



**THE PROVIDER DATA ACTION ALLIANCE, CONVENED BY CAQH**

# An Industry Roadmap for Provider Data

**CAQH**<sup>®</sup>

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CAQH, a non-profit alliance, is the leader in creating shared initiatives to streamline the business of healthcare. Through collaboration and innovation, CAQH accelerates the transformation of business processes, delivering value to providers, patients and health plans.

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## Executive Summary

Provider data drives the most fundamental processes in the health-care system. Industry stakeholders rely on it to connect patients with their healthcare providers, license providers, exchange information and pay for services. Though the industry spends more than \$2 billion annually<sup>1</sup> to maintain provider data, inaccuracies and inefficiencies are still pervasive. Multiple underlying issues contribute to the persistence of these inaccuracies, including limited authoritative sources, variation of requirements and standards, frequent data changes, and lack of consistent provider engagement.

CAQH convened the Provider Data Action Alliance (Alliance), a cross-industry group of leaders representing health plans, hospitals and health systems, government, regulators and health information exchanges, to develop an Industry Roadmap for Provider Data (Roadmap). In addition, comments from individuals at over 100 industry organizations have been integrated into this final document. The Roadmap presents a collaborative approach for finally addressing the provider data challenge through industry alignment on a core set of principles, a vision for a healthy provider data ecosystem and recommendations for key steps forward.

### CORE PRINCIPLES FOR A PATH FORWARD

The Alliance first set out to define core principles to guide its development of the envisioned provider data ecosystem. Each principle addresses an underlying challenge to collecting and maintaining accurate provider data.

- **The time and attention of providers must not be wasted.** A provider should have to report changes to their data as few times as possible. In turn, the system should be able to disseminate these changes to interested stakeholders.
- **The solution must be flexible and adaptable.** The uses and definitions of provider data will continue to change as industry needs evolve.



*CAQH convened the Provider Data Action Alliance, a cross-industry group of leaders representing health plans, hospitals and health systems, government, regulators and health information exchanges, to develop an Industry Roadmap for Provider Data.*

1 Issue Brief: Administrative Provider Data. CAQH [Analysis completed by Booz & Co., now Strategy&, Inc.] (December 2011).

- **The solution must be pragmatic and focused on near-term business realities.** Immediate business, patient and regulatory needs must be addressed initially while setting the stage for continual, long-term improvements.
- **The solution should be industry-governed and standards-based.** The system should take into consideration a wide range of industry viewpoints and operate through a transparent, standards-based and common technical infrastructure.

## A VISION FOR A HEALTHY PROVIDER DATA ECOSYSTEM

Using the core principles as guideposts, the Alliance outlined the vision for a healthy provider data ecosystem, centering on four critical components:

- **Governance:** The solution should be governed by a not-for-profit model inclusive of all industry stakeholders, with emphasis on the provider community.
- **Defined set of “fundamental” provider data elements:** The solution should focus on a subset of elements commonly used for essential provider data transactions. This subset of data elements should adhere to a standardized record format, have explicit and defined uses, be derived from existing data and be made widely available.
- **A centralized authoritative solution:** To drive the greatest economies of scale and speed to market, the solution should leverage a centralized infrastructure, aggregate data from regional and national sources, be standards-based and be deemed authoritative.
- **An incremental approach:** The solution should be implemented through a staged, transformative approach that addresses the most pressing industry needs first and evolves over time to adapt to future industry challenges.

## ROADMAP TO ACHIEVE THE VISION

Building upon the principles and vision of the Roadmap, the Alliance established recommendations to guide a coordinated industry response.

- **Declare commitment to the vision:** The industry must publicly commit to taking joint action to catalyze momentum and achieve industry alignment.
- **Form a not-for-profit, multi-stakeholder governance structure:** To succeed, this endeavor requires governance by a diverse set of stakeholders capable of defining and shaping the necessary solution details.
- **Define an initial dataset and establish standards:** Participating stakeholders should align on scope by defining the initial dataset on which to focus, as well as the standard against which to measure data quality.
- **Engage regulators and other essential groups to inform transformation:** Educate regulators, accreditors and other stakeholders on the industry commitment so that, over time, any regulations and/or standards can be aligned with the industry solution.
- **Begin to formally measure and share the impact of industry efforts:** Establish measures for value, cost and overall data accuracy so that the results of the industry-led effort can be assessed.

## MOVING FORWARD

Through inclusive, multi-stakeholder participation and support, this Roadmap can be the path toward a more accurate, efficient and sustainable provider data ecosystem. The pressing needs of many stakeholders require, however, that the industry begin to pursue this vision now. That commitment to action and momentum toward a solution must be developed quickly, while ensuring a holistic, measured and methodical approach. The Roadmap lays the foundation for a cross-industry conversation and path forward. As industry support grows, the Alliance will determine the next phase required to make the vision a reality.

To learn more or get involved, please visit [www.caqhproviderdata.org](http://www.caqhproviderdata.org).

*The Roadmap lays the foundation for a cross-industry conversation and path forward.*



*Over 20 participants with broad industry experience — public and private payers, hospitals, provider groups, regulators, accreditors and health information exchanges — contributed to this effort over a nine-month period.*

## Introduction

Provider data drives many fundamental processes in the healthcare system. Industry stakeholders rely on provider data to connect patients with their healthcare providers, to license providers, exchange information and pay for services. More than \$2 billion is spent annually by the healthcare industry to maintain provider data. Despite these costs and the wide-ranging needs for accurate information about healthcare providers, inaccuracies continue to jeopardize business processes and patient care. For example, the “provider location” data element creates persistent problems across the industry, as there is not a common understanding for how to use this data element in different use cases, such as for paying claims, receiving mail, as the “official place of business” or for patient care. In this example, the perceptions for what is correct based on each use case vary substantially.

In September 2016, CAQH convened more than 100 healthcare industry leaders in Washington, DC, at a Provider Data Summit to discuss pressing provider data challenges in the era of cost control, healthcare reform and rapid innovation. Their discussions were informed by a white paper, *Defining the Provider Data Dilemma: Challenges, Opportunities and Call for Industry Collaboration*, which was prepared by CAQH in collaboration with Manatt Health. Summit participants concluded that the industry must act together to meet these challenges. The group’s key recommendation was to develop a practical, cross-sector approach and vision to address provider data issues.

The Alliance was formed in March 2017 to develop recommendations for such a vision and the corresponding Roadmap by which it could be realized. Over 20 participants with broad industry experience — public and private payers, hospitals, provider groups, regulators, accreditors and health information exchanges — contributed to this effort over a nine-month period. Broad industry feedback was solicited throughout the process to ensure that the recommendations could be supported widely, with individuals from more than 100 stakeholder organizations providing insight.

## Underlying Causes of Current Issues in Provider Data

The Alliance focused on four primary issues that it deemed to be at the root of provider data challenges faced by the industry:

### FEW AUTHORITATIVE PROVIDER DATA SOURCES EXIST

The lack of authoritative aggregators of provider data can be attributed to four factors:

- While primary sources of truth for select data elements exist, there are **few aggregators that can authoritatively combine the primary sourced data elements into complete provider data records.**
- **For many data elements, no sufficiently accurate source exists** for users to rely upon.
- Primary sources also supply data elements **for which they are not considered authoritative**, which creates confusion.
- For a significant subset of provider data elements used for compliance purposes, **no regulator or accreditor has designated a single repository as authoritative.**

In addition, multiple sources may be designated as authoritative for the same data element, leading to potential conflicts, while other sources are advertised as authoritative but have significant accuracy issues. Conversely, in some cases where no authoritative source exists, data users may be forced to interpret available data in ways that are not broadly shared, creating compatibility issues when data is combined or compared across or within organizations.

*Multiple sources may be designated as authoritative for the same data element, leading to potential conflicts.*

*Providers are often unaware of, or misinformed about, how their data will eventually be used, leading to conflicts downstream.*

## PROVIDER DATA STANDARDS AND REQUIREMENTS VARY WIDELY

Variations in the format, exchange, content and understanding of the uses of provider data represent an unnecessary cost to the healthcare system and an obstacle for patients and other users of data who need access to reliable provider information. As a result, provider data is communicated inefficiently, causing attrition during transmission and encouraging data users to source data directly rather than decipher inconsistent datasets that have been sourced by others. This issue can manifest in the following ways:

- **The absence of an industry-selected standard record format for the publication and consumption of aggregated provider data.** Different data sources use distinct reporting formats, and no single standard transaction type or standard Application Program Interface (API) for data has been widely adopted.
- **Significant variation in the format and content of data.** Many data elements, such as practice location address and provider type, lack a single, industry-recognized form or point of reference, making provider matching and detection of discrepancies difficult.
- **Differences in data element collection and maintenance, depending on their intended, perceived and actual uses.** Providers are often unaware of, or misinformed about, how their data will eventually be used, leading to conflicts downstream. In the case of provider directories, many providers report “practice or office locations” that may be accurate for billing purposes but are different from the locations at which they see patients. This causes issues for patients who are seeking care from in-network providers as well as for the plans managing their care.



## PROVIDER DATA CHANGES FREQUENTLY, AND MULTIPLE ENTITIES MUST BE NOTIFIED

Many providers are subject to redundant and conflicting requests for data, even from separate departments within the same organization. These requests may be in different formats, on different schedules, and with different methods. For example, a provider practice, on average, holds 12 contracts with health plans and must maintain an average of 140 data elements for each contract.<sup>2</sup> This means that a six-provider practice manages more than 10,000 data points, creating a huge administrative burden for providers to report — and health plans to collect — data on any change.

Driven by industry innovation and regulatory requirements, the cadence of expected data updates is accelerating. This has led to a clash of expectations between data producers and users as industry needs evolve. While the demand for real-time provider data has increased, new procedures, tools and business processes to support this faster pace have not materialized.

## PROVIDERS ARE NOT SUFFICIENTLY ENGAGED IN THE PROVIDER DATA DIALOG

Provider data discussions have historically been driven by health plans, regulators, vendors selling provider data and accreditors. With no mandates on providers and other data sources, these stakeholders have been left to incentivize providers through contracting, credentialing and billing processes. These processes do not engage providers with adequate urgency for new business needs or ensure that correct data is collected. Concurrently, the industry has not made a coordinated effort to engage providers in these discussions or to educate providers about their role in data quality and maintenance.

As more of the administrative burden for data falls on providers themselves, their time spent delivering patient care is diminished. Some providers have turned to external organizations to assist with data collection and reporting. The addition of these intermediaries has introduced new issues in the system as providers are further removed from their data.



*While the demand for real-time provider data has increased, new procedures, tools and business processes to support this faster pace have not materialized.*

2 Dan P. Ly, MD, and Sherry A. Glied, PhD, "The Impact of Managed Care Contracting on Physicians," *Journal of General Internal Medicine*, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3889938/> (September 2013).



*While the demand for real-time provider data has increased, new procedures, tools and business processes to support this faster pace have not materialized.*

## Principles

Based on this analysis of provider data issues plaguing the industry, the Alliance identified core principles to guide the development of an industry solution.

### THE TIME AND ATTENTION OF PROVIDERS MUST NOT BE WASTED

Whether provider data is maintained by an administrative staff member or updated by a clinician, time spent collecting, correcting and updating provider data should not be wasted. The industry solution should be designed to meet two goals:

- **Report once:** Providers and other sources of provider data should be required to report an update or correction as few times as possible.
- **No wrong door:** Data should be able to be reported and distributed to all relevant stakeholders, regardless of what channel is used for submission.

To avoid unnecessary data entry, data from authoritative sources should be made available to providers for purposes of confirming or modifying the information. In parallel, providers should be given accurate, timely and complete information on how their data is being used and on problems identified with their data.

### THE PROVIDER DATA ECOSYSTEM MUST BE FLEXIBLE AND ADAPTABLE

The industry must be able to generate high-quality data in an efficient, adaptive manner. To that end, any proposed solution must:

- **Begin with common uses and definitions but embrace the principle that these concepts of provider data are likely to change:** The industry solution must be able to evolve as the needs of the healthcare industry and individual stakeholders change. The provider data ecosystem must be designed to be forward-looking and extendable, so that investments are not wasted on short-term fixes.

- **Incorporate processes that are “self-correcting”:** As discrepancies are discovered in provider data, the system should utilize data governance to automate implementation of corrections, reducing the need for outreach to providers.

The ability to introduce progressive, iterative change to address systemic issues and respond to newfound opportunities over time will ensure that the solution remains relevant as the healthcare system continues to evolve.

## THE SOLUTION MUST BE PRAGMATIC AND FOCUSED ON NEAR-TERM BUSINESS REALITIES

A practical effort with broad industry support must address the most pressing business and patient needs in the short-term, and appropriately set expectations for data quality. This principle describes a system that:

- **Is low cost:** The high cost of maintaining provider data today is well documented. Investments in standards, governance and infrastructure to create an improved provider data ecosystem must result in reduced costs and administrative burden significant enough to justify those investments.
- **Provides immediate relief:** Some meaningful progress must be achieved immediately. The producers and users of provider data cannot wait for a perfect, all-encompassing system to be developed.
- **Is good enough:** A solution that strives for perfect data quality is impractical and unnecessary. Consensus-based standards for acceptable data quality can meet realistic expectations and result in effective changes. The concept of “good enough” should be defined and agreed upon at the industry level and should also be flexible to change.

*Consensus-based standards for acceptable data quality can meet realistic expectations and result in effective changes.*

*Regulators currently lack the funding, cross-agency coordination and resources to successfully create an industry-wide solution to the provider data problem.*

## THE PROVIDER DATA ECOSYSTEM SHOULD BE INDUSTRY-GOVERNED AND STANDARDS-BASED

Although regulatory action can create some industry norms, a regulatory solution for provider data at the necessary scale is unlikely to emerge. Many regulators are adopting approaches to improve provider data quality, yet these approaches are uncoordinated. For example, 28 states have varying provider directory requirements. Regulators currently lack the funding, cross-agency coordination and resources to successfully create an industry-wide solution to the provider data problem.

Instead, the provider data ecosystem should have a governance model that is:

- **Driven by industry:** A full range of viewpoints should be considered, including those of health plans, providers, patients, and regulators. Open standards and a common industry infrastructure should be created, ensuring the widest possible adoption.
- **Inclusive of Public Payers and Regulators:** Public payers, as well as federal and state administrative agencies, should play vital roles in identifying shared standards, enabling regulatory flexibility and/or encouraging adoption of industry-driven changes and standardizing processes across public and private programs.

## A Vision for Provider Data

The Alliance used these principles to develop a vision for a healthy provider data ecosystem. This vision includes:

### A NOT-FOR-PROFIT GOVERNANCE MODEL THAT INCORPORATES A RANGE OF VIEWPOINTS

To achieve the widespread adoption of provider data solutions, stakeholders from across the industry must be involved and committed, with strong participation from the provider community. A non-profit advisory body should be established that is capable of:

- **Providing nimble, responsive governance** that incorporates the full range of stakeholder views;
- **Collaboratively developing and maintaining the technical and business standards** necessary to drive adoption;
- **Creating guidance and direction on the infrastructure** necessary to achieve significant progress across industry priorities;
- **Informing new strategies for provider understanding, engagement and stewardship**, including education and incentives to motivate provider behavior change in the new ecosystem; and
- **Assessing and promoting the impacts on patients and the healthcare system** that resulted from industry efforts.

### A WELL-DEFINED SUBSET OF FUNDAMENTAL PROVIDER DATA ELEMENTS

The industry should focus on the subset of essential provider data elements currently used in common provider data transactions. To ensure these elements are distributed efficiently and in a cost effective-manner among entities:

- Fundamental elements should include **unique identifiers for providers, groups of providers and locations** and should be defined for other data elements that are difficult to match or that directly compare;



*The industry should focus on the subset of essential provider data elements currently used in common provider data transactions.*

*The creation of a centralized solution that aggregates fundamental data elements from various authoritative systems will enable the industry to take timely and effective action to improve data quality on a national scale.*

- **Data should be derived from existing sources, where possible**, and made widely and publicly available;
- Each data element should have **explicit and well-defined uses**, and clear distinctions should be made between similar elements that have incompatible uses;
- **A standardized record format** should be defined for the exchange of data; and
- The **standardized format should assist with minimizing and resolving data discrepancies** for fundamental data elements.

Over time, stakeholders should collaborate to expand or modify the set of data elements addressed by the solution to meet emerging business needs.

## A CENTRALIZED, AUTHORITATIVE SOLUTION TO CAPTURING A FUNDAMENTAL SET OF DATA ELEMENTS

The creation of a centralized solution that aggregates fundamental data elements from various authoritative systems will enable the industry to take timely and effective action to improve data quality on a national scale. This centralized solution should support data exchange with other nodes, including regional solutions or other partial solutions that may be authoritative for select data elements. The centralized authoritative database would:

- **Aggregate appropriate sources of truth** for fundamental provider data elements, such as the National Plan and Provider Enumeration System (NPPES);
- **Implement best practices** to achieve levels of accuracy sufficient for the centralized aggregator to be designated by the advisory body as an authoritative source of data;
- **Include a portal to provide a clear view into the fundamental dataset** enabling producers, maintainers and users of provider data to update and resolve conflicts in data for which they are responsible; and

- **Utilize an acknowledgement system** to inform data producers about where their data is flowing, how it is being used, where errors are introduced and when an update has reached its target.

This central aggregator or other already-available nodes (e.g., NPPES) may be used as the source(s) of truth for data elements, while industry-defined data governance will support the distribution of changes and corrections as they are reported.

## A STAGED APPROACH TO MOVING THE INDUSTRY TOWARD A NEW PARADIGM

It is unrealistic to expect the industry to achieve the coordination and cooperation to transform the provider data ecosystem in one massive step. A well-designed, staged approach can address the most immediate business needs by weighing the costs and benefits of each staged improvement.

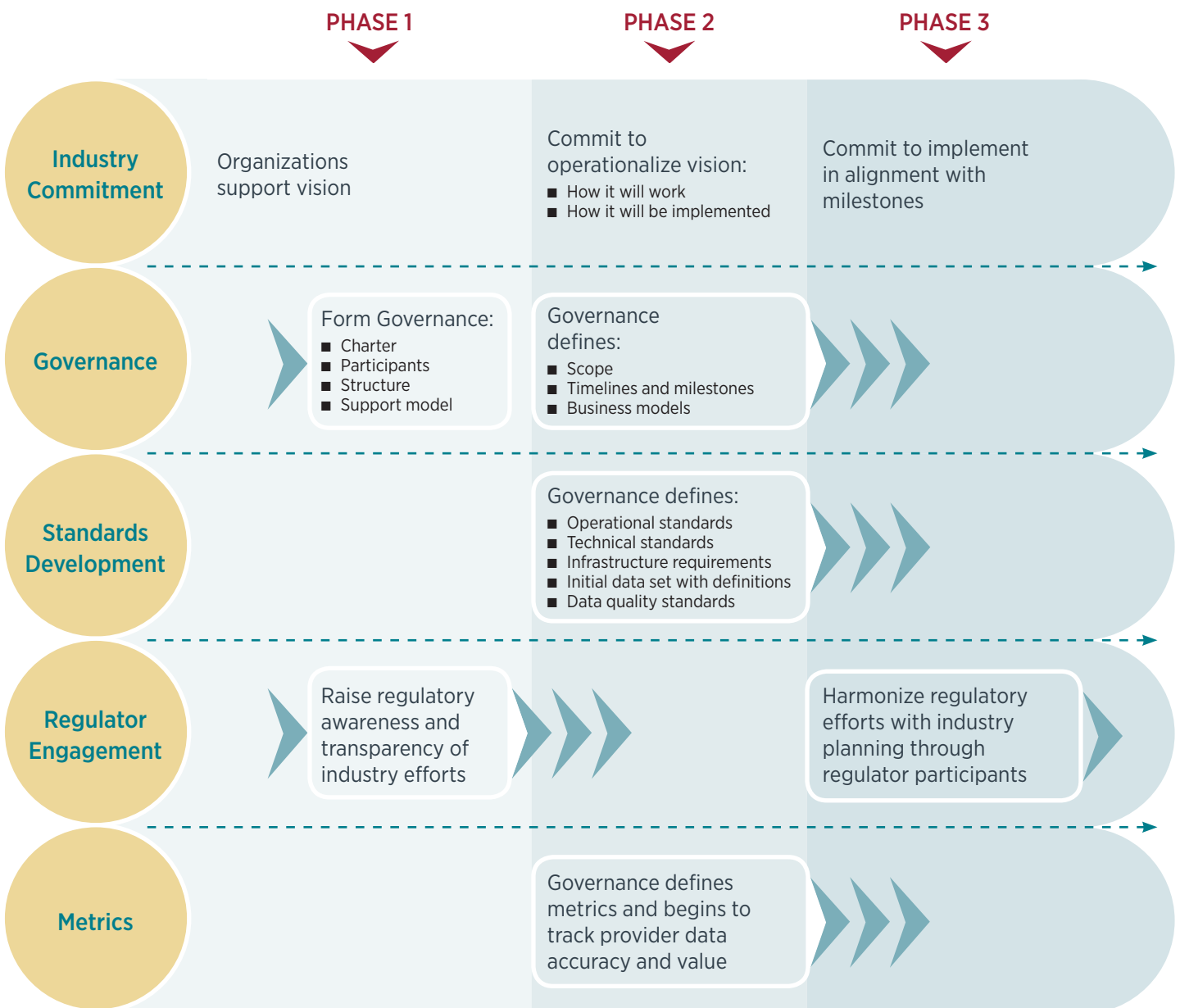


*A well-designed, staged approach can address the most immediate business needs by weighing the costs and benefits of each staged improvement.*

# Roadmap to Implement the Vision

The Alliance identified five components of a comprehensive strategy the industry must implement to achieve the vision laid out in this Roadmap. These recommended actions should be implemented in parallel as displayed in **Figure 1**.

FIGURE 1. ROADMAP



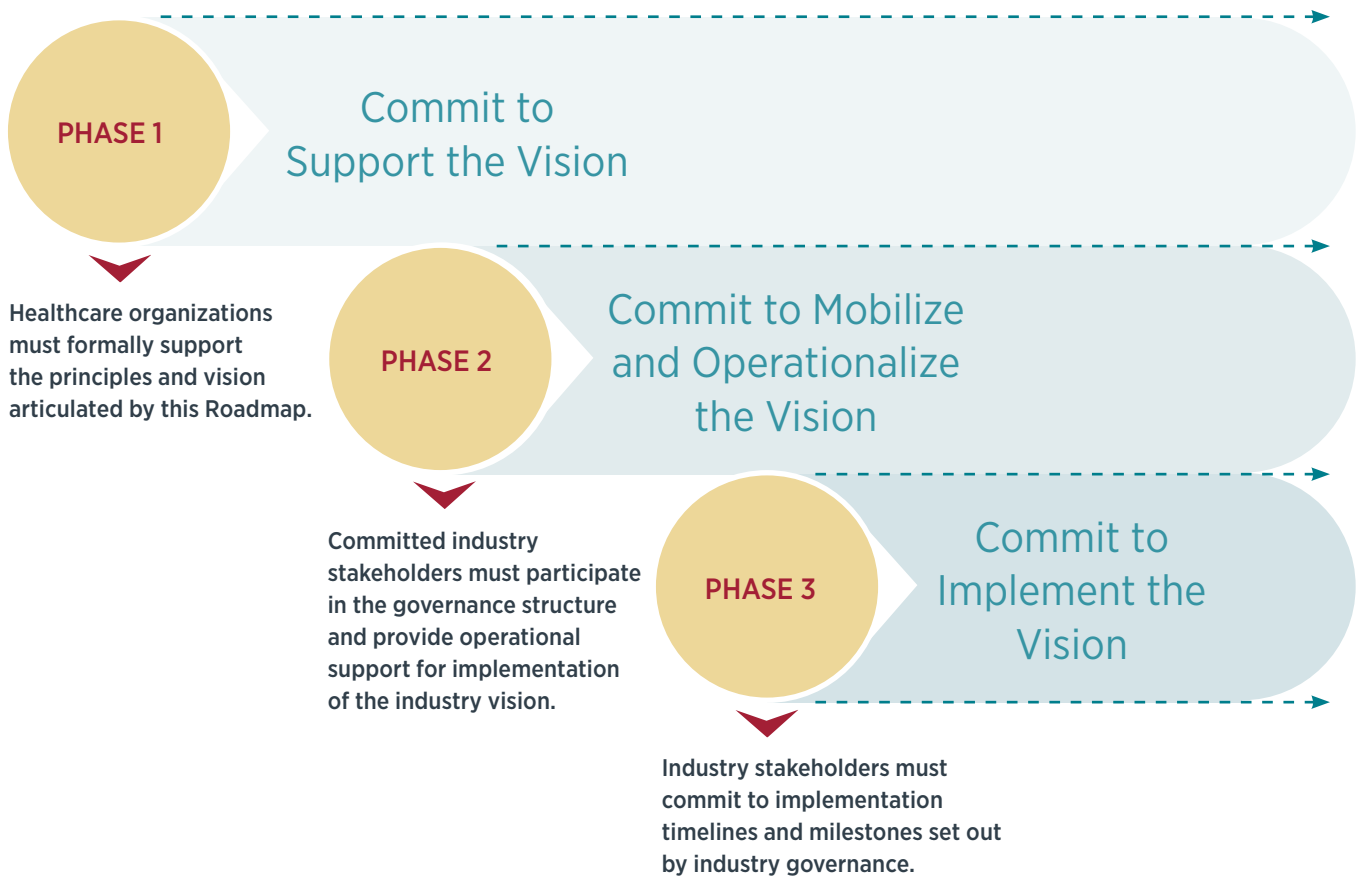


## DECLARE COMMITMENT TO THE VISION

Health plans, providers and other industry stakeholders should formally pledge their commitment to the vision to drive industry alignment and rapid execution of the Roadmap. Recognizing that many details of the vision are yet to be fully defined, stakeholders should pledge their commitment in a phased manner. The phases are described by **Figure 2**.



FIGURE 2. PHASES OF INDUSTRY COMMITMENT





*Provider representatives are critical for informing strategies for provider education and incentives to encourage more active stewardship and accountability of data.*

## FORM A NOT-FOR-PROFIT, MULTI-STAKEHOLDER GOVERNANCE STRUCTURE

A governance structure should be formed to advise and steer the activities needed to further define and operationalize the Roadmap vision. This structure should include:

- **A central advisory council** with members committed to operational engagement and support and representing broad stakeholder perspectives, including hospitals and health systems, provider practices, health plans, patient advocates, health information exchanges, government agencies, industry associations and federal and state regulators.
- **Participation by representatives of patients and healthcare providers is particularly critical** to ensure proposed solutions consider the specific experiences and issues faced by these groups. Provider representatives are critical for informing strategies for provider education and incentives to encourage more active stewardship and accountability of data.
- **A larger member body would convene workgroups** inclusive of a wider group of organizations to capture input and expertise from across the industry and define key components, such as operating rules, technology standards and provider engagement strategies.
- **Accreditation bodies should be included, either in the central advisory council or in key workgroups within the larger member body.** Their inclusion will bolster the use of industry best practices as part of this industry effort and encourage adoption.

## DEFINE AN INITIAL DATASET AND ESTABLISH STANDARDS

The advisory council, together with relevant workgroups, will develop standards to facilitate industry efforts. Key deliverables should:

- **Define an initial dataset to be supported as “fundamental elements”** by the industry solution.

- **Establish technology standards** for the industry by either adopting existing data format and exchange standards produced by other bodies or by creating new standards.
- **Establish common operating rules** that can align stakeholders on best practices for the collection and exchange of provider data. These rules should support a simpler, more efficient and reliable provider data ecosystem, reducing the need for regulatory intervention.
- **Establish data quality standards** for the industry, leveraging existing quality standards produced by other bodies or, where necessary, by creating new standards.
- **Identify and/or designate infrastructure** to be leveraged through the effort to implement and drive adoption of standards and common operating rules.
- **Lay out an incremental approach**, build consensus for each step and establish progressive approaches to address longer-term structural problems. Though it may be easier to solve individual problems for small groups of stakeholders, industry-wide solutions should remain the goal.

## ENGAGE REGULATORS AND OTHER ESSENTIAL GROUPS TO INFORM TRANSFORMATION

The advisory council should establish a transparent process to ensure that the wider industry is aware of its efforts. Beyond participation as stakeholders in the central advisory council and member body, regulatory- and standards-focused organizations should be informed of the progress being made towards cost-savings and best practices. As such, the advisory council should:

- **Maintain consistent communications with industry stakeholders, especially regulators.** As industry consensus is built and improved outcomes are produced, this transparency will ensure these constituents have confidence in the emerging standards.
- **Encourage regulators active in the advisory council to inform their respective regulatory processes** with efforts and strategies developed by the industry.

*As industry consensus is built and improved outcomes are produced, this transparency will ensure these constituents have confidence in the emerging standards.*

*Moving forward in 2018, the Alliance will work across the industry to share this vision more broadly and identify organizations willing to help lead Phase 1 of the Roadmap.*

- **Establish formal relationships with industry groups working on standards** for provider data and ensure that, to the greatest extent possible, existing or in-development standards inform decision-making.

Regulators and accreditors will be encouraged to disseminate industry concepts and align regulatory standards with emerging industry standards. This engagement and support will be reinforced with transparent and ongoing self-monitoring, auditing, and improvement processes.

## BEGIN TO FORMALLY MEASURE AND SHARE THE IMPACT OF INDUSTRY EFFORTS

Key metrics associated with provider data processes should be established and tracked as the industry begins to implement the Roadmap. The value of industry standardization can be quantified by:

- **Tracking the reduction in costs, effort and errors** across the provider data ecosystem for each stakeholder group;
- **Identifying or developing reliable measures of data accuracy**, auditing the data stream and tracking improvements in data reliability; and
- **Evaluating and quantifying the value of accurate provider data to patients**, a critical element that must be developed to establish a case for focused industry investments.

This rigorous auditing approach will drive adoption of evolving best practices and new approaches by capturing improvements across the industry.

## NEXT STEPS

Through the development of this Roadmap, the Alliance and its participants agreed that the industry must chart a new path toward a more accurate and efficient provider data ecosystem. The pressing needs of stakeholders require that momentum be developed quickly, while ensuring a holistic, measured and methodical approach. Moving forward in 2018, the Alliance will work across the industry to share this vision more broadly and identify organizations willing to help lead Phase 1 of the Roadmap. ■

# Appendix

## PROVIDER DATA ACTION ALLIANCE PARTICIPANTS

Participants in the Provider Data Action Alliance represent a diverse cross-section of healthcare stakeholders. Views shared by participants are their own and do not necessarily reflect those of their organizations.

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*Collaboration is a  
hallmark of CAQH.  
Thank you to the  
Alliance participants  
who contributed  
time and ideas to this  
endeavor.*

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