



December 4, 2022

The Honorable Chiquita Brooks-LaSure  
Administrator  
Centers for Medicare & Medicaid Services  
Department of Health and Human Services  
Attention: CMS-0058-NC  
Submitted electronically to: <http://www.regulations.gov>

Dear Administrator Brooks-LaSure:

We applaud CMS for taking a leadership role in ensuring that patients, along with many other entities in the health system, have accurate and up-to-date information about providers. We fully support this proposal to develop a National Directory of Healthcare Providers.

Checkbook has decades of experience helping consumers choose high quality providers and understand coverage of their providers when choosing an insurance plan. In the course of this work, we have observed many of the problems outlined in the RFI and observed the adverse consequences for patients.

Of the many problems with provider directories and limitations in data consumers have on providers, we believe that the most pressing one is making available accurate and up-to-date information on provider-organization affiliation that can be used to determine accurate in-network status for any provider. The absence of timely and accurate provider-organization affiliation data is the primary driver of the inaccuracy observed in provider directories, as well as the primary obstacle to understanding the capacities of those organizations. The lack of organizational affiliation data makes it difficult for insurers to purge outdated addresses for providers, leading to incorrect address records in data available to consumers. The lack of a reliable central record system for capturing this data is a primary factor driving the current fragmented system and the associated burden on providers of updating numerous insurers' provider portals regularly. As such, we suggest that CMS should prioritize efforts to capture and maintain accurate and up-to-date affiliation data.

From a policy perspective, we believe that the most important consideration in developing a multi-party system is ensuring that the rules governing the system hold each participant accountable for the timeliness and data under their control. In particular, providers should be held directly accountable – independently of insurers - for making accurate and timely updates to a centralized system for data elements about affiliation of individual providers with organizations and any other business entity that contracts with insurers. We note that 45 CFR 162.410(a)(5) already provides authority for HHS to require providers to make timely updates to NPPES in the event of changes to data about them. Holding providers accountable in turn will permit holding insurers accountable for the accuracy and timeliness of data that they control, such as contracts with provider groups and status of onboarding individual providers.

We further suggest that providers should be required to maintain accurate organization affiliation data in real-time. Since the source data for providers' organizational affiliations is contained within one or more information systems, it is eminently feasible for the developers of these system to create automated jobs and interfaces that allow transmission of the appropriate data automatically. Automated jobs of this nature, combined with careful data validation requirements would both reduce the administrative burden on provider organizations and result in much improved accuracy of the data collected. While such a requirement might require more work up front, the benefits both for consumers and in terms of designing out complex versioning problems related to stale data would be overwhelmingly valuable.

There are many steps involved in the collection and use of provider data throughout the health system. Because both providers and insurers are likely to rely on intermediaries for these steps, we suggest that CMS' efforts be focused on ensuring that all providers can meaningfully make use of an intermediary to submit to the NDH and can readily consume data in an NDH. That includes the development of standards for key metadata (the timing of data collection from providers, sources from which the data is collected, etc.) as well as rules ensuring that such intermediaries cannot block the public release of data collected in the NDH. The ability to use intermediaries, coupled with high degree of visibility into the process of gathering and cleansing the data, will be pivotal for ensuring that the NDH succeeds in reducing burden on providers and payers and generating a consolidated set of high quality data on providers and organizations.

In order for an NDH to avoid becoming another data silo encompassing a subset of providers, it must be able to meet the needs of multiple stakeholders throughout the health system. To meet this need it must be built on a data model that handles many distinct types affiliations with and between organizational entities and establish clear and permanent identifiers for organizations, sub-organizations and other business entities. It is critical that these entities be properly defined and their identifiers with the NDH align with the identifiers used in insurer contracts with entities involved in care delivery. In particular, either TINs or EINs used in contracts should be disclosed publicly, or where this is not feasible, a consistent, immutable pseudo-TIN identifier should be generated and used. We also note that the lack of a consistent identifier for hospitals hampers many use cases for many stakeholders in the industry. Efforts to develop a sufficient identification scheme should be undertaken in an open forum with participation of all relevant stakeholders, and be structured to create an identifier system that fully represents the distinct kinds of organizational entities that exist and the relationships between them.

A high-quality directory of providers is an essential component of successful and efficient functioning of the world's costliest and most complex health system. Based on our experience NPPES insufficient to meet this need The data in NPPES – particularly data related to organizations and relationships to individual providers – is not sufficiently well-defined or validated to meet the needs of consumers and many other health system stakeholders. To avoid replicating the problems with NPPES, both development and maintenance of an NDH should be done under transparent and open governance structures. Given CMS' commitment to FHIR and regulatory references to these standards, FHIR workgroups may be a useful mechanism for



overseeing the development of an NDH. However we caution that the proliferation of FHIR workgroups, and the pace at which they have been mandated to operate, has resulted in a large body of code and documentation that is relatively inaccessible without a steep learning curve. Given the central role of the NDH in the functioning of the US health system, we suggest that there must be greater efforts to ensure that assets are readily comprehensible and usable for all parties, including the public.

Below we provide more detailed answers to questions posed in the RFI.

We welcome the opportunity to engage further with CMS on this subject – please do not hesitate to contact Eric Ellsworth at [eellsworth@checkbook.org](mailto:eellsworth@checkbook.org) or 202-454-3010 if you have any questions or we can provide further information or assistance.

Sincerely,

Eric Ellsworth

Director, Health Data Strategy

Consumers' Checkbook/Center for the Study of Services

• *What benefits and challenges might arise while integrating data from CMS systems (such as NPES, PECOS, and Medicare Care Compare) into an NDH? What data elements from each of these systems would be important to include in an NDH versus only being available directly from the system in question?*

We believe that the top priority for an NDH is resolving poor provider-organization affiliations and establishing uniform identifiers for groups and other business entities with whom insurers contract. In particular we note that Type 2 (organizational/non-individual) NPIs are used in a variety of ways to represent entities of a wide variety of types, and that play a range of roles in care delivery. Type 2 NPIs are very frequently not well aligned with the business entities that contract with insurers. Business entities are usually identified by a tax identifier such as a TIN or EIN, while Type 2 NPIs are assigned in relationship to other needs such as clinical, legal, or regulatory requirements. For example, in providing tools to help consumers look up hospitals covered by different health plans, we have observed that hospitals often have multiple different Type 2 NPIs, and different insurers use different ones of these NPIs with no discernible pattern. Additionally, many types of data involving hospitals use identifiers other than NPI.

We suggest that CMS/HHS and/or FHIR workgroups undertake a process of clarifying which entities need distinct identifiers, ensuring that the identifier scheme can accommodate all these entities, and providing rules and guidance to ensure that identifiers are assigned consistently. Through such process CMS should clearly define how the various entity relationships work, and establish data models for capturing and maintaining various relationship scenarios. For example, in an integrated payer model, a physician is an employee of the payer and provides services at a subset of payer-operated locations. In another example scenario, the payer contracts with a provider group organization identified by a TIN. The TIN manages all relationships and data downstream (which providers are part of their practice, what are the practice addresses, where does each provider practice, what are the specialties, is the provide accepting new patients). In this second example, the payer may only need to maintain the relationship with the TIN; the TIN maintains the provider information within the NDH, and the payer pulls all the relevant provider data from the NDH for its own provider directory data.

It is important to study and enumerate these various types contracting and network participation scenarios to ensure the NDH can accommodate the relationships within its data structures.

We suggest that CMS should not undertake to collect provider-network data from private insurers, but rather provide access to the NDH and enforce standards for provider directory accuracy based on the data collected in the NDH.

We suggest that certain key entities and attributes defined within the NDH leverage existing standard IDs (i.e., using TINs/EINs to identify practice groups). When standard ids do not exist or are not feasible, strong substitute, immutable IDs should be used to identify entities, and possibly certain attributes such as practice addresses. For example, if a provider group operates a practice location, CMS should consider enumerating the location within NDH with a unique,

permanent, and public id value. That practice location ID can then be referenced by any stakeholder, without the need to store address information in multiple data systems.

We suggest that de-activated entity and attribute data remains accessible within the NDH, but with in a deactivated state. For example, if a provider leaves a practice group, the NDH should document that the provider's relationship with the practice group has terminated (rather than the affiliation simply disappearing from the record). Another example, if a practice group closes a practice location, that location should be documented within the NDH as closed, rather than simply disappearing from the dataset. Maintaining this historical data in a clear way will provide a valuable resource in scrubbing/improving provider data across the industry. By contrast – if a payer has a provider listed at many addresses now, it is very difficult for the payer to determine if those addresses are current or old/invalid addresses. Being able to confirm from the NDH that the provider stopped practicing at addresses will provide the information that payer needs to update their directory information. This may be especially important during a transition phase (noting that the ultimate goal may be for the provider's practice location information to reside exclusively in the NDH or one of its 'spoke' datasets.

- *Are there other CMS, HHS (for example, HPMS, Title X family planning clinic locator, ACL's Eldercare Resource Locator, SAMHSA's Behavioral Health Resource Locator, HRSA's National Practitioner Data Bank, or HRSA's Get Health Care), or federal systems with which an NDH could or should interface to exchange directory data?*

We support the inclusion of data about individual providers' affiliations with FQHCs and other publicly funded clinics. These clinics form an important part of the care options available to many consumers. Because many FQHCs struggle with unstable revenue sources, and tend to pay lower salaries to providers than many other organizations, there is significant turnover of clinicians and other providers. If an NDH maintained up-to-date provider affiliations for FQHCs, this could form an important resource for consumers seeking care from these facilities. It may also be useful to collect information about facilities designated as Essential Community Providers under ACA regulations.

With respect to behavioral health facilities, we note that data both on the facilities themselves and providers within these facilities is of great value to patients and their families as they seek information about care options about these facilities. Data about affiliated providers, specific behavioral health modalities and other important consumer information is limited, and often exists in very scattered form. Frequent changes in ownership also result in significant staff turnover as well as changes in names under which facilities are marketed. Maintaining consistent centralized information about these facilities and affiliated providers would benefit patients, their families, and referring mental health providers.

- *Are there systems at the state or local level that would be beneficial for an NDH to interact with, such as those for licensing, credentialing, Medicaid provider enrollment, emergency*

*response (for example, the Patient Unified Lookup System for Emergencies (PULSE) [\[73\]](#) ) or public health?*

As noted below, we believe that licensing, credentialing and other data should be collected in the NDH as part of an effort to assure that both provider-affiliation data and provider-network onboarding status can be maintained up-to-date in realtime (i.e. <1 business day). Since licensing and credentialing entities play an important role in those processes, we would suggest that the NDH provide the technology resources needed for those entities to keep their data up-to-date in realtime as well (e.g. data is updated in the NDH on the same business day that the license goes into effect).

*++ What data elements would be beneficial to include in an NDH for interaction with state or local systems, including State-based Exchanges or existing state-level provider directories?*

Through our work with State-based Exchanges, we have encountered numerous challenges in providing consumers with accurate information on provider participation with various plans, as well as identifiers and data necessary to compare different plans' provider network. In particular, the lack of uniform, accurate, and up-to-date information on provider affiliation creates many openings for inaccuracies. For example, if two insurers contract with the same organization but one has different information on group's affiliated providers, the exchange's plan shopping and provider lookup tools will show some providers in-network in one plan and out-of-network in the other. Another frequent source of problems is limited affiliation data on non-physician providers, including NPs/PAs, behavioral health providers, physical therapists, etc. If there are any differences in which types/specialties of providers listed by one insurer vs another, this will result in the same provider showing in-network in one plan and (incorrectly) out-of-network in another.

Poor data on provider-group affiliation also hampers accurate assessment of network adequacy. Most network adequacy standards evaluate the availability of providers either within or near a particular geographic area. In these geographic analyses, the location of the provider is determined from addresses listed for that provider. In a large majority of cases, the provider-address listing represents a provider's affiliation with a business entity (i.e. a practice, clinic, or hospital). Unfortunately, because issuers lack notification when providers disaffiliate from a practice, the old group addresses remain listed for the doctor for long periods of time. Publicly published PECOS data also have large numbers of stale provider-address records. These stale provider-address records can inflate the number of providers counted as in or near a geographic area. Similarly, individual reassignment of Medicare benefits generally represents an affiliation between the individual provider and the group to whom benefits are assigned.

Problems with addresses also affect consumers, as any measure of network breadth (including those Checkbook displays within our plan comparison tools) may also be inflated by stale addresses. If proposed regulations for standardizing plans are adopted, measuring and displaying differences in network breadth and composition will become a more important part of plan shopping and problems with provider data will obfuscate plan choice.

For these reasons, we recommend that CMS prioritize work on NDH toward improving provider-organization affiliation data and handle additional use cases later on.

- *What types of data should be publicly accessible from an NDH (either from a consumer-facing CMS website or via an API) and what types of data would be helpful for CMS to collect for only internal use (such as for program integrity purposes or for provider privacy)?*

Based on our work with and for consumers, we encourage CMS to make as much data available as is feasible while protecting providers from threats to their safety, reputation or livelihood. We believe that CMS should offer APIs that expose at least provider group affiliation and a uniform set of identifiers for entities such as hospitals and associated sub-entities (e.g. trauma unit, in-hospital dialysis facilities), as well other data that CMS has ready access to through PECOS and other systems, such as specialties.

- *How could NDH use within the healthcare industry be incentivized? How could CMS incentivize other organizations, such as payers, health systems, and public health entities to engage with an NDH?*

While we are not experts in the development of such policies, we suggest that CMS evaluate opportunities to incentivize providers to ensure that their group affiliations are accurate. We also suggest that through a variety of mechanisms CMS should incentive payers to use the NDH or federated databases that contain realtime data on provider affiliations.

As noted in the RFI and elsewhere in our response, CMS collects a great deal of relevant information about providers and organizational affiliations through PECOS enrollment and other payment activities. As part of the ongoing PECOS modernization project, developing processes and data flows to capture organizational affiliations in a form that could be used within an NDH would likely not expand that project's scope by much. While we lack specific knowledge of the regulations surrounding physician enrollment in PECOS, we believe it is likely that CMS could require providers to allow data entered into PECOS to be used in an NDH. Additionally, maintaining accurate provider affiliation is important for combating improper payments, CMS may have statutory authority derived from program integrity requirements to compel participation in an NDH by providers, insurers, and many other entities involved in Medicare.

Additionally, as enacted in law HIPAA provides authority for HHS to require providers and other health system entities to use electronic information exchange for administrative simplification and lays out penalties for violations of the overall statute. HIPAA further provides authority for collection and use of EINs as identifiers within electronic health information transactions. As such we believe it is likely that CMS already has authority to compel providers and insurers to participate in such a program or face monetary or other penalties.

In the event that CMS determines that it lacks sufficient authority to get all or nearly all providers to comply with a mandate to provide timely data to an NDH, we would suggest that

CMS research and disseminate information about the statutory and regulatory barriers to enforcing such a mandate. Such information could be used to shape discussions about other solutions, including potential legislation.

- *Would an NDH as described provide the benefits outlined previously?*

Checkbook believes that an NDH based on FHIR standards and under a regime that allows intermediaries to provide value-add services in the collection and cleansing of provider would simultaneously reduce data collection burden on both providers and payers while dramatically improving the quality of data available to patients, providers, and others in the health system.

- *Would an NDH as described reduce the directory data submission burden on providers?*

We believe that an NDH as described holds the potential for reducing data submission burden on providers under the right conditions. First, the system should be developed under a strong and open governance process that ensures that all stakeholders have the opportunity to articulate use cases, data requirements, and other concerns that may make it difficult for those stakeholders to interoperate with an NDH. Second, the data model underlying the NDH must be sufficiently robust that data can be validated as it enters the system. Finally, as noted above, we believe that the system must be accurate in realtime, so that users of the data can rely on it as the authoritative source of truth at all times.

- *We have heard interest in including additional healthcare-related entities and provider types beyond physicians in an NDH-type directory beyond those providers included in current CMS systems or typical payers' directories? For example, should an NDH include allied health professionals, post-acute care providers, dentists, emergency medical services, nurse practitioners, physician assistants, certified nurse midwives, providers of dental, vision, and hearing care, behavioral health providers (psychiatrists, clinical psychologists, licensed professional counselors, licensed clinical social workers, etc.), suppliers, pharmacies, public health entities, community organizations, nursing facilities, suppliers of durable medical equipment or health information networks? We specifically request comment on entities that may not currently be included in CMS systems.*

We support the suggestion that an NDH should incorporate non-physician providers. For consumers, access to these providers is just as important as access to physicians. In fact, within many care paths access to high-quality, accessible and in-network non-physician providers is more important than physicians.

However, because non-physician providers typically do not face the same licensing and credentialing requirements for participation in provider networks, insurers often do not list non-physician providers individually within their provider directory websites, APIs, or data feeds. This means that when searching for a non-physician provider they know by name— such as through prior personal experience, or a referral from a friend, or a website with a bio, quality, and/or other pertinent information— a consumer must determine the group (and possibly a specific

location of that group if it has a distinct NPI) then look that group up in insurers provider directory. If the consumer cannot find the group (which can occur for many reasons other than actual non-coverage of the provider), the consumer must either accept a vague negative answer and repeat the process for another provider, or s/he must try additional searches in the provider directory to try to understand coverage of the group and if it applies to the individual provider. These steps are highly burdensome for all but the most experienced and persistent consumers,

If non-physician group affiliations were incorporated into an NDH, insurers could then be held accountable for accurate and timely information about network participation and status of these providers as well as physicians.

*++ What data elements would be useful to include in an NDH to help patients locate providers who meet their specific needs and preferences?*

Based on Checkbook's decades of experience evaluating providers and publishing results for consumers, we believe that providers, insurers, and independent websites and apps all have an important role to play in helping patients locate a provider who meets their needs and preferences. Because the number of ways that providers can be evaluated is vast, and patients may want very different information about providers depending on their circumstances, we believe that most valuable role CMS can play is to make it straightforward for any entity to link together datasets on providers and combine this with accurate and timely information about network coverage. To that end, we have proposed the development of a uniform [Consumer Network ID](#) to permit consumers to easily combine a variety of information sources about providers with clear and definitive information about whether the provider is covered by their insurance. We suggest that CMS evaluate this type of data standard to maximize the utility of NHD in helping consumers get accurate information about coverage of providers who meet their needs and preferences.

In addition to collecting and disseminating group affiliation, due to its immediate access to claims from Medicare, Medicaid and potentially the ACA, CMS can also calculate information of great value to consumers such as specialty-as-practiced (i.e., as inferred from claims), procedures performed in particular locations. Such specialties are already calculated in the MD-PPAS dataset, which is presently unavailable to the public due to the presence of personal identifiers of physicians. With the proper conversion of identifiers this data could be used to validate and supplement data on specialties collected directly from providers.

Finally, patients understandably care a great deal about providers' personalities. At present there are multiple sources of personal bios or other writing by the provider that are hosted by various websites. Some of that material is produced and disseminated within providers' marketing efforts; CMS should clearly not be involved in providers' marketing efforts. Nonetheless, providing framework where providers could push out biographical content alongside other data in an NDH could make such information more easily standardized and accessible for consumers.

*++ Beyond using FHIR APIs, what strategic approaches should be taken to ensure that directory data are interoperable?*

CMS should establish standards by which users of data by intermediaries on behalf of providers or other entities can be clear on the quality of the data, as well as the source systems from which provider data is derived and metadata about the lineage of the data (i.e. who has handled it, how it has been cleansed, transformed, enriched, etc. en route to the NDH).

*++ Are there specific strategies, technical solutions, or policies CMS could pursue to encourage participation in an NDH by group health plans and health insurance issuers offering group or individual health insurance coverage for programs or product lines not currently under CMS' purview?*

For health insurance issuers not under CMS' purview, we suggest investigating the possibility of collaborating with state employee insurance programs to incorporate requirements for participation in an NDH into those contracts. Similarly, CMS could coordinate with OPM to require participation in an NDH as part of FEHB issuer contracts.

- *Beyond identifying providers associated with specific organizations, and organizations that may be under the umbrella of a single health system, what other relationships would be important to capture and why?*

As described above, we believe that in order to effectively capture and use provider-organization affiliation data, a richer model of organizational entities will likely need to be developed, along with efforts to reconcile both TINs and NPIs to these new entity identifiers. Within this effort there are likely to be a variety of entities and relationships between them. We believe that for an NDH to be effective these entities and relationship will need to be modeled completely.

For example, organizations and sub-organizations within a hospital may be related to the overall hospital in complex ways. Of particular interest for consumers are provider practices with office on hospital campuses, since office visits in this context may lead to facility fee charges when the patient is billed. Thus understanding whether the practice is part of the hospital and/or is consider on-campus is an important part of providing price transparency to patients. Additionally, in most hospitals, units within the larger hospital facility have separate Type 2 NPIs.

A key use case for consumers using provider directories is to determine whether a hospital is in-network or not. The specifics of the use case may differ person to person. For some, the question they may be considering is 'If I have an emergency, will I be able to go to X hospital to get emergency care, and be admitted and receive additional care, if necessary'. For others, it may be 'My (or my partner's) OB is affiliated with this hospital. Will we be able to keep seeing this OB practice and deliver our baby at X hospital if I enroll in a new health plan?'). And others may simply understand hospital participation more generally: 'Is the hospital in-network or not?'. Due to the vagueness of the meaning of these NPIs, when consumers query provider directories (either manually or via API), it is nearly impossible to interpret what the presence or absence of an NPI for a sub-organization within a hospital means for coverage of services there. As such we

suggest that efforts to create an NDH address both effective identifiers for these entities and how to represent coverage of them in provider directories.

- *How can data be collected, updated, verified, and maintained without creating or increasing burden on providers and others who could contribute data to an NDH, especially for under-resourced or understaffed facilities?*

We believe that there are many important value-add services around collecting provider-related data, such as upgrades to primary systems, integrations with other systems, data cleansing, etc. Therefore, CMS should encourage the development of a well-regulated set of intermediaries who can assist under-resourced facilities in submitting data to an NDH. If possible, funding for adoption of automated data transfer process should be made available to under-resourced facilities such as FQHCs and other community providers.

- *What are barriers to updating directory data in current systems that could be addressed with an NDH?*

As described above, one key problem with the current system that could be dramatically by an NDH is ensuring that providers are both able to and held accountable for updating their data under their own control. If CMS develops infrastructure and standards that enable transfer of provider data directly to an NDH (or similar Directory of Healthcare Providers that exchanges data with the NDH), this can and should supplant the use of insurer-managed portals for entering rosters of affiliated providers. It may be useful for CMS to contemplate providing mandates and/or funding directed at improvements to providers' data systems that would be needed in order to support automatic data transfer into an NDH /federated entity.

- *What are current and potential best practices regarding the frequency of directory data updates?*

We suggest that the update frequency should be as close to real-time as possible for provider affiliations, which in practice should be at least daily. That is, if a provider changes relationship with a group, clinic, hospital, surgical center, the data in the NHD should be up-to-date as of COB each day. We believe this is feasible because in the large majority cases the event that changes a provider's affiliation (joining or leaving a group, gaining credentialing to perform procedures in a particular facility, etc) is scheduled in advance and is recorded in a variety of data systems.

Setting the update frequency to daily would likely make manual data entry impracticable; we see this as a positive. Given the widespread penetrance of EHR systems and other IT systems, we believe that the starting point for data collection should be

Enforcing real-time updates would simplify both the design of systems for that consume data from the NDH, as well as completely obviating many inaccuracies and errors arising from unclear version information associated with this data. If the data in the NDH can be out of date, then tracking down simple questions of why a doctor appears to be out-of-network when their practice is in-network can suddenly raise complex questions of versioning of different datasets. Based on our experience, we believe that most providers and payors currently lack the capability to effectively track versions of their own data, much less track complex versioning scenarios that arise when multiple datasets are combined.

Given the low frequency of change events and the small scale of data transfer implied by it, the ability to transmit some form of affiliation data to the NDH or other federated entity does not pose significant technology challenges beyond the reach of any provider organization save for a subset of under-resourced organizations. To apply a highly simplified version of the “4Vs” framework for big data: Volume and Velocity of data are low, Velocity is low, Variety is somewhat high and Veracity is poor. As such, simple technological solutions such as nightly file dumps would likely suffice for many or most provider organizations.

Furthermore because of the low volume and velocity of data, consumers of the data can cache most data from the and monitor for updates that “invalidate” the cache for a particular organization. In that case if the NDH maintains realtime provider-organization affiliation data and exposes such data through APIs (leveraging FHIR Bulk Data standards) then nearly any entity can maintain an up-to-date copy of the data without requiring frequent and cumbersome data refreshes.

Provider affiliation data collected by an NDH and exposed through insurers’ provider directories should allow consumers, collaborating providers, and others should to ascertain the exact network status of the individual provider at the time of query (and in the future). Such status elements might include “in-network and available”, “group contracted but provider not onboarded”, “in-network with contract ending MM/DD/YYYY”, etc.

*• What specific strategies, technical solutions, or policies could CMS implement to facilitate timely and accurate directory data updates? How could consistent and accurate NDH data submission be incentivized within the healthcare industry?*

Checkbook/CSS believes that the success of this system is critically dependent on establishing mechanisms for holding providers and insurers separately and directly accountable for data primarily under their control.

Specifically, a strong mandate that requires providers to maintain their data in an accurate and up-to-date status at all times is essential. By separating these accountability mechanisms from those for payers, both entities can be held to higher standards with respect to data under their control. We have discussed a number of possible sources of statutory authority and would be happy to engage in further discussion with CMS on this subject.

If provider affiliation data could be made accurate in realtime, it would then be feasible to hold insurers a similar strict standard of having provider-network data be up to date in realtime. Additionally, insurers could and should be required to make available (through provider directories and associated APIs) both the current in-network status of the group/organizational entities with whom they have contracted, as well as onboarding status of individual providers affiliated with the contracted organization. Richer information about the status of physicians in-network would reduce confusion about when, if, and where a physician will be covered, and allow for both patients and referrers make more educated decisions about care.

CMS, in coordination with ONC and relevant FHIR workgroups, could undertake a process of cataloging data systems contain information about provider-organization affiliation and the accuracy and timeliness of these systems in reflecting events when physicians join or separate from an organization. Analyzing the landscape in this way would not only benchmark the investment and operational costs of daily automated reporting to an NDH, but identify likely sources of inaccuracy or poor data quality in data submitted to an NDH.

Given the high costs to the public and healthcare system broadly of poor quality data on provider affiliation, the costs to providers and payers for instituting these changes is modest and of high value.