2016 CAQH INDEX®

A Report of Healthcare Industry Adoption of Electronic Business Transactions and Cost Savings

CAQH® Explorations

2016 CAQH INDEX:
A Report of Healthcare Industry Adoption of Electronic Business

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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

Administrative costs in the U.S. healthcare system consume well over $300 billion annually, or nearly 15 percent of all healthcare expenditures by some estimates.[1] A portion of this expense is related to use of resource-intensive manual processes to conduct business transactions between providers and health plans, such as phone calls to verify patient insurance coverage or mailing claim payments.

Voluntary industry-led initiatives, as well as regulatory actions, have established standards and requirements to facilitate an industry-wide transition from these costly manual processes to electronic, real-time transactions. Measuring the progress of this transition helps identify which electronic transactions are being adopted successfully and which are being adopted at a slower pace, highlighting opportunities for further industry action.

The CAQH Index® is the industry source for monitoring this transition. This annual report presents trends in adoption rates and cost savings associated with the shift to electronic transactions, based on surveys of providers as well as medical and dental health plans. Participating medical health plans represent over 140 million covered lives—nearly 46 percent of the commercially insured U.S. population—and 5.4 billion transactions conducted in 2015. Participating dental health plans represent 112 million covered lives—about 46 percent of commercially insured U.S. population—and 564 million transactions conducted in 2015. Some estimates contained in this report focus on specific subsets of transactions types, based on the availability of data from participating health plans.[1]

As the national benchmark, CAQH is committed to evolving the CAQH Index each year to address the need for robust data that can further inform industry efforts to increase adoption. New data reported for the first time this year include:

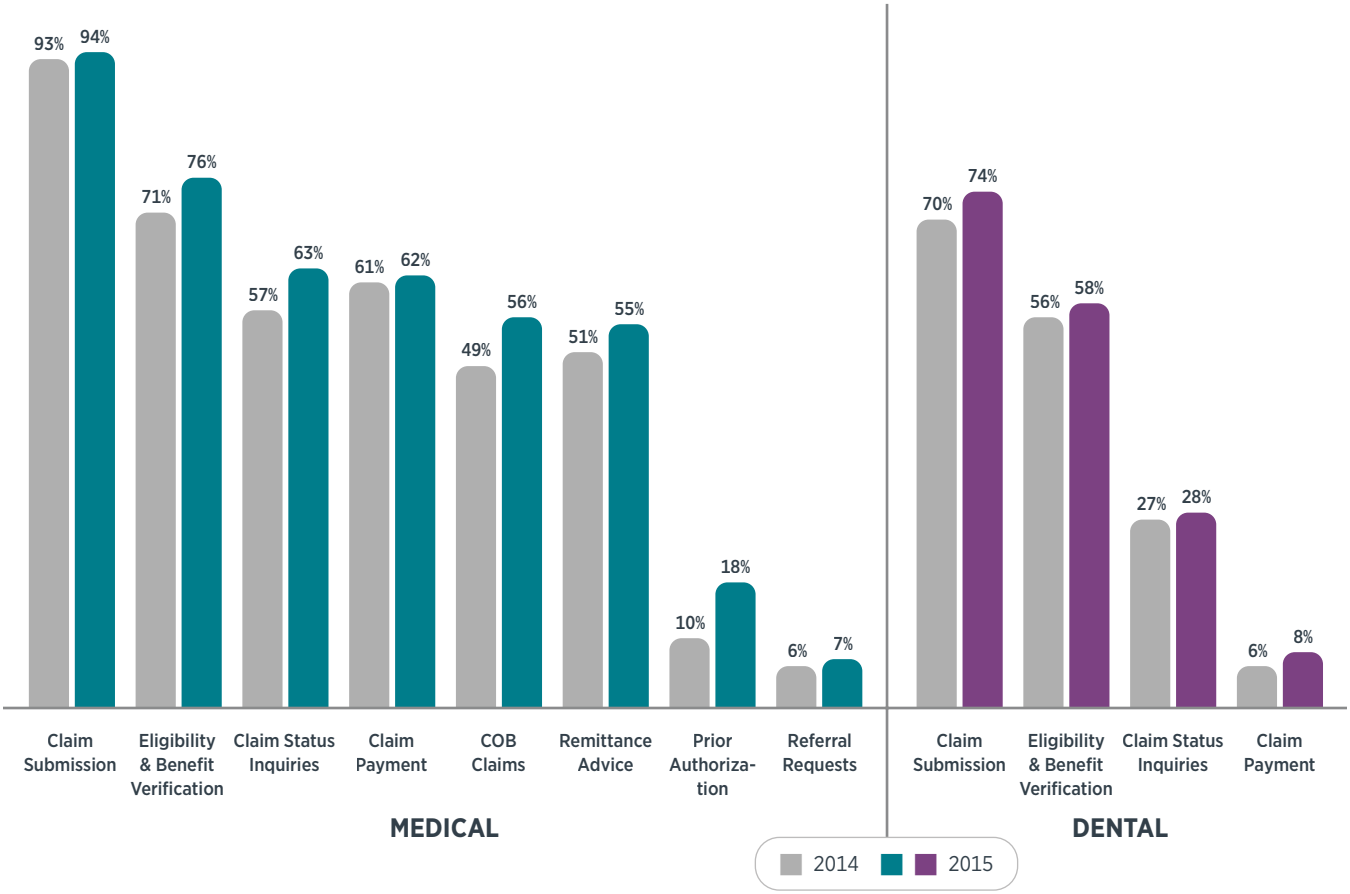
1. **Estimates of potential industry cost savings for dental health plans and providers**
2. **Adoption and cost of healthcare claim attachments**
3. **Average amount of time providers spend per transaction**

Key 2016 findings include:

Adoption

- **The healthcare industry, including medical and dental, continues to make modest progress toward full adoption of electronic transactions.** Increases in adoption of electronic transactions varied across transactions and ranged from one to eight percent. Fully electronic prior authorizations submitted to commercial medical health plans had the most accelerated growth in adoption (eight percent increase).

FIGURE 1:
Adoption of Fully Electronic Administrative Transactions for Commercial Medical and Dental Health Plans, 2014 – 2015



- **On average, adoption of electronic transactions with commercial dental health plans was 30 percent lower than with commercial medical health plans.** This lag in adoption for dental health plans and providers continues to be a significant opportunity for industry action.

- **For eligibility and benefit verifications and claim status inquiries, the use of electronic transactions is increasing rapidly, but use of manual transactions, particularly telephone calls, is not declining as rapidly.** Participating medical and dental health plans alone fielded over 106 million telephone calls for these types of inquiries in 2015, necessitating costly call center operations. For other transactions, growth in adoption of electronic transactions represents comparable costs savings because manual transactions are declining and electronic transactions are increasing at a similar pace.

- **Only six percent of healthcare claim attachments are submitted to medical health plans electronically (using the ASC X12N 275 transaction standard), with the remaining sent via fax, mail or email.** Adoption and cost of healthcare claim attachments are reported in the CAQH Index for the first time this year. Adoption is isolated, as many participating health plans report 100 percent of claim attachments are submitted manually. Every manual claim attachment costs nearly $6 more to send and receive than an electronic claim attachment.

- **Health plans often offer web portals and interactive voice response systems as an alternative to using fully manual processes.** These partially electronic methods remain the most common way providers submit referral requests (84 percent) and prior authorizations (47 percent).

Cost and Potential Savings

- **On average, each manual transaction costs providers and health plans approximately $3 more than each electronic transaction.** This cost difference represents an incredible savings opportunity, given the more than three billion manual transactions conducted annually between commercial medical health plans and providers.

- **Transitioning from manual to electronic processes for the transactions[i] studied could save medical health plans and providers an estimated $9.4 billion in direct cost each year.** This is even greater than previous CAQH Index estimates, due to the addition of claim attachments to the estimates and more precise per transaction cost savings estimates for providers.

- **For dental health plans and providers, full adoption of electronic transactions for the transactions studied[i] could save over $1.9 billion annually.** While dental health plans and providers conduct fewer transactions overall compared to medical, the low adoption of fully electronic transactions equates to a large potential savings opportunity for just a subset of transactions types.

- **Healthcare providers spend on average eight, and up to nearly 30, more minutes processing each manual transaction, compared to the time required for an electronic transaction. In 2015, a minimum of 1.1 million labor hours per week could have been more efficiently used providing patient care or doing other clinical tasks by achieving full adoption of the transactions studied.[i]** These estimates clearly show the potential for greater efficiency and improved workflow for providers by adopting electronic business processes.

The 2016 CAQH Index demonstrates that a significant opportunity remains and more efforts are needed to drive adoption further to maximize cost savings and increase efficiency. While the healthcare industry has made significant progress, the transformation is far from complete. It is essential that stakeholders share and expand best practices to increase adoption of electronic administrative transactions and reduce use of manual transactions through industry- and government-led outreach and education for health plans, providers, and their trading partners. Additionally, increased efforts to reduce adoption barriers for health plans and providers must remain a priority. A sustained effort by providers, health plans, related business partners, government agencies, and other key stakeholders is essential to propel the transition to electronic administrative transactions successfully forward.

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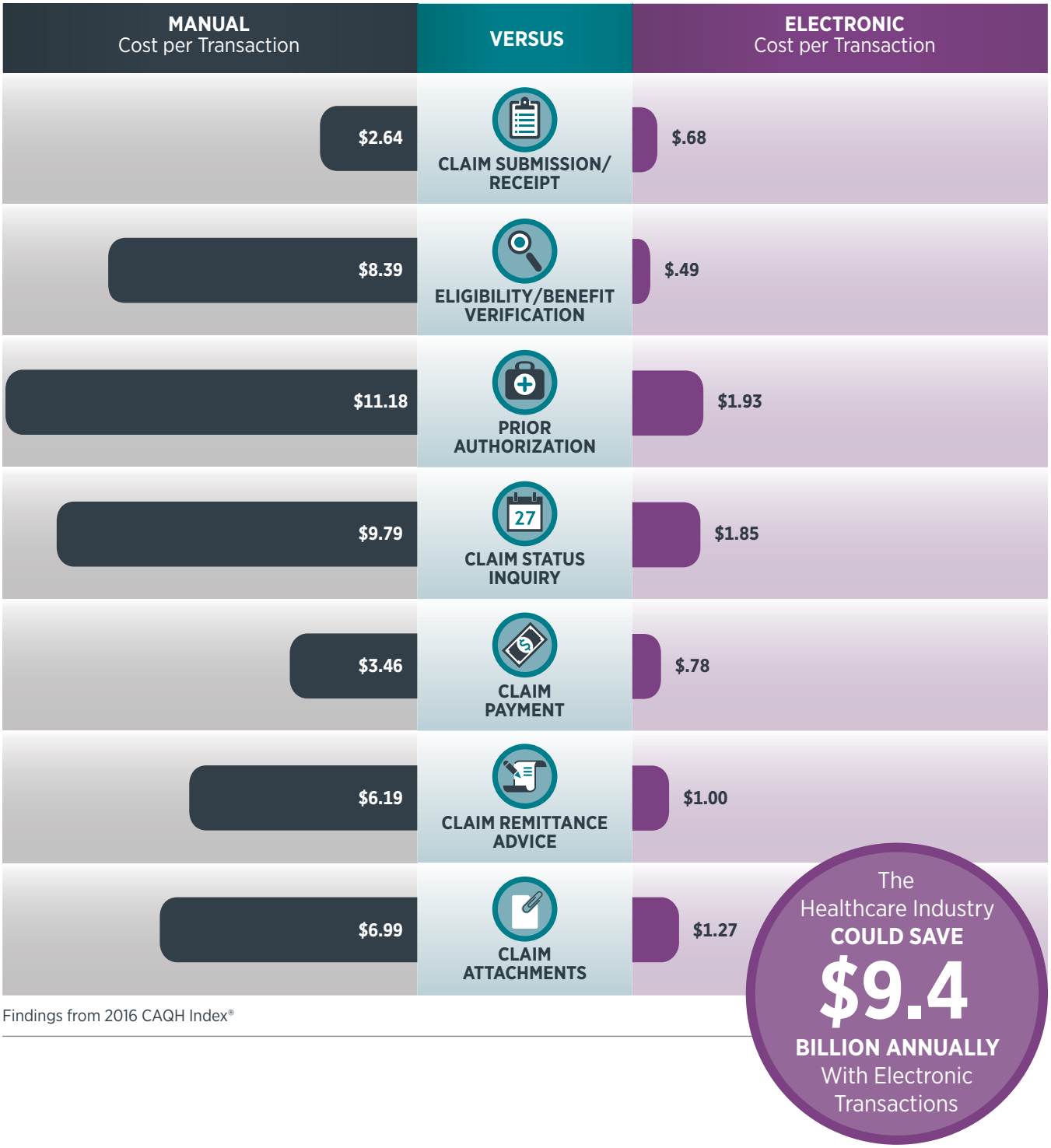
i See ***Appendix A*** for details on transactions included in each analysis.

FIGURE 2:

How Much Does the Healthcare Industry Spend on Claims-Related Business Transactions?



Findings from 2016 CAQH Index®

Introduction

Healthcare remains a significant and growing source of spending in the United States, reaching nearly $3 trillion in 2014 alone.[2] While many strategies to address this growth are being explored, there is a well-established opportunity for savings by reducing inefficiencies in the ways that providers (both clinical practitioners and facilities) and health plans interact.[3, 4, 5] One study estimated that U.S. physicians spend up to $31 billion each year on business-related interactions with health plans.[3] CAQH previously reported the commercial healthcare industry could save over $8 billion annually by fully adopting electronic processes for six of the most common claims-related administrative processes.

Over the past two decades, several key industry- and government-led initiatives, highlighted in Figure 3, have led to the development of standards, business rules, requirements, and regulations for electronic administrative transactions. These efforts have been a driving force for a move away from manual transactions and provided the direction needed to enable improved standardized exchange of electronic data to conduct several key business processes between health plans and providers.

FIGURE 3:
Overview of Key Industry- and Government-Led Initiatives to Standardize and Increase Adoption of Electronic Administrative Transactions

INDUSTRY INITIATIVES

- **CAQH CORE®** develops and certifies compliance with voluntary and mandated operating rules and hosts extensive education campaigns.
- **CAQH Index®** tracks and reports national adoption and cost.
- **Some health plans** require or provide incentives for providers to conduct business electronically and are hosting broad provider education events.
- **Practice management systems vendors and clearinghouses** increasingly offer solutions to healthcare providers that support electronic business transactions.

GOVERNMENT INITIATIVES

- **HIPAA** established and mandated use of standards (mostly based on X12) for some electronic transactions.
- **ACA** established standards for additional electronic transactions; required development and compliance with operating rules.
- **CMS** implemented requirements that healthcare providers must submit claims and receive payments electronically for Medicare.
- **Several state-based initiatives and regulations** have been implemented to build on HIPAA regulations.

Public and private entities both provide education and awareness to key stakeholders.

Overview of the CAQH Index

Tracking the impact of these industry and regulatory initiatives that promote adoption is critical to monitoring progress and identifying specific opportunities for further improvement. The CAQH Index, formerly known as the U.S. Healthcare Efficiency Index, was transitioned to CAQH in 2011. Today it is the only industry source monitoring the annual progress of the commercial healthcare industry toward full adoption of electronic transactions and estimating potential for additional cost savings.

To obtain this information, CAQH conducted voluntary nationwide surveys of commercial medical and dental health plans and providers. Separate data collection instruments were developed for health plans and providers to report membership information, volume and methods used for the most recognized administrative transactions (shown in Table 1), and the direct labor costs and time associated with conducting the transaction. The report is based on data representing calendar year 2015. See ***Appendix B*** for additional details on methodology.

The report provides further detail on adoption and cost of those transactions for which there was adequate data to estimate industry benchmarks. The proportion of transactions conducted by method—fully electronic, partially electronic and fully manual—are reported and discussed. Fully electronic transactions are those conducted using the HIPAA transaction described in Table 1. These transactions are reported as received by the health plan. That is, if a transaction was submitted manually by the provider to an intermediary and converted to a fully electronic transaction, the transaction is counted as fully electronic. Partially electronic transactions leverage web portals and interactive voice response (IVR) systems, providing an intermediate solution that requires manual effort only by the provider. Fully manual transactions include those conducted by telephone, fax and mail, requiring manual effort by the provider and health plan. Of note, adoption rates are aggregated across all responding health plans, but there is significant variation reported between individual health plans. For example, the adoption of electronic payments for medical health plans in aggregate was 62 percent, but adoption for participating health plans ranged between 27 and 73 percent.

TABLE 1:

Overview of Healthcare Administrative Transactions in the CAQH Index®

TRANSACTION	ADOPTED HIPAA STANDARD	DESCRIPTION	YEAR ADDED TO CAQH INDEX®
Claim Submission	ASC X12N 837	A request to obtain payment or transmission of encounter information for the purpose of reporting healthcare.	2013
Eligibility and Benefit Verification†	ASC X12N 270/271	An inquiry from a provider to a health plan, or from one health plan to another, to obtain eligibility, coverage, or benefits associated with the health or benefit plan, and a response from the health plan to a provider.	2013
Prior Authorization	ASC X12N 278	A request from a provider to a health plan to obtain an authorization for healthcare, or a response from a health plan for an authorization.	2013
Claim Status Inquiry†	ASC X12N 276/277	An inquiry from a provider to a health plan to determine the status of a healthcare claim or a response from the health plan.	2013
Claim Payment†	NACHA Corporate Credit or Deposit Entry with Addenda Record (CCD+)	Electronic funds transfer (EFT) or the transmission of information about the transfer of funds, or payment processing information from a health plan to a provider.	2013
Remittance Advice†	ASC X12N 835	The transmission of remittance advice, including final adjudication and reasons for adjustments, from a health plan to a provider.	2013
Claim Attachment	No standard adopted by HHS*	Additional information submitted with claims or claim appeals, such as medical records to support the claim.	2014
Prior Authorization Attachment	No standard adopted by HHS*	Additional information submitted with a prior authorization or pre-certification request, such as medical records to explain the need for a particular procedure or service.	2014
Coordination of Benefits/ Crossover Claim	ASC X12N 837	COB/crossover claims are a subset of all claim submissions above. These are claims sent to secondary payers with an attached or included explanation of payment information from the primary payer.	2015
Referral Certification	ASC X12N 278	Referral certification is a request from a provider to a health plan for permission to refer a patient to another provider.	2015
Employer/ HIX/Broker Enrollment/ Disenrollment	ASC X12N 834 005010X220 (health plan sponsor) 005010X307 (HIX)	Enrollment/disenrollment transactions can be initial enrollments; full file replacement (enrollment changes or to true-up enrollment); or additions, changes, and terminations of enrollment.	2015
Employer/HIX/ Broker Premium Payment/ Explanation	ASC X12N 820 005010X218 (employer) 005010X306 (HIX)	The premium payment transaction can be sent to a bank to move money only; sent to a bank to move money with detailed remittance information; or sent directly to the payee with remittance information only.	2015

† Both HIPAA standards and operating rules are federally mandated.

* ASC X12N 275 and HL7 CDA R2 are both industry recognized standards for electronic attachments.

Adoption of Electronic Administrative Transactions: Medical Health Plans

Basic Characteristics of Data Contributors

The basic characteristics of participating medical health plans are shown in Table 2. CAQH continues to expand the number of participating medical health plans, which includes both state and regional plans and large national plans. Medical health plans contributing to the CAQH Index for calendar year 2015 represented 140 million covered lives, including commercial and managed care. This represents approximately 46 percent of U.S. commercially insured covered lives, based on enrollment reported in the AIS Directory of Health Plans. In 2015, data submissions represented 1.5 billion claims and 4.8 billion total transactions.

TABLE 2:
Basic Characteristics of CAQH Index Contributing Medical Health Plans, 2012 – 2015

	MEDICAL			
	2012	**2013**	**2014**	**2015**
Enrollment (total covered lives in millions)	104	112	118	140
Proportion of Total Commercial Enrollment (%)	41	42	45	46
Number of Claims Received (total in billions)	1.2	1.4	1.4	1.5
Number of Transactions (total in billions)	3.2	3.9	4.3	5.4

Volume Benchmarks

The total volume of each transaction reported by participating health plans is shown in Table 3. These estimates support industry benchmarking of the volume of transactions per member and per claim and are relatively stable compared to last year. There were approximately 36 transactions conducted per member, similar to previous years, even with the new addition of claim attachments. There were 10 claims submitted per member. The majority of transactions were eligibility and benefit verifications, with an average of 17 occurring per member each year. The high number of eligibility verifications per member may be related to:

- **Inquiries for claims that were not submitted in the data year, an effect that is likely balanced by claims for which the corresponding eligibility verification occurred in the prior year.**
- **Providers may routinely transmit more than one eligibility inquiry for a single medical encounter.**
- **Inquiries may be transmitted prior to scheduled medical encounters which may not occur.**
- **Inquiries submitted for other verification services for providers and employers not related to a patient encounter.**

TABLE 3:

Annual Volume of Administrative Transactions Reported by Medical Health Plans, by Enrollment and Claim Volume, 2015

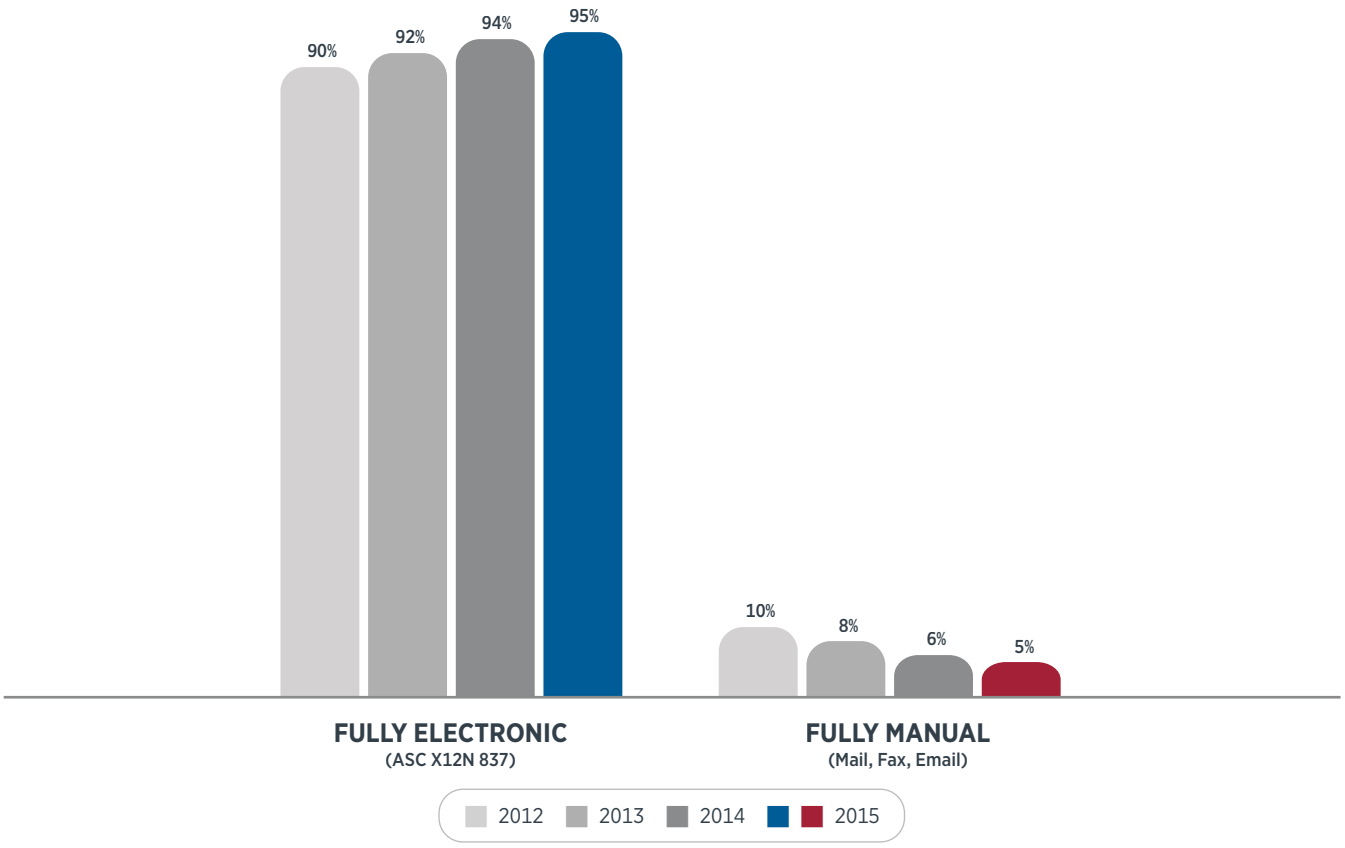
	NUMBER OF TRANSACTIONS (in millions)	NUMBER OF TRANSACTIONS PER MEMBER	NUMBER OF TRANSACTIONS PER CLAIM SUBMITTED
Claim Submission	1,475	11	—
Eligibility/Benefit Verification	2,403	17	1.7
Claim Status Inquiry	489	3	0.2
Claim Payment	173	1	0.1
Remittance Advice	173	1	0.1
Claim Attachments	48	<0.1	<0.1
COB Claims	42	<0.1	<0.1
Prior Authorization	32	<0.1	<0.1
Referral Certification	9	<0.1	<0.1
Total Transactions*	**4,844**	**36**	**—**

* Total Transactions does not include enrollment and disenrollment transactions reported by participating health plans.

Claim Submission

Adoption rose slightly for the most widely used fully electronic transaction.

FIGURE 4:
Adoption of Electronic Claim Submission for Commercial Medical Health Plans and Providers



As previously noted, claim submission had the highest overall adoption rate among the electronic transactions studied, and in 2015 a slight increase (one percent) pushed adoption even higher. (Figure 4) The majority of claims are still submitted from non-facility providers, with comparable adoption of electronic claim submission between facility and non-facility providers.

Health plans reporting the highest adoption of electronic claim submission indicated deliberate organizational efforts to drive adoption, including financial incentives for targeted high-volume providers and health plan-imposed requirements for electronic submission.

Higher adoption of electronic claim submissions was reported by the Centers for Medicare & Medicaid Services (CMS) for Medicare Part A and B, compared to commercial medical health plans. The most recent estimates from CMS reported 99.8 percent adoption for Medicare fee-for-service Part A/B electronic claim submissions. This near-full adoption for Medicare fee-for-service is related to the CMS mandatory requirement[6] for electronic claim submission for most providers.

Claim Attachments

For the first time, adoption of fully electronic claim attachments is reported at six percent for the commercial medical health plans and providers. Claim attachments are supplemental documents providing the health plan with additional medical information that cannot be accommodated within the claim format. Common attachments are Certificates of Medical Necessity, discharge summaries and operative reports. They are sent to the carrier/intermediary with the original claim or in response to a request from a carrier/intermediary. Standards and operating rules for claim attachments, including attachments for initial claim submission, COB claims and claim appeal-related documentation are not yet federally mandated.

The CAQH Index tracks both the ASC X12N 275 and HL7 CDA standards for attachments. A subset of participating medical health plans reported nearly 48 million claim attachments being submitted in 2015, with six percent being submitted electronically using the ASC X12N 275 transaction standard. Importantly, the adoption of electronic claim attachments is isolated, as most plans reported 100 percent of claim attachments were submitted manually. The National Committee on Vital and Health Statistics (NCVHS) recently recommended that the U.S. Department of Health and Human Services (HHS) adopt the HL7 standard for claim attachments. Additionally, Meaningful Use requires electronic health records (EHRs) to use the HL7 standard used for clinical attachments (CCD+); currently no authoritative benchmark data is available on the adoption of this standard for EHRs. Only use of the X12 standard for claim attachments was reported by participating health plans; no use of the HL7 standard for claim attachments was reported.

Coordination of Benefits (COB)/Crossover Claims

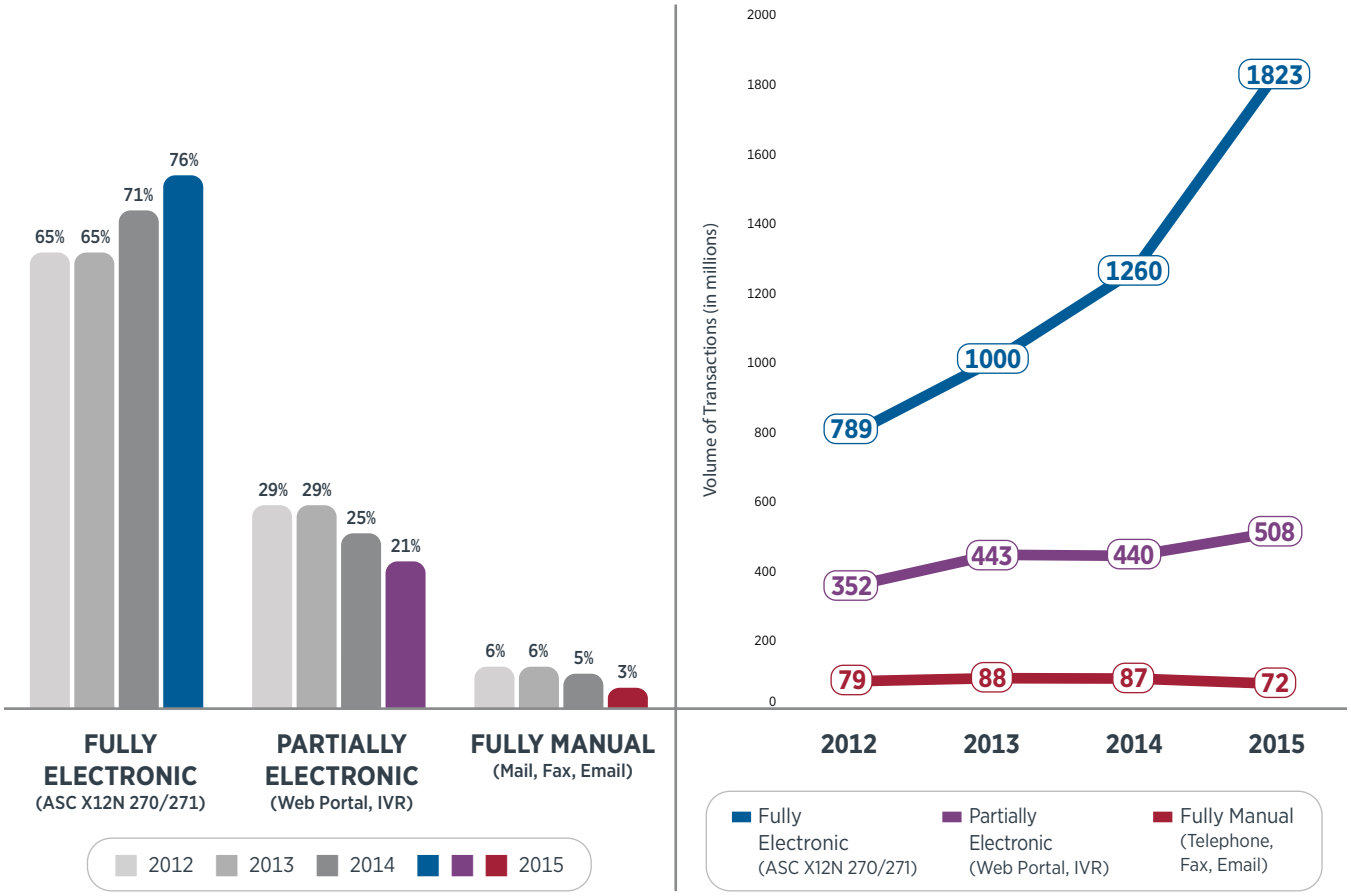
COB or crossover claims, are claims submitted to commercial health plans for members who are eligible for multiple coverages either through another commercial plan, Medicare, Medicaid, Workers' Compensation or Veterans Affairs. These may be submitted directly from the member, the provider or another coverage provider. Approximately 56 percent of these claims were submitted electronically in 2015.

See Appendix B for detailed methodology and data limitations.

Eligibility and Benefit Verification

Utilization of fully electronic eligibility and benefit verifications continues to increase rapidly. Volumes of manual eligibility and benefit verifications are not declining as rapidly.

FIGURE 5:
Adoption and Volume of Electronic Eligibility and Benefit Verifications for Commercial Medical Health Plans and Providers



Adoption of fully electronic eligibility and benefit verifications rose by five percent. The decline in the percent of partially electronic and fully manual transactions corresponds to relatively small changes in the volume of transactions using these methods. In 2015, unlike previous years, there was a more substantial decline in manual inquiries, but health plans still fielded more than 72 million telephone inquiries.

The rapid increase in the volume of eligibility and benefit verifications over the last two years is potentially influenced by several factors:

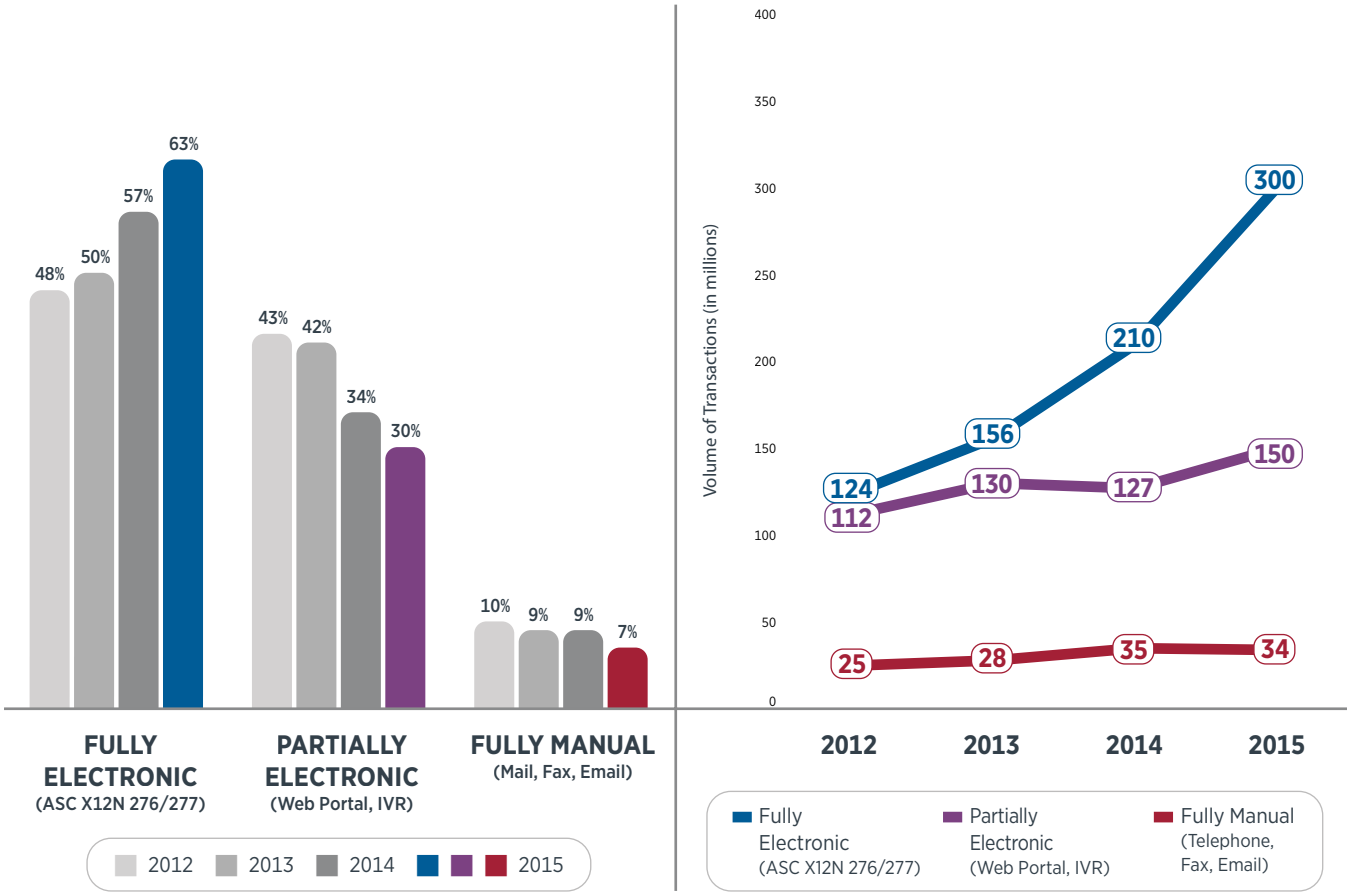
- The Affordable Care Act (ACA) health insurance exchanges introduced many new coverage options to the market. In addition to increased overall enrollment, there was a particular increase in enrollment in high-deductible health plans, which may increase providers' need to inquire about patient coverage and financial liability.

- CAQH CORE Phase II Operating Rules, which are federally mandated, require real-time access to patient eligibility and benefit information. Access to this information in real-time may increase the likelihood that a provider will check a patient's eligibility, as well as improves productivity by providing information more quickly than telephonic inquiries. Real-time access also allows providers to identify potential for collection issues before it occurs.
- Some vendors now offer the capability to routinely check patient eligibility across a provider's full patient roster, whether or not the patient is receiving care at that time.
- Some non-provider entities use eligibility and benefit verification transactions for coordination of benefits and other services for providers; for example, state Medicaid plans and third-party benefit verification services.

Claim Status Inquiries

While adoption of fully electronic claim status inquiries grew significantly in 2015, the volume of telephonic and partially electronic inquiries remained relatively stable.

FIGURE 6:
Adoption and Volume of Electronic Claim Status Inquires for Commercial Medical Health Plans and Providers



Claim status inquiries continued to achieve high adoption of fully electronic transactions in 2015, increasing by six percent. Similar to eligibility and benefit verifications, the volume of partially electronic and fully manual transactions did not decline as rapidly. The increased volume of fully electronic claim status inquiries may be related to several factors:

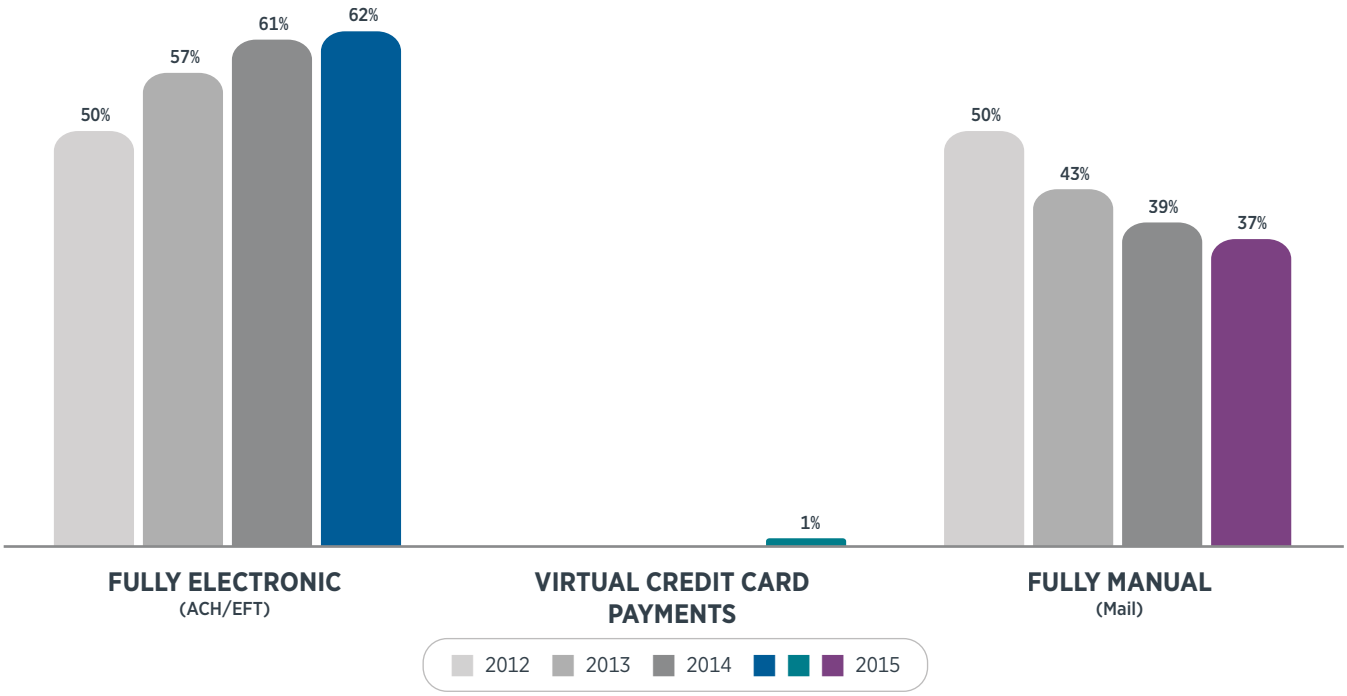
- CAQH CORE Phase II Operating Rules, which are federally mandated, also require real-time access to claim status information, which offers unique incentives for providers to access claim status and rapidly respond to health plan requests for additional information needed to process payment. The advantages of real-time access, in addition to increased industry awareness, are likely associated with increasing use of the fully electronic transaction.
- As with eligibility and benefit verifications, some vendors are offering the capability to routinely check the status of claims until payment has been made, which may also be driving the volume of fully electronic transactions.

See Appendix B for detailed methodology and data limitations.

Claim Payment

Electronic funds transfer (EFT) adoption increased slightly to 62 percent (+one percentage point) in 2015.

FIGURE 7:
Adoption of Electronic Claim Payments for Commercial Medical Health Plans and Providers



Electronic funds transfer adoption continues to increase. Of note, several participating health plans improved EFT reporting accuracy, which equated to lower volumes of payments and adoption rates than previously estimated. Improved tracking allowed for a more precise count of payments in 2015. Notable factors contributing to adoption of EFT include:

- Industry-wide awareness of EFT continues to grow, as health plans and other entities are promoting its value and streamlining processes for providers to receive EFT payments.
- HHS adopted the ACH CCD+ transaction standard for electronic payment in 2013.
- Medicare and some commercial health plans require some providers to enroll to receive payments electronically.

NACHA, the Electronic Payments Association, reported significant increases (approximately 20 percent) in healthcare payments via the ACH network during this same time period. NACHA tracks ACH payments that contain a unique healthcare payment flag, which was mandated by NACHA for all healthcare payments in late 2014. Some increases in healthcare payments may be related to improved tracking over time as entities adopt the healthcare payment flag. Also, NACHA volumes include both state administered Medicaid and Medicare fee-for-service, which are not included in the CAQH Index estimates. Medicare may have higher adoption compared to the commercial medical health plans and providers, given regulatory requirements for EFT adoption.

Virtual Credit Card Payments

Less than one percent of the payments reported by participating commercial medical plans were paid using virtual credit card payments.

For the first time, adoption of virtual credit card (VCC) payments is reported. When paying via VCC payments, commonly known as "virtual cards," health plans send credit card payment information and instructions to providers, who then process payments using standard credit card technology. Some health plans also use third-party payment vendors to originate EFT payments to providers. VCC payments are not equivalent to HIPAA compliant EFT/ACH payments, as they do not require unique identifiers to re-associate the payment with the ERA and can be costly. The one percent adoption reported here may be an underestimate as:

- Data represented calendar year 2015 and additional health plans and provider-facing vendors reported adding virtual credit card payment options for providers during 2015.
- Virtual payments are common among smaller health plans and third party administrators, which are underrepresented in the CAQH Index.

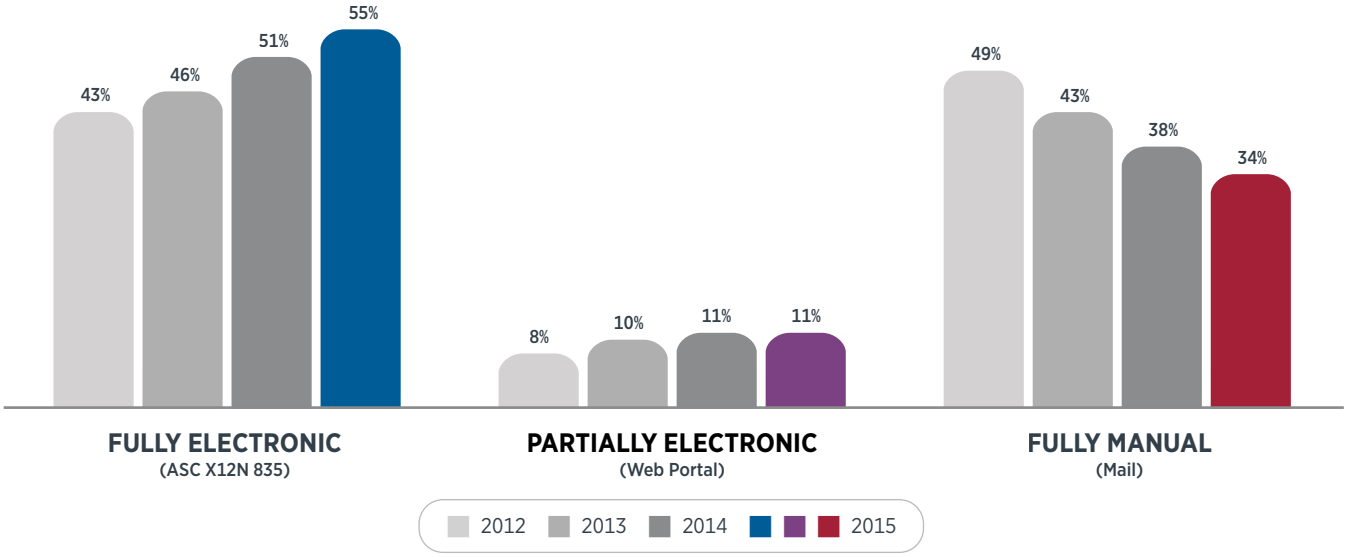
Adoption of virtual payments will be further explored in future reports as the CAQH Index continues to monitor trends and expand representativeness of participating health plans.

See Appendix B for detailed methodology and data limitations.

Remittance Advice

Electronic remittance advice (ERA) adoption (55 percent) continues to steadily increase, but more than a third remain fully manual.

FIGURE 8:
Adoption of Electronic Remittance Advices for Commercial Medical Health Plans and Providers



More than half of all remittance advice transactions were fully electronic in 2015, a four percentage point increase from 2014. About a third of these transactions are sent via postal mail, representing a significant opportunity for industry savings.

Potential efforts influencing increases in adoption of electronic remittances include:

- Implementation and regulation of operating rules for the ASC X12N 835 transaction standard that provides uniform specifications for Claim Adjustment Reason Codes (CARCs) and Remittance Advice Remark Codes (RARCs), which providers report improves processing of ERAs and reduces time to payment.
- Similarly, the operating rules require re-association of the ERA and payment. This requirement has particularly been adopted by both health plans and third-party vendors, who are promoting this function and its benefits broadly. However, additional efforts and coordination with vendors is necessary to further integrate these changes into practice management systems and realize the benefits across the industry.

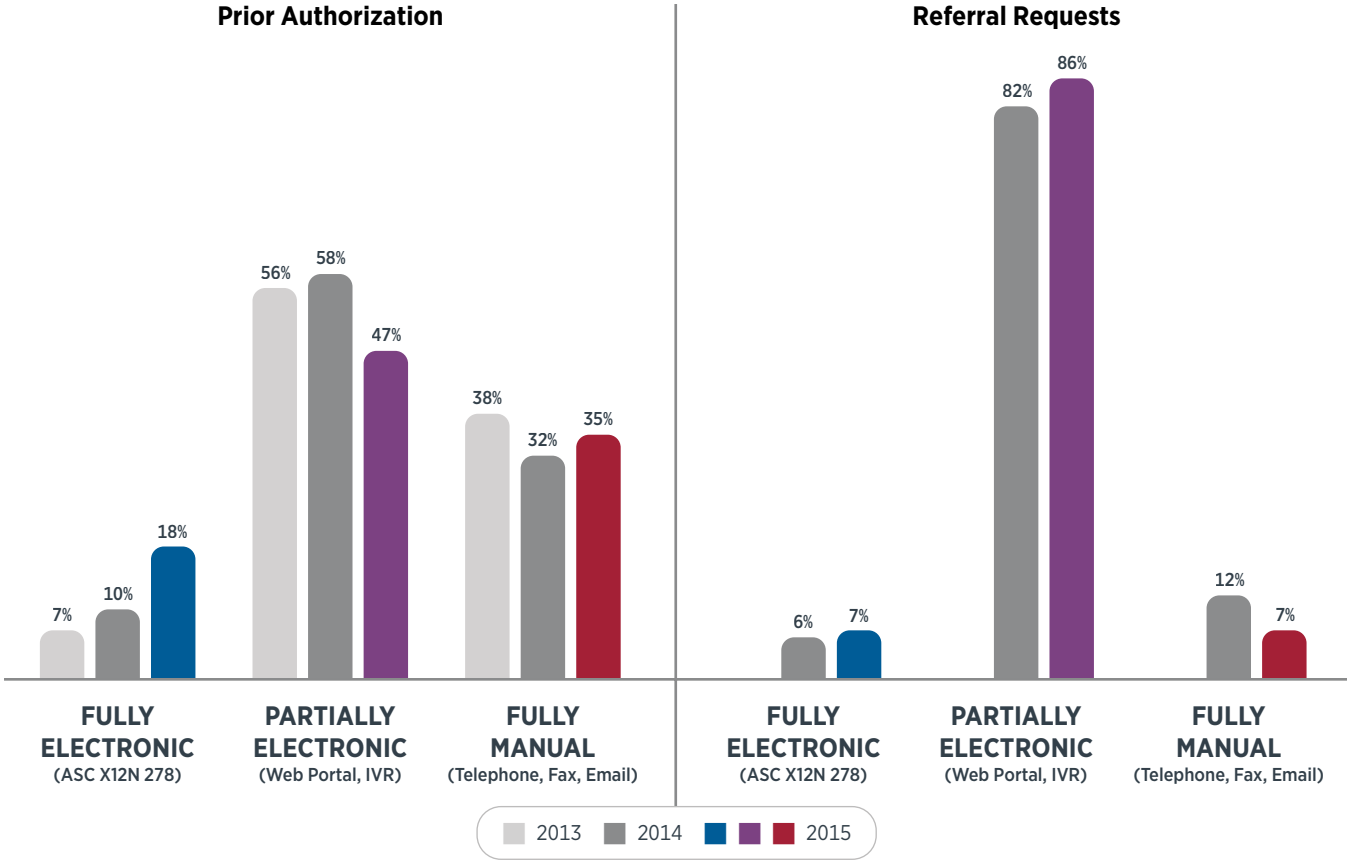
CMS reported 85 percent adoption of ERA for Medicare Part A and Part B in 2015, up from 81 percent in 2014 and 31 percent in 2005. CMS reported significant growth in adoption of electronic remittances over the past decade. In 2013, CMS began requiring providers to receive electronic payments from Medicare. The required enrollment in EFT may have residual impact on providers electing to receive remittances electronically. Also, the higher adoption may be related to the Medicare Remit Easy Print tool, a free desktop software from CMS that providers can use to access and print ASC X12N 835 remittance transactions in a user-friendly format.

See Appendix B for detailed methodology and data limitations.

Prior Authorization & Referrals

Health plan web portals remain the predominant method for submission and approval of prior authorizations (46 percent) and referrals (86 percent), though a significant increase in fully electronic prior authorizations occurred during 2015.

FIGURE 9:
Adoption of Electronic Prior Authorization and Referral Requests for Commercial Medical Health Plans and Providers



Adoption of electronic prior authorizations has lagged far behind other transactions. In 2015, adoption of electronic prior authorizations increased significantly (eight percent) to 18 percent. This increase in electronic prior authorizations, corresponded to a combined shift from prior authorizations submitted via health plan web portals (11 percent decrease), and a slight (three percent) increase in manual submissions.

There has been growing industry-wide attention to how prior authorizations for medical services are managed. Some specific examples of potential contributors to these trends include:

- Health plans have reported making significant investments in improving the efficiency of the electronic transaction by streamlining integration with provider systems and further automating the review of requests, which greatly reduces response times. For example, a large national participating health plan reported significant efforts to coordinate with provider practice management systems and clearinghouse vendors to support use of the ASC X12N 278 transaction standard. These efforts resulted in a nearly 10-fold increase in fully electronic prior authorizations for that health plan.
- Similarly, based on interviews with several practice management system and clearinghouse vendors, efforts are increasing to create and expand systems for providers that support electronic submission of prior authorizations.
- Many health plans require documentation to support prior authorizations, which necessitates attachments similar to claim attachments. As noted earlier, electronic medical records contain many of these documents. Web portals may offer a more convenient option for providers who are not able to readily integrate electronic health records with their practice management system.
- The paradigm of prior authorizations is shifting for some health plans. Some plans have transitioned to either no longer requiring prior authorizations, greatly reducing the medical services which require them, or only requiring notification and not transmitting a response back to the provider.

Referral Requests

A referral request is a common transaction used by providers to obtain authorization from a health plan before referring a member to another provider. Referral requests are one of several business processes, including prior authorization, that use the ASC X12N 278 transaction standard. Data on referrals were collected from a subset of health plans as not all health plans require referral requests. The majority of referrals were submitted to health plans via web portals, with fewer manual submissions in 2015 compared to 2014.

See Appendix B for detailed methodology and data limitations.

ENROLLMENT AND DISENROLLMENT AND PREMIUM PAYMENT

The CAQH Index began tracking adoption of the electronic transactions for these two transactions last year.

Enrollment/disenrollment includes the electronic exchange of enrollment lists, or modifications to these lists, between health plan sponsors, health plan administrators, brokers, or health insurance exchanges and health plans. The enrollment/disenrollment transaction can encompass a periodic full update of a health plan sponsor's health plan enrollees, or it can reflect a change to an existing enrollment dataset, with modification instructions for particular enrollees.

The premium payment transaction can be used by health plan sponsors, health plan administrators, brokers, or health insurance exchanges to initiate a transfer of funds to pay health insurance premiums and to communicate with health plans about the details of the payment, which is analogous to remittance advice.

An insufficient number of health plans were able to report detailed data for these transactions, but volumes of fully electronic enrollment and disenrollment transactions were received from a subset of health plans, and provide valuable high level indications of adoption. Based on reported data from only three health plans, adoption of electronic transactions for enrollment/disenrollment appears high with **over 510 million** ASC X12N 834 transactions being transmitted in 2015. These plans were unable to report a comparable number of manual enrollment/disenrollment transactions this year, so adoption benchmarks are not yet available. However, based on the enrollment size of these plans, it could be as high as 30 – 40 percent. Of note, CMS requires electronic submission of these transactions for the health insurance exchanges, but no data on adoption is currently available.

While no data is currently available on the premium payment transaction, and only limited for the enrollment and disenrollment transaction, addressing the data collection challenges will continue to be a priority in the 2017 CAQH Index data collection.

Adoption of Electronic Administrative Transactions: Dental Health Plans

Basic Characteristics of Data Contributors

The basic characteristics of participating dental health plans are shown in Table 4. CAQH continues to expand the number of participating dental health plans, which includes both state, regional, and large national plans. Dental health plans contributing to the CAQH Index for calendar year 2015 represented 112 million covered lives, including commercial and managed care. This represents approximately 46 percent of U.S. commercially insured covered lives, based on enrollment reported in the AIS Directory of Health Plans. This year, data submissions represent 173 million claims and 564 total transactions.

TABLE 4:
Basic Characteristics of CAQH Index Contributing Dental Health Plans, 2014 – 2015

	DENTAL	
	2014	2015
Enrollment (total covered lives in millions)	93	112
Proportion of Total Commercial Enrollment (%)	44	46
Number of Claims Received (total in millions)	158	173
Number of Transactions (total in millions)	439	564

Volume Benchmarks

Participating dental plans reported six transactions per member annually, with about two claim submissions and eligibility and benefit verifications per member. Different from the medical health plans, the ratio of claims submitted to eligibility and benefit verifications was inverse for dental, with more claims being submitted than eligibility inquiries. Only data for these four types of transactions are available for dental health plans and providers due to reporting limitations.

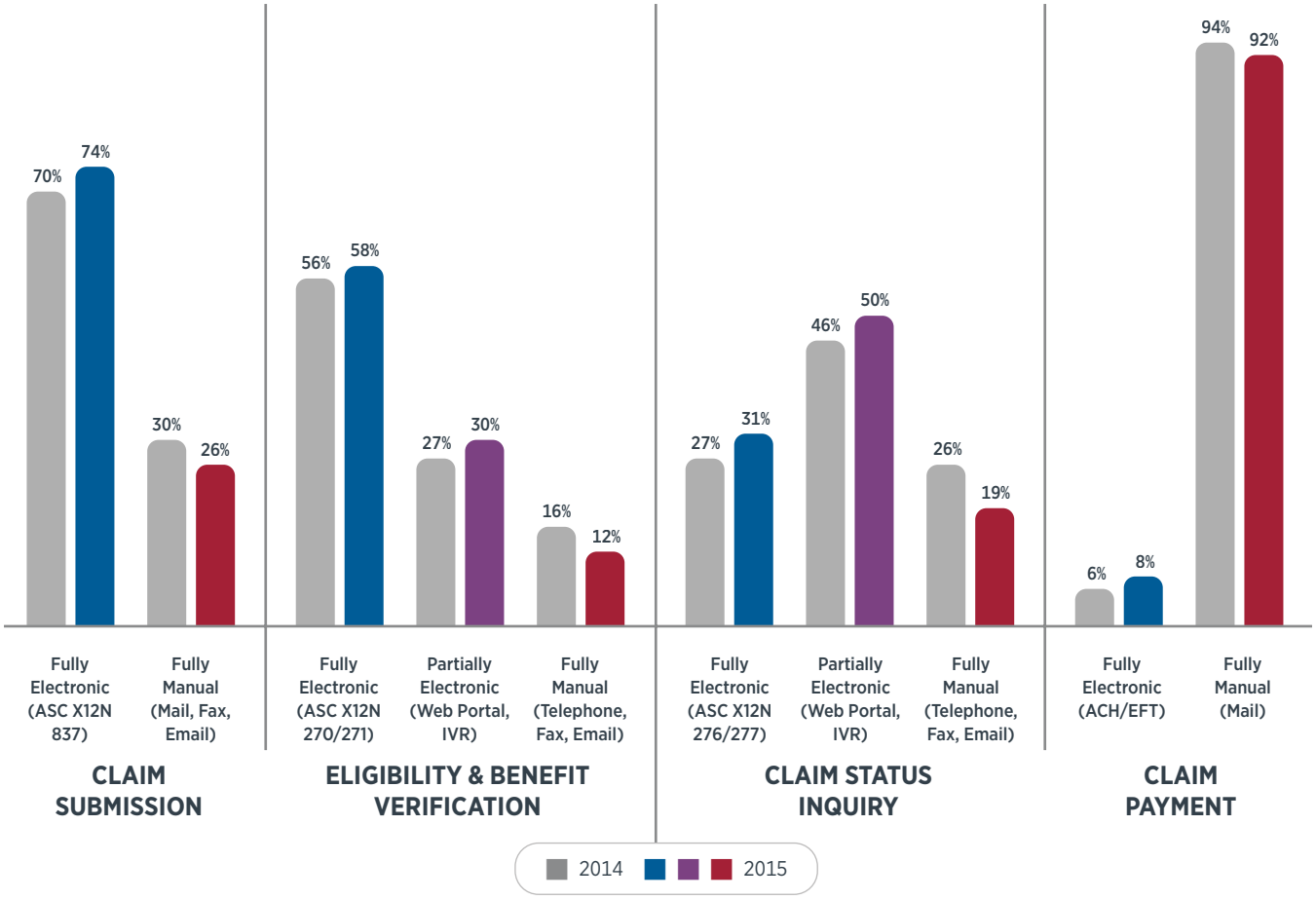
TABLE 5:
Annual Volume of Administrative Transactions Reported by Dental Health Plans, by Enrollment and Claim Volume, 2015

	NUMBER OF TRANSACTIONS (in millions)	NUMBER OF TRANSACTIONS PER MEMBER	NUMBER OF TRANSACTIONS PER CLAIM SUBMITTED
Claim Submission	173	2	—
Eligibility/Benefit Verification	215	2	1.2
Claim Status Inquiry	44	0.4	0.3
Claim Payment	132	1	0.8
Total	564	6	—

Adoption

Adoption of fully electronic transactions for the commercial dental health plans and providers is increasing, but was, on average 30 percent lower than adoption levels by commercial medical health plans and providers. The transaction with the highest level of adoption was claim submission, with 74 percent submitted electronically in 2015.

FIGURE 10:
Adoption of Electronic Administrative Transactions for Commercial Dental Health Plans and Providers



Dental health plans and providers are HIPAA-covered entities, yet their adoption of fully electronic transactions has significantly lagged behind their counterparts in the medical sector. This gap in adoption highlights the need for targeted, coordinated industry initiatives to accelerate adoption in this sector.

In 2015, dental industry adoption of fully electronic transactions ranged from nearly 16 percent lower than the medical sector, for electronic eligibility and benefit verification, to 54 percent, for claim payment. While claim submission had the highest adoption rate, almost 25 percent of claims were submitted using paper-based methods, compared to only five percent for medical claims. Similarly, 92 percent of payments from dental health plans are via paper check.

The high adoption of fully electronic transactions for claim submission and eligibility and benefit verification shows that there are dental practice management systems that can support fully electronic transactions using HIPAA standards. Integrating all HIPAA standards, transactions, and operating rules into the workflow of these systems, as well as voluntary election by dental providers to implement these systems, would further drive adoption.

A recent survey from the National Association of Dental Plans indicated that 34 percent of responding dental health plans were not set up to conduct electronic eligibility and benefit verifications and claim status inquiries. A lower proportion (11 percent) were not currently offering electronic claim payments.[7] This lack of adoption by health plans likely has residual impact on provider adoption. Of note, all dental health plans participating in the CAQH Index offered these capabilities.

Cost Per Transaction

Table 6 shows the estimated cost of each transaction, by type (manual[8] vs. electronic[9]), and reports the per-transaction savings opportunity for health plans, providers and the industry combined, including for the first time claim attachments. Cost per transaction estimates for health plans are very similar to previous reports. The cost per transaction estimates for providers are based on a diverse sample of providers surveyed during 2016. While similar, the cost estimates in 2016 reflect increases in the potential cost savings for providers. These differences do not reflect a true trend in cost over the years but are related to improvements in the survey methodology that resulted in more precise estimates this year, including modifications to the survey instrument and structured interviews with participating providers. Please see ***Appendix B*** for more details on the methodology.

The cost to conduct transactions manually are consistently higher than the cost of electronic transactions. This is true across all transactions for health plans and providers. On average, manual transactions cost health plans $2 and providers $4 more than electronic transactions. The greatest per-transaction potential saving opportunities for health plans are for eligibility ($4.29 per transaction) and claim status ($4.35 per transaction) inquiries. These transactions often require human-to-human telephone interaction when conducted manually. The ongoing use of telephone calls requires health plans to maintain costly call center operations and requires a disproportionately large commitment of resources by the provider, ultimately contributing to the high cost differential. The greatest per-transaction savings opportunity for providers is for prior authorizations ($5.61 per transaction). Participating providers report labor intensive processes for manually sending the necessary documentation needed for prior authorizations.

TABLE 6:
Average Cost per Transaction and Savings Opportunity for Commercial Medical Health Plans and Providers for Manual and Electronic Transactions, 2015

TRANSACTION	METHOD	HEALTH PLAN COST	PROVIDER COST	INDUSTRY COST	HEALTH PLAN SAVINGS OPPORTUNITY	PROVIDER SAVINGS OPPORTUNITY	INDUSTRY SAVINGS OPPORTUNITY
Claim Submission/ Receipt	Manual	$0.62	$2.02	$2.64	$0.52	$1.43	$1.95
	Electronic	$0.09	$0.59	$0.68			
Eligibility and Benefit Verification	Manual	$4.36	$4.02	$8.39	$4.29	$3.60	$7.89
	Electronic	$0.07	$0.42	$0.49			
Prior Authorization	Manual	$3.68	$7.50	$11.18	$3.64	$5.61	$9.25
	Electronic	$0.04	$1.89	$1.93			
Claim Status Inquiry	Manual	$4.39	$5.40	$9.79	$4.35	$3.59	$7.94
	Electronic	$0.04	$1.81	$1.85			
Claim Payment	Manual	$0.57	$2.89	$3.46	$0.48	$2.20	$2.68
	Electronic	$0.09	$0.69	$0.78			
Claim Remittance Advice	Manual	$0.50	$5.69	$6.19	$0.45	$4.74	$5.19
	Electronic	$0.05	$0.95	$1.00			
Claim Attachments	Manual	$1.74	$5.25	$6.99	$1.64	$4.08	$5.72
	Electronic	$0.10	$1.17	$1.27			

National Potential Cost Savings

Medical Health Plans and Providers

National estimates of transaction volume and potential cost savings for the seven transactions are presented in Table 7.

An estimated 802 million manual and over 9 billion electronic transactions were conducted by U.S. commercial medical health plans in 2015. Adopting automated processes for just these seven transactions could save health plans over $1.4 billion annually. The greatest savings opportunity for health plans is eligibility and benefit verification, which accounts for $649 million in potential cost savings.

For the seven transactions, an estimated 2.3 billion manual and 7.7 billion electronic transactions were conducted by providers in 2015. Adopting automated processes for just these seven transactions could result in an estimated $7.9 billion savings for providers. Similar to health plans, the greatest savings opportunity for providers is eligibility and benefit verifications, accounting for over $4.3 billion in potential cost savings.

While full adoption—meaning 100 percent use of electronic transactions—may not be achievable, if it were reached for just these seven transactions, the commercial industry could save nearly $9.4 billion in administrative cost annually, accounting only for the direct costs included in these estimates. As noted above, eligibility and benefit verification represents the highest commercial industry potential cost savings from full adoption, representing over $5 billion in industry-wide potential cost savings. Beyond this estimate, transactions with public, non-commercial health plans are additional potential cost savings.

TABLE 7:

Estimated National Volume of Administrative Transactions and Potential Savings Opportunity for Commercial Medical Health Plans and Providers

	TRANSACTION	METHOD	HEALTH PLAN NATIONAL VOLUME (in millions)	PROVIDER NATIONAL VOLUME (in millions)	HEALTH PLAN NATIONAL SAVINGS OPPORTUNITY (in millions)	PROVIDER NATIONAL SAVINGS OPPORTUNITY (in millions)	INDUSTRY NATIONAL SAVINGS OPPORTUNITY (in millions)
MEDICAL	Claim Submission/ Receipt	Manual	168	168	$88	$240	$328
		Electronic	2,723	2,723			
	Eligibility and Benefit Verification	Manual	151	1,220	$649	$4,391	$5,040
		Electronic	4,901	3,832			
	Prior Authorization	Manual	25	57	$90	$323	$412
		Electronic	47	14			
	Claim Status Inquiry	Manual	71	383	$309	$1,375	$1,684
		Electronic	956	644			
	Claim Payment	Manual	147	147	$71	$324	$395
		Electronic	240	240			
	Claim Remittance Advice	Manual	145	191	$65	$906	$972
		Electronic	281	236			
	Claim Attachments	Manual	94	94	$155	$385	$540
		Electronic	6	6			
	Seven-Transaction Total	**Manual**	**802**	**2,261**	**$1,427**	**$7,944**	**$9,371**
		Electronic	**9,154**	**7,697**			

Dental Health Plans and Providers

National estimates of transaction volumes and potential cost savings for four transactions for the commercial dental health plans and providers are presented in Table 8.

An estimated 1.2 billion transactions were conducted between U.S. commercial dental health plans and providers. Adopting automated processes for these four transactions could save dental health plans nearly a half billion dollars and dental providers over $1 billion in labor costs annually. Similar to commercial medical health plans and providers, eligibility and benefit verifications represent the largest savings opportunity ($1.1 billion) for dental plans and providers.

TABLE 8:
Estimated National Volume of Administrative Transactions and Potential Savings Opportunity for Commercial Dental Health Plans and Providers

	TRANSACTION	METHOD	HEALTH PLAN NATIONAL VOLUME (in millions)	PROVIDER NATIONAL VOLUME (in millions)	HEALTH PLAN NATIONAL SAVINGS OPPORTUNITY (in millions)	PROVIDER NATIONAL SAVINGS OPPORTUNITY (in millions)	INDUSTRY NATIONAL SAVINGS OPPORTUNITY (in millions)
DENTAL	Claim Submission/ Receipt	Manual	109	109	$57	$156	$214
		Electronic	309	309			
	Eligibility and Benefit Verification	Manual	63	221	$273	$794	$1,067
		Electronic	456	299			
	Claim Status Inquiry	Manual	20	73	$87	$260	$348
		Electronic	85	33			
	Claim Payment	Manual	129	129	$62	$284	$346
		Electronic	27	27			
	Four-Transaction Total	**Manual**	**322**	**531**	**$479**	**$1,495**	**$1,974**
		Electronic	**877**	**668**			

See Appendix B for detailed methodology and data limitations.

EXPLORING PROVIDER PRACTICE MANAGEMENT SYSTEMS AND CLEARINGHOUSE VENDOR FEES

Providers have the greatest potential cost savings from adopting electronic administrative transactions. In addition to direct labor, other overhead costs associated with conducting these transactions may be less for providers using automated systems. The CAQH Index is committed to more fully quantifying these overhead costs for both electronic and manual transactions.

This year, CAQH began engaging practice management systems and clearinghouse vendors to better understand the various pricing structures of vendors' services and systems to support automated transactions, and the various costs associated with establishing and maintaining these vendor relationships. The goal is to eventually integrate vendor and overhead fees into the cost estimates.

Practice management systems are sets of technology tools and software intended to enable healthcare practices to support day-to-day financial and administrative functions. Clearinghouses can be thought of as "hubs" that allow healthcare practices or their contracted practice management system vendors to securely transmit electronic transactions to multiple payers. More commonly, vendors are offering both practice management systems and clearinghouse services.

Our initial findings, based on an environmental scan that included interviews with several vendors, confirmed that the practice management system and clearinghouse market is diverse, offering an array of products at varying cost and billing models. Most of these vendors provide a full complement of services to support the basic claims-related transactions, and fees are commonly based on the number of provider users. Most practice management system vendors offer additional "add-on" services, including a growing availability of services to enable interoperability between practice management functions and clinical systems. Clearinghouse costs to process transactions with health plans, generally are lower than practice management system costs, as practice management systems usually support other business functions that clearinghouses do not typically provide. Clearinghouse costs were more likely to be based on the volume of transactions, as opposed per user/license. Additional estimates of actual costs of these services and overhead associated with manual transactions will be integrated in the 2017 CAQH Index analyses.

Time per Transaction for Providers

Providers spend many hours interacting with health plans. This time could be used more efficiently, on patient care or other business needs, particularly in settings where clinical staff are involved in conducting these business processes. This year, for the first time, the CAQH Index reports the average amount of time providers spend conducting each transaction, by type and method (manual vs. electronic). Providers were asked about the average and range of time it takes to conduct each transaction type. For eligibility and benefit verifications and claim status inquiries, these time estimates include both transmission of the transaction and receipt of a response. For the other transactions, the time does not include additional follow up that may be involved, such as managing claim denials, responding to health plan requests for additional information, or sending attachments. The results are presented in Table 9. On average, providers spend 8.5 more minutes conducting manual transactions compared to electronic transactions. Depending on the transaction type, this time difference can be as high as 29 minutes.

Processing for a single claim that required one of each of these six transactions electronically instead of manually could save a provider a minimum of 51 minutes. If providers fully adopt automated processes for these six transactions, a minimum of 1.1 million hours of administrative work could be saved per business week each year.

TABLE 9:
Average Time Providers Spend Conducting Manual and Electronic Transactions

TRANSACTION	METHOD	TIME PROVIDERS SPEND PER TRANSACTION (minutes)	
		AVERAGE	MINIMUM – MAXIMUM
Claim Submission/ Receipt	Manual	5	4 – 9
	Electronic	1	<1 – 4
Eligibility and Benefit Verification	Manual	10	6 – 21
	Electronic	1	1 – 3
Prior Authorization	Manual	20	10 – 27
	Electronic	6	4 – 9
Claim Status Inquiry	Manual	12	9 – 29
	Electronic	5	3 – 8
Claim Payment	Manual	7	5 – 17
	Electronic	2	1 – 4
Claim Remittance Advice	Manual	15	6 – 31
	Electronic	3	2 – 7

Future Enhancements To The CAQH Index

The CAQH Index will continue to monitor industry progress toward adoption of fully electronic transactions and estimate the associated cost savings. CAQH, along with the CAQH Index Advisory Council, is committed to continually evolve and expand the capacity of the report. Each year, CAQH identifies new opportunities to expand and strengthen the CAQH Index data to inform and support the mission of accelerating the transformation of business processes in healthcare. Some specific future enhancements include:

Expanding the Representation of Smaller Health Plans

Currently, the majority of health plan respondents are large national and medium-sized statewide plans that may be able to more readily invest in automation. CAQH will target additional health plan data contributors, particularly smaller-sized regional health plans, to participate in future submissions.

Adding Government Programs

While the CAQH Index includes data from commercially insured Medicare Advantage and managed Medicaid, it does not include data from the Medicare fee-for-service program or Medicaid programs that are operated directly by the states. These programs require many of the same payer/provider inquiries and interactions; therefore, substantial additional savings for the industry could be available through automation that is not reflected in current estimates. This year the CAQH Index includes comparable adoption data for two transactions, claim submission and remittance advice. The claim submission adoption for Medicare fee-for-service was publicly available on the CMS website. The remittance advice data was provided to CAQH by special request. The CAQH Index Advisory Council is working to include additional comparable Medicare and Medicaid data to provide more complete results for the entire covered U.S. population in future reports.

Improving the Precision of Savings and Cost Estimates

The potential savings estimates assume a one-to-one conversion of manual to electronic transactions. In reality, the availability of inexpensive, electronic transactions and market trends, such as increased use of high-deductible health plans, may sometimes lead to additional numbers of transactions—not an exact one-for-one replacement. Additionally, current cost estimates focus on direct labor costs as reported by providers and health plans. There are several indirect cost components that may demonstrate further savings opportunities, such as time and cost associated with gathering information and additional follow-up for transactions, supplies and other overhead, including vendor fees. Additional approaches to more precisely estimate the direct and indirect cost of administrative transactions for providers and health plans are being explored.

Further Understand the Impact of Alternative Payment Models on Adoption/Tracking

Current federal and industry initiatives to boost adoption of electronic transactions are primarily applicable for interactions between the health plan and healthcare provider in the traditional fee-for-service payment environment. The U.S. healthcare payment system continues to evolve and innovate. As the industry adopts alternate payment models that require different types of information exchange and payment, transacting business is becoming more complex. There is growing activity in the area of value-based purchasing, which integrates quality and payment. Organizations using value-based payment models, such as accountable care organizations, have unique business needs as they relate to interactions between the provider and payer. Going forward, these will impact the use of business transactions currently tracked by the CAQH Index.

Industry Call to Action

The need to streamline the business of healthcare is universal and urgent. All stakeholders must align around the imperative to reduce costs and inefficiency. When healthcare administrative data is electronic, it simplifies business processes and real-time use of information. This in turn supports innovative applications of data analytics that can yield reduced costs, elevated quality, and consistency of healthcare delivery to provide an exceptional experience for healthcare consumers. The healthcare industry transition to electronic administrative transactions over manual processes is important to these goals.

The 2016 CAQH Index shows measurable progress in the transition to conduct routine business electronically and spotlights remaining opportunities to reduce cost and improve efficiency. This report highlights that there is a role for all industry stakeholders to collectively and actively engage in substantive solutions to propel this transition forward. The following actions outline practical opportunities to deliver on the promise envisioned decades ago by the enactment of HIPAA.

1. **Share and expand best practices to increase adoption of electronic transactions and reduce utilization of manual transactions among industry stakeholders by accelerating industry- and government-led outreach and education for health plans, providers and their agents, including practice management system vendors.**

Given the variable adoption reported by participating health plans, it is critical that entities share and adopt best practices to further drive adoption, as some entities are excelling compared to others. Industry and government entities must collaborate to provide ongoing outreach and education for all HIPAA-covered and non-HIPAA-covered entities about the value of, and immediate need for, adoption of electronic transactions, reduction of manual processes and compliance with standards and operating rules. Additionally, the industry must continue to monitor progress and evaluate the impact of initiatives to drive adoption in order to identify successful strategies to accelerate adoption.

2. **Increase targeted industry-led efforts to reduce adoption barriers for health plans and providers, including consideration of financial incentives and contractual requirements.**

Both health plans and providers have noted the cost of initial implementation as a barrier to transitioning to fully electronic transactions. This report demonstrates the immense opportunity to reduce costs by adopting fully electronic transactions. Industry stakeholders should consider innovative investments, including how financial incentives could be applied, or how stakeholders could more actively conduct cost-benefit analyses to demonstrate the value of adoption. Notably, some payers, including CMS, have begun requiring adoption of certain transactions as part of contractual agreements with providers. Further application of this approach may be a useful strategy to rapidly drive adoption.

In addition to health plans and providers, vendors play a significant role in driving adoption, as the majority of the transactions flow, or are directly accessed by providers, through practice management systems or trading partners. Access to IT systems and software capable of consistently executing and updating fully electronic transactions is critical. Anecdotal evidence from NCVHS, and others, suggests that some practice management vendors, which are not HIPAA-covered entities, increase the cost for compliant systems or are not making data or infrastructure changes to systems on a timely basis. This lag in functionality and increased cost likely results in providers' slow adoption of electronic methods to interact with health plans. Vendors should ensure their products offer integrated, regulation-compliant electronic transactions on a timely basis; certification of practice management systems can help with this transition. Health plans, providers and their agents must also cite these requirements when contracting with the vendor community for products and services.

3. Continue systematic review of business processes for potential improvements in technical and policy requirements that can improve efficiency and reduce cost.

Administrative simplification must be an ongoing improvement process. As such, industry stakeholders should embrace ongoing, proactive maintenance that is built into regulations, rather than wait for new mandates. The industry should also establish a regular schedule for reviewing and updating, as necessary, current standards, codes, operating rules and policies. This can accelerate the identification of opportunities to further increase efficiency or reduce cost.

Acknowledgments

The CAQH Index would like to acknowledge the following individuals and organizations for their continued contributions to the success of this valuable industry data resource:

- All contributing health plan and provider organizations and representatives for completing data submissions and follow-up interviews.
- NORC at University of Chicago for supporting the expansion of provider recruitment efforts and synthesizing provider cost data.
- Milliman, Inc. for providing analytical consultation to produce estimates and extrapolations.
- CAQH Advisory Council (listed below) for continued support and guidance of the CAQH Index activities and reports.

Organization	2016 Advisory Council Member
Aetna	Jay Eisenstock
America's Health Insurance Plans (AHIP)	Tom Meyers
Anthem	Katy Blomeke
Blue Cross Blue Shield of Michigan	John Bialowicz
Streamline Health Solutions, Inc.	Richard Nelli
Cigna	Paul Keyes
Florida Blue	Tab Harris
Medical Group Management Association (MGMA)	Robert Tennant
Milliman, Inc.	Andrew Naugle
Nachimson Advisors, LLC	Stanley Nachimson
NORC at University of Chicago	Kennon Copeland
Premier Inc.	Erik Swanson
THINK-Health and Health Populi	Jane Sarasohn-Kahn
United Healthcare	Diana Lisi

NOTE: The health plan organizations listed here do not necessarily participate as data contributors. All health plan data contributors participate in the CAQH Index Advisory Council, but are not listed here to ensure data privacy.

Appendix A: 2016 CAQH Index Transaction Reporting Overview

The CAQH Index aggregates data from participating health plans and providers. To avoid disclosure of participating entities, no aggregate benchmarks are produced when there are fewer than three participating entities reporting data for that national estimate. The below table outlines the transactions included in each of the estimates in this report; for medical and dental if the two sectors are reported separately. A CAQH Index goal is to include data for all twelve transactions, where feasible.

	ADOPTION		COST PER TRANSACTION	NATIONAL POTENTIAL COST SAVINGS		TIME PER TRANSACTION FOR PROVIDERS
	Medical	Dental		Medical	Dental	
Claim Submission	●	●	●	●	●	●
Eligibility and Benefit Verification	●	●	●	●	●	●
Claim Status Inquiry	●	●	●	●	●	●
Claim Payment	●	●	●	●	●	●
Remittance Advice	●		●	●		●
Prior Authorization	●		●	●		●
Referrals	●					
COB/Crossover Claims	●					
Claim Attachments	●		●	●		

Appendix B: Detailed Methodology

Recruitment

Health plan and providers were recruited using a number of methods, including direct outreach (e.g., email/telephone), webinars and other web postings. CAQH internally coordinated the recruitment of health plan data contributors and collaborated with the National Dental EDI Council (NDEDIC) for targeted outreach to dental health plans. CAQH partnered with Milliman, Inc. in 2014 and NORC at University of Chicago (NORC) in 2015 and 2016 to coordinate and manage provider data recruitment. Milliman, Inc. and NORC developed and implemented comprehensive plans to recruit a nationally representative pool of provider participants.

Data Collection

Adoption Rates

Adoption rates are estimated using only data submitted by commercial health plans. A detailed data submission guide was developed and distributed to potential health plan data contributors to ensure standardized definitions and collection of data elements. In addition, CAQH hosted and archived a series of webinars to provide guidance on completion of the data collection tools.

Health plan contributors submitted data directly to CAQH. All data submissions were reviewed and evaluated for missing or incomplete data and for potential errors. Any probable deficiencies were discussed directly with the submitting entity and were adjusted as necessary.

All transactions were classified in three categories:

- **Fully Electronic**—Includes electronic transactions conducted using the adopted HIPAA standard (shown in Table 1).
- **Partially Electronic**—Includes partially electronic solutions, including web portals and IVR systems.
- **Fully Manual**—Includes all transactions requiring end-to-end human interaction, including telephone, fax and mail.

Cost of Transactions

Separate, but comparable, data collection tools were developed for health plans and providers to estimate the fully loaded labor costs (e.g., including personnel benefits and other personnel-related overhead costs) for each transaction. This year, the provider data collection tool was revised to more reliably estimate the time providers spend conducting each transaction. Respondents rely on a variety of internal reporting systems to produce cost and labor time estimates. These exact systems vary across health plans and providers. Whether the transaction was electronic or manual, estimates include only resources required to complete the actual transaction; they do not include the labor or other costs associated with preparing materials for the transaction, resolving issues with the transaction or subsequent follow-up. Transactions were classified in two categories for all cost-related analyses:

- Electronic—For health plans, these include all transactions conducted using either the HIPAA standardized transaction, comparable electronic data interchange technology, web portal or IVR (e.g., fully electronic and partially electronic from above). For providers, these include only those transactions conducted using the adopted HIPAA standard (e.g., fully electronic from above), as web portal and IVR transactions require full human effort on the provider side of the transaction.

- Manual—For health plans, these include all transactions conducted via telephone, fax or mail (e.g., fully manual from above). For providers, these include the same with the addition of web portal and IVR transactions (e.g., partially electronic and fully manual from above).

Data Analysis

For the purposes of this report, all analyses were conducted in the aggregate to ensure individual contributors were not identifiable according to established data-sharing agreements. Some data contributors were not capable of reporting adoption and cost for all transactions or all methods. Plans not able to report all methods, or not reporting during the entire study period (2012 – 2015), were not included on a transaction-by-transaction basis.

Adoption Rates

For each transaction studied, the annual adoption rates were computed by method as a proportion of the total volume by transaction. The annual percentage point change is presented for transactions with multiple years of available data, and was calculated as the difference in percent in Year 2 and percent in Year 1.

Transaction Cost and Time Estimates

Cost per transaction was computed for each transaction using weighted averages based on volume of enrollment for health plans and volume of transactions for providers, by transaction. The weighted averages per transaction by method were used to estimate the potential cost savings for each transaction as the difference between the cost of electronic and manual transactions. Similarly, the time per transaction estimates were computed using the minimum, maximum and average time for each transaction and average staff salaries with weighted averages based on volume of transactions for providers, by transaction type and method.

Potential Commercial Healthcare Industry Savings

COST

For each transaction, the potential national savings were estimated using the enrollment levels, volume and cost estimates from the contributing health plans and the cost per transaction from providers. For each transaction, there are costs associated with sending and receiving the transaction. For example, when a claim is faxed to a health plan, resources are consumed when the provider sends and when the health plan receives the claim. As such, cost savings are estimated with consideration for labor for both sending and receiving transactions. Transactions are still classified as outlined above—electronic and manual. This two-step process is described below:

1. **Estimate National Volume—**For each transaction, the total volume of transactions occurring in the U.S. commercial industry is estimated based on the proportion of the U.S. commercial enrollment represented by contributing health plans. The volume of covered lives for all non-participating commercial health plans is captured from the AIS Directory of Health Plans. The extrapolated national volumes of each transaction are calculated by method as follows for both health plans and providers:

$$\textit{Extrapolated Volume (for each modality)} = \frac{\textit{Volume Reported by Health Plans}}{\textit{Percent of Commercial Enrollment Represented}}$$

2. **Estimate National Cost—**To estimate the potential savings from the industry achieving full adoption of electronic transactions, costs are estimated by multiplying the estimated national volume of manual transactions (from the previous step) by the cost difference between the electronic and manual transactions, by transaction type.

TIME

The estimate of potential national time savings was calculated similar to the potential national cost savings, with the cost savings being replaced with the time difference between the minimum time for manual and electronic transactions. This method likely produces a very conservative estimate of potential national time savings.

Notable Data Limitations

The estimates and projections in this report are subject to several limitations. Some of these are definitional—an inherent part of the study process chosen—but in other cases limitations are due to data collection. Some of the notable limitations for estimating adoption levels are outlined in the table below.

TRANSACTION TYPE	LIMITATIONS
Claim Submission/Receipt	■ Should a provider submit a claim manually, and a trading partner translate the manual claim to an electronic claim and then submits to the health plan, the claim is reported as electronic. ■ Estimates include claim submissions for payment and transmission of encounter information made only for the purpose of reporting care delivery (e.g., capitation), as well as adjudicated claims resulting in no payment.
Eligibility and Benefit and Claim Status Inquiries	■ Duplicate inquiries per claim are not distinguishable in the data collected by the CAQH Index. ■ Bundled transactions may lead to underestimating manual transactions. For example, call center representatives may respond to multiple questions in a single phone-based inquiry, resulting in an undercounting of manual transactions.
Claim Payments	■ The count of claims submitted and payments are not comparable due to: ● Multiple claims are often paid in a single payment. ● Some health plans are unable to distinguish between claims submissions for payment and transmission of encounter information made only for the purpose of reporting care delivery. ● Adjudicated claims resulting in no payment are included. ■ These estimates do not include payments made by patients directly, such as through health savings accounts.
Remittance Advices	■ Some health plans reported now posting 100 percent of remittances to a plan-sponsored web portal, regardless of whether the remittance was also sent via HIPAA standardized transaction, in combination with EFT, or via printed paper. The CAQH Index reports the number of remittances that were accessed through a portal, so there may be some duplicate counts if a provider received an electronic or paper remittance and also accessed the portal remittance.
Prior Authorizations and Referrals	■ The CAQH Index does not distinguish transactions by origin or source. Prior authorizations sent manually from a provider to a clearinghouse, and then converted to a ASC X12N 278 and sent electronically to the health plan, are counted as fully electronic.

On balance, the potential industry cost savings estimates are likely underestimated in some areas and overestimated it in others:

- By definition, costs and savings are reported solely for the transaction itself, not the time and cost associated with gathering information for the transactions. These untracked costs could be extensive for some health plans and providers, but to the extent they would be incurred regardless of whether the transactions were electronic or manual, are not included in these analyses.
- The simplifying convention of estimating savings opportunity, based on the full gap between current levels of electronic administrative transaction adoption and full adoption, was used. This latter approach overestimates the opportunity to reduce costs in cases where achieving 100 percent adoption may not be realistic.
- The estimates of potential savings also assume a strict demarcation of manual vs. electronic transactions, where in reality some automated processes may sometimes require manual oversight. Clearinghouses that act as intermediaries between health plans and providers may sometimes convert transactions from manual to electronic, or vice versa. This may cause over- or under-estimation of the potential for savings, especially for providers.

Endnotes

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8 For health plans, these include all transactions conducted using either the HIPAA standardized transaction, comparable electronic data interchange technology, web portal, or IVR (e.g., fully electronic and partially electronic from above). For providers, these include only those transactions conducted using the adopted HIPAA standard, as web portal and IVR transactions require full human effort on the provider side of the transaction.

9 For health plans, these include all transactions conducted via telephone, fax, or mail (e.g., fully manual). For providers these include the same with the addition of web portal and IVR transactions (e.g., partially electronic and fully manual).

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