly detection — is performed by the WA B pipeline team and informed by WA E quality assessment. The WA A contractor shall not duplicate WA B or WA E quality assessment activities.

WA E — Quality Assessment and Correction Validation

WA E testing and validation operates at both ends of the NPD data lifecycle — assessing the quality of data entering the pipeline from WA A sources and validating the accuracy of data published through WA D. This dual-end validation function is what distinguishes WA E from a simple data correction service and makes it the quality assurance backbone of the NPD data ecosystem.

Input Quality Assessment Process

The WA E contractor shall continuously assess the quality of WA A source data as it flows through the NPD pipeline:

- Monitor NPD records for patterns of error, inconsistency, or incompleteness that can be traced to specific WA A source data — identify which sources are contributing the most errors and which data categories are most affected
- Assess confidence levels for provider records across all data categories — flag records where WA A source data is insufficient to support high-confidence reconciliation
- Identify gaps in WA A source coverage — provider types, specialties, or geographic areas where ground truth data is absent or unreliable
- Document input quality findings in Confluence with sufficient specificity to enable CMS to evaluate whether WA A sourcing decisions shall be adjusted — which sources shall be prioritized, deprioritized, renegotiated, or replaced

Output Quality Assessment Process

The WA E contractor shall continuously assess the accuracy of data published through WA D:

- Evaluate published NPD records against WA E correction and enrichment data to identify discrepancies between what the NPD is publishing and what WA E quality assessment indicates is accurate
- Identify ghost network indicators — providers listed as active and available who cannot be verified through WA E enrichment sources or provider engagement workflows
- Track output quality metrics over time — are published NPD records becoming more accurate? Are correction acceptance rates improving? Are known error patterns being resolved or persisting?
- Document output quality findings in Confluence and surface to CMS at each sprint review with specific, actionable recommendations

Correction Validation Process

The WA E contractor shall validate the quality and provenance of all corrections and enrichments before delivery to CMS:

- Apply internal quality checks to all corrections before delivery — confirm that corrections are supported by authoritative source evidence, methodology is documented, and confidence levels are assigned

- Deliver corrections via CMS-designated storage location or NPD API write-back with sufficient metadata for CMS to evaluate quality and provenance — at minimum: source of correction, methodology used, confidence level, provider records affected, and data category
- Track correction acceptance rates — the percentage of WA E corrections accepted and applied by CMS through the WA B pipeline — and use acceptance rate trends to continuously improve correction methodology
- All source code and configurations used to generate or deliver corrections shall be accepted in GitHub as pull requests (PRs), demonstrated to work in both development and production environments, and pass automated GitHub Actions tests as well as tests run in USG environments

Validation Documentation — WA E

- Maintain correction methodology documentation in Confluence for each WA E correction and enrichment activity — updated whenever methodology changes
- Document correction delivery results in the Data Quality Dashboard — volume delivered, acceptance rate, coverage by provider type and data category, and quality metrics
- Provide a quality assessment summary in bi-weekly sprint status updates covering: corrections delivered, acceptance rates, input quality findings, output quality findings, and feedback loop updates
- Provide a comprehensive quality performance report at each Program Increment covering: quality trends over the PI, input and output quality assessment findings, feedback loop summary, and recommendations for WA A sourcing adjustments

WA E Scope Limitation

WA E quality assessment and correction activities shall not duplicate the ETL, reconciliation, and data science functions performed by the WA B pipeline team. WA E contractors do not have direct write access to the NPD database — all corrections and enrichments flow through the WA B pipeline.

Issue Escalation Validation — Both Work Areas

When data quality issues are identified — whether through WA A intake validation, WA E quality assessment, downstream WA B pipeline processing, or WA D output review — the following escalation and resolution process applies:

Issue Triage

- The contractor (WA A or WA E as appropriate based on where the issue was identified) shall triage the issue to determine root cause: Is this a WA A source data problem? A WA E correction methodology problem? A WA B pipeline processing issue? A WA D output rendering issue?
- Root cause classification determines which party is responsible for resolution — WA A contractor engages the data provider; WA E contractor adjusts correction methodology; WA B or WA D issues are escalated to CMS government staff for routing to the appropriate team

Issue Resolution

- If a WA A source data problem: WA A contractor engages the data provider to investigate and resolve; tracks resolution timeline; confirms corrected data received and validated before closing the issue
- If a WA E correction methodology problem: WA E contractor updates methodology, redelivers affected corrections, and documents the methodology change in Confluence
- If a WA B or WA D issue: WA A or WA E contractor documents the issue with sufficient detail for CMS government staff to route to the appropriate team; does not attempt to resolve issues outside their work area scope

Issue Documentation

- All issues shall be logged in the integrated issue log with: root cause classification, responsible party, severity, resolution timeline, corrective action taken, and resolution confirmation
- Downstream teams shall be notified of resolution through CMS government staff — no direct contractor-to-contractor resolution coordination
- Lessons learned shall be documented in Confluence for each resolved issue — with specific attention to whether the issue reveals a pattern that shall inform WA A sourcing decisions or WA E correction priorities at the next PI

Definition of Done

The Definition of Done defines the acceptance criteria for each work product type — the conditions that must be met for a deliverable to be considered complete and acceptable to CMS. For deliverable descriptions, formats, and frequencies, see the Deliverables Table above. The DoD applies to all work products across WA A and WA E; work product types that apply to one work area only are labeled accordingly.

WA A — Data Licensing Agreement — Done When:

- Agreement is fully executed with CMS-approved licensing terms
- License-free output compatibility confirmed — legal analysis on file in Confluence
- Data delivery specifications documented in Confluence (format, schema, cadence, completeness thresholds, storage location delivery path)
- Intake validation rules defined and documented in Confluence for the specific source
- Data source added to the Data Source Status Dashboard with all required fields populated
- Cost documented and added to the licensing cost tracker (actual vs. projected)
- CMS government team notified and briefed on agreement terms, including any licensing limitations or conditions that may affect downstream use
- Agreement terms reviewed for consistency with applicable privacy authorities, SORNs, and data governance requirements

WA E — Data Quality and Enrichment Service Agreement — Done When:

- Agreement is fully executed with CMS-approved terms
- Service scope documented — what data categories, provider types, and correction methodologies are covered
- Delivery mechanism confirmed — CMS-designated storage, NPD API write-back, or both — and delivery specifications documented in Confluence
- License-free output compatibility confirmed

- Performance baseline established — initial assessment of NPD record accuracy in the vendor's area of focus
- Correction methodology documented in Confluence at a level sufficient for CMS evaluation
- Vendor added to the Data Quality Dashboard with all required fields populated
- CMS government team notified and briefed

WA A — Data File Delivery — Done When:

- Intake validation completed and results documented in the Data Source Status Dashboard
  - *Validation pass:* File confirmed to meet format, schema, completeness, and cadence specifications; CMS government team notified; WA B pipeline team notified of new delivery per CMS-established protocol
  - *Validation fail:* Issue logged with severity classification; data provider notified; escalation initiated per issue escalation protocol; CMS government team informed within one business day
- Delivery status updated in the Data Source Status Dashboard
- Any source code or configuration used to operate data intake validation tooling accepted in GitHub as pull requests (PRs), passing automated GitHub Actions tests and USG environment tests

WA E — Data Correction / Enrichment Delivery — Done When:

- Delivery includes required: source of correction, methodology used, confidence level, provider records affected, and data category
- Delivery logged in the Data Quality Dashboard with volume, coverage, and methodology documentation
- CMS government team notified with delivery summary
- WA E quality findings from this delivery — including any patterns identified at the input (WA A) or output (WA D) end documented and flagged to CMS for review

- Any source code or configuration used to generate or deliver corrections accepted in GitHub as pull requests (PRs), passing automated GitHub Actions tests and USG environment tests

WA A and WA E — Issue Resolution — Done When:

- Root cause identified and documented (e.g., WA A source data, WA E methodology, WA B pipeline, WA D output)
- Responsible party engaged and corrective action taken or committed to
- Corrected data or corrections received and validated
- Issue log updated with root cause, responsible party, corrective action, and resolution date
- Downstream teams notified through CMS government staff
- WA E feedback loop updated if the issue reveals a pattern in WA A sourcing implications
- Lessons learned documented in Confluence

WA A and WA E — Sprint Deliverable — Done When:

WA A:

- Sprint status update submitted on time and confirmed received by CMS government team
- Data Source Status Dashboard current and accurate at sprint end
- All open WA A issues have updated status, severity, and resolution timeline
- New agreements, renewals, or modifications documented in Confluence and reflected in the Dashboard

WA E:

- Sprint status update submitted on time and confirmed received by CMS government team
- Data Quality Dashboard current and accurate at sprint end

- All open WA E issues have updated status, severity, and resolution timeline
- Feedback loop summary completed — findings with WA A sourcing implications documented and flagged

Both Work Areas:

- Integrated issue log current — all open issues have updated status
- Risks and impediments requiring CMS action surfaced and documented
- QASP self-assessment metrics updated for the sprint period

Packaging, Packing, and Shipping Instructions:

All information and materials, including data, developed under this Task Order are the property of the Government and shall be delivered as part of the transition and turnover at the end of the Task Order, if not sooner. This includes but is not limited to the following things: analytic files (where source files are reduced in volume and tailored to specific analyses), data analytic programs and results produced, plans, systems analysis, design specifications, drawings, completed programs and documentation thereof, reports and listings, all tapes, disk files, and other items pertaining to the work and services to be performed pursuant to the Task Order. Data format and usability specifications shall be discussed during sprint planning if not already specified in the contract.

All hardware, software, materials, products, licenses, source code, data, and information produced or acquired with Task Order funds, or under the Contractor's control as Government Furnished Property or Materials, shall be delivered to the Government (or a new contractor, as applicable) in good condition. All data and supporting documentation shall be submitted or furnished to the Government, including the website, application, data files, analytic data files (with associated instructions and codebook listing and defining all variables), and public use data files with associated documentation.

All data, documentation, tools, scripts, and other materials delivered under this contract shall reference the Contract Number, the government end user agency (CMS), and the name of the COR. All deliverables shall be submitted in electronic/digital format in accordance with the Method and Distribution of Deliverables section below.

Method and distribution of deliverables:

The Contractor shall deliver documentation in electronic/digital format unless otherwise directed in the solicitation/contract. Acceptable electronic media include but not limited to: Confluence pages, JIRA tickets, Markdown, Microsoft Word 2010 or above, Microsoft Excel 2010 or above, Microsoft PowerPoint 2000 or above, Microsoft Visio 2010 or above, and Adobe Postscript Data Format (PDF). Deliverables shall be in an editable format that can be opened by CMS without a proprietary software license (e.g., PDF or SVG); this requirement addresses the issue of getting links to documents built on specific tools (e.g., Mural or Figma) where that underlying platform may eventually be replaced with something different, but CMS continues to need the information provided.

Quality Control and Assurance

The Quality Assurance Surveillance Plan (QASP) identifies how, in part, CMS will evaluate the Contractor's performance. While the measures contemplated by CMS for potential inclusion in the QASP are described in Appendix B to this Statement of Objectives, the Contractor shall propose performance measures which correspond to tasks in the PWS and will allow the team to monitor and respond to real-time conditions (e.g., transaction times, response times, app errors) and proactively detect and prevent adverse conditions (e.g., code defects, release bottlenecks) impacting performance. CMS will consider for adoption the measures proposed.

The Contractor is responsible for reporting on those measures specified by CMS in the QASP. The frequency of reporting actual performance shall enable appropriate intervention, such as technical changes, process improvements, or changes in staffing, to meet the performance standard. The proposed measures shall be based on industry standards (e.g., IT Infrastructure Library (ITIL), Control Objectives for IT, etc.). The QASP and evaluation process may be adjusted over time based on lessons learned. In addition, the QASP reporting outcomes and associated performance discussions (including retrospectives in the Agile teams) may be used by the Government as input for past performance reporting.

Inspection and Acceptance Criteria

All work is subject to inspection and final acceptance by the Contracting Officer, or the duly authorized representative of the government. The Government's Contracting Officer Representative (COR) is a duly authorized representative of the government and is responsible for inspection and acceptance of all items to be delivered. The Government shall have access to all code and other relevant documents from day one in a clearly documented and organized electronically shared workspace.

- The progress of the product will be inspected by the CO or another Government employee at the completion of each iteration.
- All documents shall be stored electronically such that the CO, PM, and any other relevant Government employees who have been granted permissions can access them at any time.
- The transition of materials will occur on an ongoing basis. All new materials produced during an iteration will be made available to the Government at the end of that iteration.
- In addition to the code, documentation shall be updated with each iteration. This includes technical documentation including, but not limited to items such as setup instructions in the README.md, user research findings, etc.

Reporting

The contractor shall provide bi-weekly sprint status updates and quarterly comprehensive reports as described in the Standup, Sprint Cadence, and Program Increments section. Monthly status reports with an accompanying review meeting shall be provided to the Contracting Officer (CO) and COR covering accomplishments, deliverables, risks, QASP self-assessment, financial status, and personnel roster. All reporting shall be delivered via Confluence and Slack/email, written in plain language accessible to both technical and non-technical CMS staff. See Appendix B (QASP) for delivery standards and acceptable quality levels.

Project Status Dashboard shall be periodically reviewed with the COR, Product Owner and the Contractor's Project and Operational Management teams. It shall also provide an overview of all projects and operations with a focus on outstanding issues and risks.

Program Increment plan and schedule shall give an overview of the project timelines, milestones, and dependencies. This will include 30-, 60-, and 90-day (starting at award) goals, as well as tracking the status of product goals.

Pricing and Award Structure

Cost Drivers

Understanding the key cost drivers for both work areas will help offerors develop realistic and competitive pricing proposals. CMS expects offerors to address each of these cost drivers explicitly in their price proposals.

WA A — Ground Truth Data Sourcing

- **Data licensing fees:** Costs vary significantly by source. Some state licensing boards provide free access; others charge annual fees ranging from hundreds to tens of thousands of dollars per state. Board certification organizations (ABMS, ABPS, AOA-BOS, and others), credentialing platforms (CAQH/DataSpring), and commercial services have their own pricing structures. Achieving license-free output compatibility (Constraint 1) may require including upstream processing services as part of the arrangement — this is an acceptable and anticipated cost structure that shall be reflected in WA A licensing fee estimates.
- **Existing contractor data relationships:** Contractors with pre-existing data access agreements compatible with federal government use may be able to reduce licensing costs and onboarding timelines significantly. CMS expects offerors to disclose existing agreements and quantify anticipated cost savings.
- **Negotiation complexity:** Establishing agreements with 50+ state licensing boards requires significant upfront effort. Contractors with existing state board relationships will have a meaningful cost and schedule advantage in Year 1. Offerors shall reflect this in their Year 1 vs. recurring cost estimates.
- **Ongoing relationship management:** Once agreements are established, the ongoing work — renewals, format changes, delivery monitoring, and issue resolution — requires sustained attention but at lower intensity than initial setup. Offerors shall reflect this in their staffing and cost trajectory across the period of performance.

WA E — Data Aggregation, Quality & Assurance Services

- **Scale of correction activity:** The cost of WA E services will vary significantly based on the scope of correction and enrichment activity proposed — the number of provider records addressed, the data categories covered, and the methodology used (AI/ML-driven, manual review, provider engagement, or hybrid). Offerors shall clearly articulate the relationship between their proposed scope of activity and their proposed pricing.
- **Methodology investment:** Vendors who have already invested in data quality infrastructure, AI/ML correction models, and provider engagement platforms will have lower marginal costs than vendors building these capabilities from scratch. CMS expects offerors to reflect existing infrastructure investments in their pricing.
- **Correction acceptance rate risk:** WA E pricing models that are volume-based (per-record or per-correction) create a risk of high-volume, low-quality correction delivery. Offerors shall propose pricing models that align incentives with correction acceptance rates and measurable quality improvement — not correction volume alone.

- **Dual-end assessment scope:** WA E operates at both the input end (WA A source data quality) and the output end (published NPD data quality). Offerors shall reflect the cost of both assessment functions in their pricing proposals.

Pricing Structure

WA A — Ground Truth Data Sourcing

WA A uses a hybrid pricing structure with two separate CLINs:

- **Management Services (FFP):** Covers contractor management services — data source relationship management, licensing negotiation, data normalization, quality monitoring, and delivery coordination. CMS prefers FFP for steady-state management services; T&M may be appropriate for Year 1 given the variability of initial onboarding workload. Offerors shall propose and justify their preferred contract type for CLIN 1.

- **Data Licensing Fees (FFP or potentially T&M with ceiling):** Covers data licensing fees paid to ground truth data providers on CMS's behalf. Separate, itemized pricing is required for each data source. Bundled pricing that obscures individual data licensing costs is not acceptable.

This is not a data broker arrangement. The WA A contractor manages direct licensing relationships with authoritative data sources, normalizes and delivers data to CMS-designated storage, and passes data to CMS for integration. The contractor does not aggregate, resell, or repackage data.

WA A Pricing Transparency Requirements

Offerors proposing under WA A shall provide:

- Separate CLINs for management services and data licensing pass-through costs as described above

- Itemized data source costs — annual licensing fees per source, organized by data category

- Disclosure of existing data access agreements — specify which sources the contractor already has access to, under what terms, and whether those terms permit federal government use and license-free redistribution

- Alternative sourcing options — identify sources where CMS direct procurement may be more cost-effective than contractor-managed access, and quantify the cost difference

- 5-year Total Cost of Ownership (TCO) — Year 1 setup costs (including negotiation, onboarding, and initial agreement establishment) vs. Years 2–5 recurring costs (steady-state management and licensing fees)

WA E — Data Aggregation, Quality & Assurance Services

WA E uses a performance-based pricing structure designed to align contractor incentives with measurable data quality improvement. Unlike WA A, where the primary cost variable is data licensing fees, WA E costs are driven primarily by the scope and methodology of correction and enrichment activity.

- **Data Quality and Enrichment Services (FFP):** Covers contractor services for data correction, enrichment, and quality improvement across the full NPD data lifecycle — both the input end (WA A source data quality assessment) and the output end (published NPD data quality validation). Pricing shall reflect the outcome-based nature of WA E.

CMS will consider per-record, per-correction, subscription, and hybrid pricing models for WA E. Offerors shall propose and justify their preferred pricing approach. Bundled pricing that obscures the cost of individual data correction or enrichment activities is not acceptable.

WA E Pricing Transparency Requirements

Offerors proposing under WA E shall provide:

- A proposed pricing model (per-record, per-correction, subscription, hybrid, or other) with justification for why the proposed model aligns contractor incentives with measurable data quality improvement — not correction volume alone

- A sample pricing scenario demonstrating how the proposed model would apply to a representative set of NPD provider records across at least three data categories (e.g., clinician licensure, board certification, and payer/network data)

- An explanation of how the proposed pricing model accommodates the iterative, outcome-based nature of WA E — specifically, how pricing adjusts if correction acceptance rates are low in early periods and how the model avoids creating incentives to deliver high volumes of low-quality corrections

- A 5-year Total Cost of Ownership (TCO) — Year 1 baseline establishment costs vs. Years 2–5 steady-state quality improvement costs

- Disclosure of existing data quality infrastructure, AI/ML models, and provider engagement platforms that will be leveraged in performance — and how existing investments are reflected in the proposed pricing

Award Structure

CMS will make a single award for both Work Area A and Work Area E. WA A and WA E will be structured as separate CLINs under one contract to ensure pricing transparency and independent performance assessment for each work area. Offerors must propose for both WA A and WA E — proposals covering only one work area will not be considered.

Initial Operating Capability

Offerors shall propose a realistic IOC plan and staffing approach in their technical proposals. IOC timelines are non-negotiable — offerors who cannot credibly demonstrate IOC feasibility within the timelines below will not be considered technically acceptable.

WA A Initial Operating Capability (within 30 days of award)

- Data delivery operational for at least 5 WA A ground truth sources, with normalized data files delivered to CMS-designated storage location
- All priority WA A sources in active negotiation or agreement
- Data Source Status Dashboard live and accessible to CMS staff

WA E Initial Operating Capability (within 45 days of award)

- At least one data correction or enrichment delivery completed via CMS-designated storage location or NPD API write-back — targeting either the input side (WA A data quality) or the output side (published NPD data quality)
- WA E quality performance baseline established — initial assessment of NPD record accuracy in WA E contractor's area of focus, documented and submitted to CMS
- Correction methodology documented and submitted to CMS for review
- Initial WA A feedback findings summary submitted to CMS identifying any observed patterns in WA A source data quality

Note: *WA E IOC is set at 45 days rather than 30 days to allow time for CMS to establish the write-back mechanism and for WA E contractors to complete initial data quality assessment at both ends of the workflow.*

Period of Performance

This acquisition is structured to support the **ongoing operational nature** of National Provider Directory data services. The NPD requires continuous data ingestion, reconciliation, validation, and quality improvement to maintain accuracy as provider information changes over time.

Contract Structure:

- **Base Period**: 1 year from contract award
- **Option Period 1**: 1 year
- **Option Period 2**: 1 year
- **Option Period 3**: 1 year
- **Option Period 4**: 1 year
- **Total Potential Period of Performance**: 5 years

The multi-year structure reflects the ongoing nature of data sourcing and licensing management. Data access agreements require continuous maintenance, renewal, and relationship management. This is not a one-time procurement activity.

Place of Performance

Work under this contract is **remote-first** and may be performed from contractor facilities or remote locations within the United States. The contractor has flexibility to propose their place of performance approach that best supports delivery of high-quality data services while enabling effective collaboration with CMS government staff.

The Contractor will interact with CMS staff in multiple locations throughout the Baltimore/Washington metropolitan areas. The primary CMS headquarters is located at 7500 Security Blvd., Baltimore, MD 21244. The CMS-Washington, DC office is located at 200 Independence AVE SW, Washington, DC 20201.

The Contractor shall be prepared to work at the Contractor's site ("off-site") however meetings may be required at CMS facilities. CMS does not intend to provide equipment, or office facilities for Contractor personnel. The Contractor shall provide the physical facility, telephone, and high-speed internet connectivity for off-site work. CMS will not provide reimbursements for any Contractor travel costs, unless otherwise provided for in this contract. No Contractor personnel

may work from any international location unless prior written approval has been provided by the CMS.

Occasional Travel

Work under this contract is **remote-first**. The contractor should anticipate **minimal travel**, limited to circumstances where in-person presence provides clear value that cannot be achieved virtually.

Travel may be requested by CMS on an **as-needed basis** for:

- **Key program milestones** (e.g., major stakeholder briefings or program reviews requiring in-person presence at CMS facilities in Baltimore, MD or Washington, DC)
- **Validation site visits** where in-person verification of provider location data is operationally necessary and cannot be conducted remotely

All other activities — including sprint ceremonies, integration coordination, industry engagement, and technical working group participation — are expected to be conducted **virtually** using CMS-furnished collaboration tools.

Estimated Travel Frequency: Minimal — the contractor should not anticipate routine travel. Any travel will be requested by CMS with reasonable advance notice and reimbursed in accordance with Federal Travel Regulations (FTR).

Timing

The Contractor shall ensure proper control and coordination of all deliverables per the Quality Assurance Surveillance Plan (QASP), Agile Life Cycle Process and other contractually obligated deliverables, to ensure they are delivered on time. Representatives of the Contractor shall meet with the COR and other members of the Government as necessary to review the status of deliverables.

The Contractor shall notify the COR, or other authorized representative, as soon as it becomes apparent to the Contractor that a scheduled delivery will be late. The Contractor shall include in the notification the rationale for late delivery, the expected date for the delivery, and the project impact of the late delivery. Such notification in no way limits any Government contractual rights or remedies including, but not limited to, termination.

The Contractor shall acknowledge and deliver any Rough Order of Magnitudes (ROMs) requested by CMS within a two week time period unless otherwise indicated by CMS.

Holidays

There are 11 Federal holidays set by law (USC Title 5 Section 6103) that CMS follows. Under current definitions, the following holidays are set by date:

- New Year's Day: January 1
- Independence Day: July 4
- Veterans Day: November 11
- Christmas Day: December 25
- Juneteenth: June 19

If any of the above falls on a Saturday, then Friday should be observed as a holiday. Similarly, if one falls on a Sunday, then Monday should be observed as a holiday. The other six holidays are set by a day of the week and month:

- Martin Luther King's Birthday: Third Monday in January
- Washington's Birthday: Third Monday in February
- Memorial Day: Last Monday in May
- Labor Day: First Monday in September
- Columbus Day: Second Monday in October
- Thanksgiving: Fourth Thursday in November

General CMS & Related Technical Standards

The Contractor shall perform all work associated with this effort in a manner consistent with the requirements, methods and/or goals described in the following references:

- Digital Services Playbook
- Developer tools from Centers for Medicare & Medicaid Services: collection of APIs, datasets, frameworks, and style guides
- The Agile Manifesto
- The TechFAR Hub
- 18F API Standards

- White House API Standards
- Building the Twelve-Factor App
- Scaled Agile Framework (SAFe) Agile Framework
- Federal Cloud Computing Strategy "Cloud Smart"
- CMS Target Life Cycle (TLC) guidelines
- Section 508 at CMS
- CMS Information Security and Privacy
- Overarching CMS IT Guidelines
- Design Guidance at Digital.gov
- CMS Web Design System(s)
- CMS Data Administration framework: CMS guidance to support consistent creation, utilization, and maintenance of CMS data resources.
- Cybergeek (for IT Security Policy)
- CMS Share IT Act Resources
- CMS' open source policy and helpful resources from the Digital Service at CMS (DSAC) which include Open Source development policies, etc. (https://github.com/DSACMS/ospo-guide)
- Artificial Intelligence at CMS
- CMS Technical Reference Architecture

Section 508

Work Area 1 does not include development of user-facing applications, portals, or public-facing interfaces. However, the contractor shall ensure that all work products produced in performance of this effort comply with Section 508 of the Rehabilitation Act, 29 U.S.C. § 794d, as amended, to ensure accessibility for CMS staff who may use assistive technology.

Applicable accessibility standards include:

- **WCAG 2.1 Level AA** — All contractor-produced web-based content, electronic documents, reports, and dashboards shared with CMS staff shall conform to Web Content Accessibility Guidelines (WCAG) 2.1 Level AA success criteria

- **PDF/UA (ISO 14289)** — All PDF documents delivered to CMS (reports, licensing summaries, data source catalogs) shall be tagged and structured to meet PDF/UA accessibility standards

- **Microsoft Office Accessibility** — All Word, Excel, and PowerPoint deliverables shall use proper heading structures, alt text for images, and accessible table formatting

Specific requirements:

- The **Data Source Status Dashboard** maintained in Confluence shall be navigable by keyboard and compatible with common screen readers (JAWS, NVDA, VoiceOver)
- **Quarterly reports and sprint status updates** delivered electronically shall meet WCAG 2.1 AA standards
- **Any internal tools or scripts** developed for data intake validation that CMS staff access shall be accessible

The contractor shall remediate any Section 508 deficiencies identified by CMS within 30 days of notification.

All deliverables shall be compliant with Section 508 requirements of the Rehabilitation Act. Virtual Classes- All virtual classes must be delivered using a 508 compliant platform and shall be compliant with Section 508 of the Rehabilitation Act.

Course Materials- All course materials (hard copy or electronic presentations, handouts, aides, and guides) shall be compliant with Section 508 of the Rehabilitation Act and delivered to all participants at least five (5) business days before the start of class. However, the parties understand that this time period may be shortened due to unanticipated circumstances, for example, ad-hoc trainings, trainings to address urgent matters, etc. If requested, an electronic version (i.e., cd or electronic pdf) of the training materials should be made available to CMS.

Government Furnished Equipment (GFE)/ Information (GFI)/ Software or Service (GFS)

Along with network access, CMS will provide GFE/GFI/GFS only when CMS deems it essential to performing the tasks. The contractor shall provide its own equipment and tools necessary for full performance of this contract as well as the work environment for required staff. The contractor shall maintain an inventory of all Government owned property provided to the contractor.

The contractor's solution shall utilize the following government-furnished software, licenses, and services:

CMS Collaboration and Work Management Tools:

- **Slack** — Primary real-time communication platform for coordination with CMS government staff
- **Confluence** — Documentation repository for the data source catalog, licensing summaries, intake validation procedures, and issue logs
- **Jira** — Work tracking for active negotiations, onboarding activities, open issues, and sprint commitments
- **Microsoft Teams** — Video conferencing for sprint ceremonies, coordination meetings, and stakeholder briefings
- **GitHub** — Version control for any scripts, validation tools, or documentation developed under this contract

CMS-Managed Data Storage:

- Designated CMS-managed storage environment for receipt of validated data delivered by the contractor from external sources. The specific storage mechanism will be defined by CMS government staff in coordination with the NPD teams.

Network Access:

- CMS VPN and secure access as needed for contractor staff to access CMS systems and collaboration tools, subject to applicable security requirements and background investigation requirements

Government-Furnished Information

- NPPES data
- PECOS data
- Lantern database access
- data.cms.gov holdings relevant to NPD
- NPD API write-back mechanism (for WA E)
- CMS-designated storage access credentials and specifications
- Access to WA B pipeline delivery confirmation notifications

The contractor **shall not** include costs for any of the above CMS-furnished resources in their price proposal. The contractor is responsible for providing all other equipment, software, and tools necessary for full performance of this contract.

Cloud Services

Work Areas A and E are primarily data sourcing, licensing, quality assurance, and vendor management functions. Neither work area involves building or operating the core NPD application, APIs, or data processing infrastructure — those functions are performed by the WA B contractor team and the CMS government team under WA D. As such, the standard CMS cloud consumption requirements for compute optimization, dynamic scaling, and infrastructure provisioning that apply to WA B and WA C are not applicable to this contract.

However, both WA A and WA E contractors may develop lightweight tools, scripts, or systems to support their respective functions — intake validation tooling (WA A), data correction generation and delivery tooling (WA E), issue tracking, quality dashboards, or data delivery coordination utilities. To the extent any such tools are developed, the contractor shall:

- **Default to CMS-furnished platforms** (CMSCloud) to the maximum extent practicable, rather than hosting services in contractor-owned environments

- **Obtain CMS approval** before using any external SaaS tools or contractor-hosted environments for activities that involve CMS data, licensed data received under this contract, or NPD provider data in any form

- **Ensure all tools and scripts are portable and transferable** to CMS-managed infrastructure upon contract expiration — no tool or script developed under this contract shall create a dependency on contractor-owned infrastructure or proprietary platforms

- **Disclose all tools and platforms** used in performance of this contract in the contractor's technical proposal and notify CMS of any changes to the tool inventory during contract performance

WA E — Additional Consideration: WA E contractors who use AI/ML methods to generate data corrections or quality assessments shall disclose the platforms, models, and configurations used — including model prompts, temperature settings, and reasoning configurations — consistent with CMS AI governance requirements. All AI/ML tooling used in WA E performance shall be

deployable on or accessible from CMS-furnished cloud infrastructure, and all model configurations, training data, and outputs shall be government-owned and portable. CMS shall not be required to hold licenses to any contractor platform to access, review, or audit WA E AI/ML outputs.

Data Storage and Delivery

WA A — Ground Truth Data Delivery

All normalized ground truth data files received from WA A data sources shall be delivered to CMS-designated storage location as specified by the CMS government team. Delivery specifications — including paths, file naming conventions, format schemas, and delivery confirmation protocols — will be defined by CMS government staff in coordination with the WA A contractor and the WA B contractor team, who is responsible for ingesting WA A data through the NPD ETL pipeline.

The WA A contractor shall not retain copies of licensed data in contractor-owned environments beyond what is operationally necessary for intake validation. Any such copies shall be disposed of in accordance with CMS data handling requirements within the timeframe specified by CMS. The WA A contractor shall not use licensed data received under this contract for any purpose other than performance of this contract.

WA E — Data Correction and Enrichment Delivery

All data corrections and enrichments generated under WA E shall be delivered to CMS via CMS-designated storage location uploads or NPD API write-back integration, as directed by CMS. The specific delivery mechanism for each WA E vendor and data category will be defined by CMS government staff in coordination with the WA E contractor and the WA B contractor team, who is responsible for ingesting WA E corrections through the NPD pipeline.

WA E contractors shall not retain copies of NPD provider data — whether received as government-furnished information or derived through WA E quality assessment activities — in contractor-owned environments beyond what is operationally necessary for correction generation and quality assessment. Any such copies shall be disposed of in accordance with CMS data handling requirements. WA E contractors shall not use NPD provider data for any purpose other than performance of this contract.

Both Work Areas — Data Rights and Retention

CMS retains full rights to all data delivered under this contract — including licensed ground truth data (WA A), data corrections and enrichments (WA E), and any derived data products generated in performance of this contract. Specifically:

- CMS shall retain the right to retain copies of all delivered data in CMS-managed storage beyond the contract period of performance
- The contractor shall not enter into any agreement with a data provider or enrichment vendor that restricts CMS's right to retain, use, or redistribute data delivered under this contract, consistent with the license-free output mandate
- Upon contract expiration or termination, the contractor shall deliver a complete inventory of all data delivered under the contract, all active licensing agreements and their key terms, and all tools, scripts, and configurations used in performance — to CMS or a successor contractor as directed
- The contractor shall not destroy, delete, or render inaccessible any data, tools, or documentation associated with this contract without prior written CMS approval

The specific storage mechanisms, delivery protocols, and data retention requirements for each data source (WA A) and each correction and enrichment activity (WA E) will be defined by CMS government staff in coordination with the contractor and documented in Confluence within 30 days of contract award.

Publications

The COR shall approve all manuscripts prior to submission for publication, including but not limited to things such as blog posts, Medium articles, etc.. CMS reserves the right to edit, redact, or deny release of information in accordance with such rights granted to it by CMS policy or Federal Law.

Contract Transition In/Out

The Contractor shall support the transition of contract performance, information and system knowledge to and from other Contractors as directed and to CMS to ensure the continuity of operations, its related components, and workflows. The Contractor shall prepare and use a

Transition-In Plan after award and prepare a Transition-Out Plan 180 days after award. The Contractor's plans shall define transition efforts to be conducted, documentation, and information to be transferred to and reviewed with other relevant Contractors. Plans will be reviewed by and require CMS approval. A successful transition is defined as receiving/transferring 100% of the work required.

The Contractor shall provide the following to transition in:

- Transition-In Plan
- Transition Schedule

The Contractor shall provide the following to transition out:

- Transition-Out Plan
- Transition Schedule
- Delivery of final deliverables, artifacts, and lessons learned including insight as to the level of effort estimated to complete work in process for anything not expected to be finished prior to transition.
- Delivery of software, release/code versions, processes, artifacts, and documents supporting each task area of the SOO or PWS.
- Outputs of automated test results and pass/fail results. Performance, security, and browser testing results.
- Training of relevant Government personnel and Contractors.
- All security concerns such as badges, tokens, and accounts shall be communicated to the CMS COR.
- All technical documentation and material will be archived in a secure location as directed by the CMS COR. This includes any data first developed during contract performance and not already in the possession of CMS.
- Provide closeout certifications that include a statement that the contract is complete, all deliverables have been provided, all services are complete, and there are no outstanding contractual issues.
- Plan for ensuring that, prior to termination or completion of this effort, the Contractor/Subcontractor does not destroy any information in any form received from CMS, or gathered/created by the Contractor in the course of performing this effort without prior written approval by CMS PM/COR. Any data destruction done on behalf of CM by a Contractor/Subcontractor shall be done IAW National Archives and Records Administration (NARA) requirements.

- An orientation phase to introduce the successor Contractor personnel and CMS officials to the incumbent team, explaining tools, methodologies, and business processes.
- A Phase-Out Migration Checklist (Contractor format).
- Providing signed turnover agreements in the CMS designated format.

Joint Operating Agreements (JOAs)

As needed, the Contractor should develop Joint Operating Agreements (JOA) with other CMS Contractors to facilitate a working relationship and identify responsibilities of each. The agreements do not replace, or change the requirements of each Contractor's Performance Work Statement (PWS). CMS approval is required for each JOA.

Appendix A: Security Requirements

RESERVED

Security requirements will be provided during solicitation release. Minimum expected requirements include, but are not limited to: CMS ARS compliance, TLS 1.2+ encryption in transit, AES-256 encryption at rest, background investigation requirements for contractor personnel accessing CMS systems, and data handling/disposal requirements for licensed data received under this contract. Appendix A will be completed and issued with the release of the solicitation

Appendix B: Quality Assurance Surveillance Plan (QASP)

The following table provides an initial framework of performance objectives and standards for Work Areas A and E. The contractor shall propose performance measures in their technical proposal; the COR has final edit responsibility for the QASP, which will be finalized collaboratively after award. Performance against the QASP will inform contractor evaluation and past performance assessment. The contractor shall submit QASP self-assessments quarterly, aligned with the Program Increment schedule, no later than two weeks after PI end. Some elements may require more frequent reporting as noted below. The QASP and evaluation process may be adjusted over time based on lessons learned.

WA A — Ground Truth Data Sourcing and Licensing

Performance Objective	Performance Standard	Acceptable Quality Level (AQL)	Measurement Method	Reporting Frequency
Data file delivery timeliness	Percentage of WA A data sources delivering normalized files to CMS-designated storage on schedule per agreed cadence	≥ 95%	Data Source Status Dashboard	Monthly
Intake validation pass rate	Percentage of WA A data file deliveries passing format, schema, completeness, and volume anomaly validation on first receipt	≥ 90%	Validation logs in Confluence	Monthly
Intake validation documentation completeness	Percentage of WA A data deliveries with validation results documented in the Data Source Status Dashboard within 2 business days of receipt	100%	Data Source Status Dashboard	Monthly

Issue resolution timeliness — WA A	Mean time to resolve WA A source data quality issues from identification to confirmed closure	≤ 30 calendar days	Issue log	Monthly; trend reported quarterly
Issue escalation timeliness	Percentage of high-severity WA A validation failures for which CMS government staff are notified within 1 business day of identification	100%	Issue log; COR tracking	Per event
Licensing compliance	Percentage of active WA A agreements reviewed and confirmed compatible with the license-free NPD output mandate	100%	Licensing compliance log in Confluence	Quarterly
CMS approval compliance	Percentage of new or renewed WA A agreements receiving CMS written approval before execution	100%	Agreement log	Per event
Cost transparency — WA A	Itemized cost reporting accuracy — actual vs. projected licensing costs per data source, with variance explanation for any deviation ≥ 10%	100% accuracy; variances ≥ 10% explained	Financial reports	Quarterly
Data source portfolio coverage	Percentage of CMS-prioritized data categories with at least one active WA A agreement delivering on schedule	≥ 90% at end of base period; ≥ 95% at each option exercise	Data Source Status Dashboard	Quarterly; assessed at each option e xercise

New source onboarding timeliness	Mean time from CMS direction to onboard a new WA A data source to first successful data file delivery	≤ 90 calendar days	Agreement log; Data Source Status Dashboard	Per event; trend reported quarterly
Feedback loop responsiveness — WA A	Percentage of WA E quality findings with WA A sourcing implications for which the WA A contractor has provided a documented response or recommended action within 30 days	≥ 90%	Feedback loop log in Confluence	Per PI

WA E — Data Aggregation, Quality & Assurance Services

Performance Objective	Performance Standard	Acceptable Quality Level (AQL)	Measurement Method	Reporting Frequency
Correction delivery timeliness	Percentage of WA E data correction and enrichment deliveries made on the agreed cadence via CMS-designated storage location or NPD API write-back	≥ 95%	Data Quality Dashboard	Monthly
Correction acceptance rate	Percentage of WA E corrections submitted that are accepted and applied by CMS through the WA B pipeline	≥ 75% at end of base period; ≥ 85% at each option exercise	Data Quality Dashboard; WA B pipeline acceptance logs	Monthly; trend reported quarterly

Correction metadata completeness	Percentage of WA E correction deliveries accompanied by required metadata (source, methodology, confidence level, provider records affected, data category)	100%	Data Quality Dashboard	Monthly
Input quality assessment coverage	Percentage of active WA A data source categories for which WA E has completed at least one input quality assessment during the PI	100%	Quality assessment reports in Confluence	Per PI
Output quality assessment coverage	Percentage of NPD provider record categories for which WA E has completed at least one output quality assessment during the PI	100%	Quality assessment reports in Confluence	Per PI
Issue identification timeliness — WA E	Mean time from identification of a data quality pattern (input or output) to documented notification to CMS government staff	≤ 10 business days	Issue log; quality assessment reports	Monthly
Issue resolution timeliness — WA E	Mean time to resolve WA E correction methodology issues from identification to confirmed closure	≤ 30 calendar days	Issue log	Monthly; trend reported quarterly
Feedback loop delivery	Percentage of PIs for which WA E delivers a documented feedback loop summary — including quality findings with implications for WA A sourcing decisions — within 2 weeks of PI end	100%	Feedback loop log in Confluence	Per PI

NPD output quality improvement	Measurable improvement in NPD record accuracy attributable to WA E corrections — tracked as change in correction acceptance rate, reduction in known error patterns, and increase in high-confidence records — over successive PIs	Positive trend across successive PIs; no regression from prior PI baseline	Data Quality Dashboard; COR quality assessment	Per PI
Provider population coverage	Percentage of NPD provider population covered by at least one WA E correction or enrichment activity during the PI	≥ 50% at end of base period; ≥ 75% at first option exercise; ≥ 90% at second option exercise	Data Quality Dashboard	Per PI
License-free output compliance — WA E	Percentage of WA E corrections and enrichments confirmed compatible with the license-free NPD output mandate	100%	Licensing compliance log	Quarterly
Methodology documentation completeness	Percentage of WA E correction and enrichment activities with methodology documentation current in Confluence	100%	Confluence documentation audit	Quarterly

Both Work Areas — Cross-Cutting Performance Objectives

Performance Objective	Performance Standard	Acceptable Quality Level (AQL)	Measurement Method	Reporting Frequency
Reporting timeliness	Bi-weekly sprint status updates, monthly status reports, and quarterly comprehensive reports delivered on time	100%	COR tracking	Per deliverable
Sprint status update completeness	Percentage of required sprint status update elements present and current — covering WA A delivery status, WA E correction status, integrated issue log, and feedback loop update	100%	COR review	Per sprint
QASP self-assessment timeliness	Quarterly QASP self-assessment submitted no later than 2 weeks after PI end	100%	COR tracking	Per PI
Tooling and dashboard currency	Data Source Status Dashboard (WA A) and Data Quality Dashboard (WA E) current and accurate — all active agreements, delivery statuses, quality metrics, and open issues up to date	100% current at time of each sprint review	COR spot-check at sprint review	Per sprint
Section 508 compliance	All contractor-produced web-based content, electronic documents, reports, and dashboards conform to WCAG 2.1 Level AA; deficiencies remediated within 30 days of CMS notification	100% compliance; 100% remediation within 30 days	COR review; Section 508 audit	Per deliverable; remediation per event

Portability readiness	Transition Readiness Package current and validated; portability drill completed per QASP schedule demonstrating that all WA A licensing agreements, WA E correction methodologies, tools, and data deliveries can be transferred to a successor contractor	100% current; drill completed at least once per year	COR review; portability drill results	Per PI; drill annually
CMS system access compliance	All contractor personnel with CMS system access cleared and badged per applicable requirements; access revoked within 1 business day of personnel departure	100%	COR tracking; security log	Per event
AI/ML disclosure compliance — WA E	All WA E AI/ML tools, models, and configurations disclosed to CMS and documented in Confluence; updates disclosed within 10 business days of any change	100%	Confluence documentation; COR review	Per event; confirmed quarterly
Integrated feedback loop effectiveness	Evidence at each PI that WA E quality findings have been reviewed by the contractor's WA A team and CMS government staff, and that sourcing decisions have been informed by quality evidence — documented in PI planning artifacts.	Documented at each PI	PI planning artifacts; feedback loop log	Per PI

QASP Administration Notes

- The COR has final edit responsibility for the QASP. The contractor shall propose additional, revised, and/or streamlines performance measures in their technical proposal; CMS will consider proposed changes for adoption.
- The QASP will be finalized collaboratively with the contractor within 30 days of award.
- Performance discussions, including sprint retrospectives, may be used by CMS as input for past performance reporting.
- CMS reserves the right to add, modify, or remove metrics as NPD program needs evolve, with reasonable notice to the contractor.
- The contractor shall provide real-time access to all dashboards referenced in this QASP to CMS government staff at all times — dashboards shall not require contractor assistance to access or interpret.
- Formal QASP self-assessments are due quarterly, no later than 2 weeks after PI end. Sprint-level self-assessment against QASP metrics shall be surfaced proactively at each sprint review — the contractor shall not wait for COR assessment to identify performance issues.
- At each option exercise, the COR shall conduct a comprehensive QASP performance review covering all metrics across WA A and WA E. Option exercise recommendations will be informed by QASP performance history.