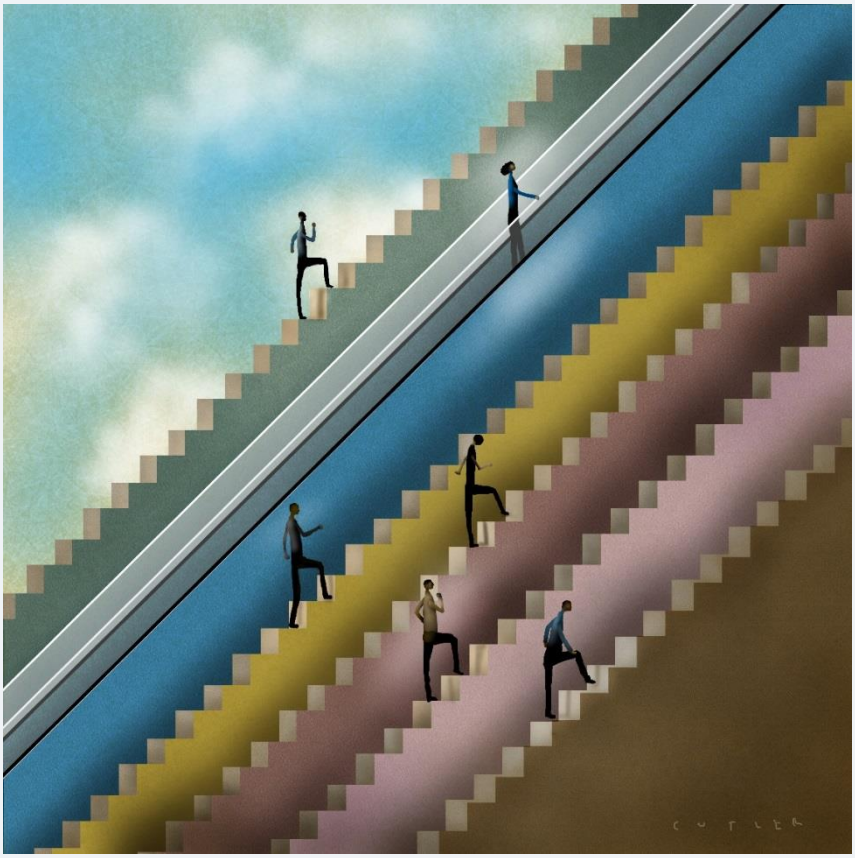
2014 CAQH Index™

Electronic Administrative Transaction Adoption and Savings

Calendar Year 2013



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EXECUTIVE SUMMARY

A quiet but important revolution has taken place within healthcare administration over the past decade. The dramatic shift from a paper-based culture to electronic information transactions has increased accuracy and productivity, reducing costs and the "friction" experienced by healthcare providers and health insurance plans. Many claim-related transactions have been streamlined through industry consensus processes and codified under the administrative simplification provisions of the Health Insurance Portability and Accountability Act (HIPAA) and the Affordable Care Act (ACA). However, the need for and potential gains from a more widespread use of electronic transactions remains significant.

Measuring the progress of this transition is key to understanding which administrative transactions are successfully completing the shift, and which processes require greater efforts on the part of health plans, providers and policymakers to do so. The CAQH Index tracks the adoption[1] of electronic transactions for several routine business interactions between healthcare providers and health insurance plans, and estimates potential cost savings from continued replacement of manual transactions with electronic methods.

The 2013 CAQH Index[2] was the first conducted by CAQH and serves as a baseline for tracking progress in the transition toward electronic transactions. The 2013 CAQH Index included data from the calendar year 2012. For the 2014 CAQH Index, we again studied the same transactions: claim submission, eligibility and benefit verification, prior authorization, claim status, claim payment, and remittance advice (explanation of payments or benefits). We also measured two transactions for the first time: claim attachments and prior authorization attachments.

The 2014 CAQH Index is based on detailed submissions of data counts from health plans representing 112 million enrollees – almost 45 percent of the privately insured U.S. population. These responding plans submitted data to CAQH for analysis on more than four billion transactions that took place in 2013. We use this data to measure transactions by type (electronic vs. manual) for both health plans and healthcare providers – the two main parties to each transaction.

Overall, the 2014 CAQH Index indicates that the use of electronic transactions is progressing modestly, but adoption rates vary widely among health plans. Vast numbers of transactions are still performed manually, such as by phone, fax or mail. Health plans have expanded web-based direct data entry systems for providers' use, but these types of interfaces still require providers to enter data manually. We estimate that the industry as a whole could save about $8 billion annually by expanding the use of fully automated electronic transactions for six types of transactions alone, and that most of the savings would accrue to healthcare providers.

An overview of key 2014 CAQH Index highlights is available in Appendix D.

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[1] In this report, we often use the terms "adoption" or "adoption rate" to refer to the use of electronic transactions. These terms are typically used in discussion of the switch from paper to electronic transactions. Better terms would probably be "use" or "use rate," since health plans and many providers use both electronic and manual processes, and we are measuring the amounts, or rates, of their use. However, "use" is often used to refer to health services utilization in the healthcare literature. To avoid confusion, we refer to "adoption" instead – even though "adoption" is a bit of a misnomer stylistically, it seems like the clearer choice for this report.

[2] 2013 CAQH Index©, May 5, 2014 revision, www.CAQH.org

Key Findings: Electronic Transaction Adoption

Adoption Varies by Type of Transaction. Summary Table 1 shows the reported adoption rates of electronic transactions in calendar year 2013. Claim status transactions were 72 percent electronic, and 58 percent of claim payments were transmitted by electronic funds transfer, with the remaining 42 percent of claim payments sent by paper check. Overall, for health plans and providers combined, claim submission had the highest adoption rate in 2013 (92 percent) and prior authorization had the lowest overall rate (35 percent). Eighty-two percent of eligibility and benefit verification inquiries and responses are handled electronically, and about half of remittance advice transactions, which explain claim payments, were sent electronically.

More Transactions Remain Manual for Healthcare Providers. Summary Table 1 also shows the 2013 adoption rates of electronic transactions broken out by health plans versus healthcare providers. For the CAQH Index, automated standardized transactions that meet the adopted standards and operating rules under HIPAA are defined as fully electronic for both health plans and providers. However, some other types of electronic transactions that require providers to input data manually, such as use of health plan web portals or interactive voice response (IVR) systems, are considered electronic for health plans but are manual for providers. Thus, transactions that use web portals and IVR systems extensively, such as eligibility and benefit verification, prior authorization, and claim status, have higher rates of electronic adoption for health plans than for providers.

Summary Table 1. Electronic Transaction Adoption, All Electronic Transactions, Health Plans, Healthcare Providers and Combined, 2013
(percent of transactions)

	Health Plans (HIPAA standardized, Web Portal, IVR)	Healthcare Providers (HIPAA standardized)	Plans and Providers Combined Average
Claim Submission	92%	92%	92%
Eligibility and Benefit Verification	95%	69%	82%
Prior Authorization	64%	7%	35%
Claim Status Inquiry	90%	54%	72%
Claim Payment	58%	58%	58%
Remittance Advice	55%	47%	51%

Source: 2014 CAQH Index. All responding health plans.
Notes: Electronic transactions include HIPAA standardized transactions, which are considered fully electronic for both health plans and healthcare providers, as well as "partially electronic" transactions via health plans' web portals or interactive voice response (IVR) systems, which are considered electronic for health plans, but manual for providers. Industry-wide adoption rates represent the average for health plans and providers.

Electronic Adoption Rates Rose Modestly in 2013. In general, adoption rates for fully electronic transactions (HIPAA standardized transactions that are electronic and automated for both health plans and providers) increased slightly between 2012 and 2013. Because the data specifications for the 2014 CAQH Index were consistent with those used in the 2013 CAQH Index, we can show year-over-year comparisons. Summary Table 2 shows adoption rates among plans that responded in both years for fully electronic HIPAA standardized transactions. The 2014 report was the first year that the CAQH Index directly analyzed data on prior authorization transactions, so comparable estimates for fully electronic transaction rates for 2012 are not available.

Summary Table 2. Fully Electronic (HIPAA standardized) Transaction Adoption Rates, Health Plans Reporting Both 2012 and 2013 Data
(percent of transactions)

	Fully Electronic (HIPAA standardized)	
	2012	2013
Claim Submission	90.2%	91.8%
Eligibility and Benefit Verification	64.7%	65.3%
Prior Authorization	*	6.7%
Claim Status Inquiry	47.5%	49.6%
Claim Payment	49.8%	57.1%
Remittance Advice**	42.7%	46.4%

Source: 2014 CAQH Index. Health plans reporting 2012 and 2013 data.
*Incorporated into the main CAQH Index data collection process for 2013 data; breakdown for 2012 not available.
**2012 Remittance Advice adoption percentage was revised slightly for consistency with the 2013 approach.

The Number of Fully Electronic (HIPAA standardized) Transactions Reported by Health Plans Increased Significantly. Although the adoption rates for fully electronic standardized transactions have increased moderately, the volume of such transactions jumped for several categories in 2013 (see Summary Table 3). For example, the volume of fully standardized electronic transactions grew by double-digit rates for claim status (+23%), eligibility and benefit verification (+14%) and claim payment (+14%). Partially electronic transaction volume also grew, while the volume of fully manual transactions dropped sharply. This may be because health plans were required by federal statute to comply with operating rules for electronic eligibility and benefit verification and claim status inquiries on January 1, 2013. The regulations included a requirement for health plans to offer these two transactions in real time, which is a capability that makes the transactions more accessible. This said, national compliance rates regarding Operating Rule regulations are not available.

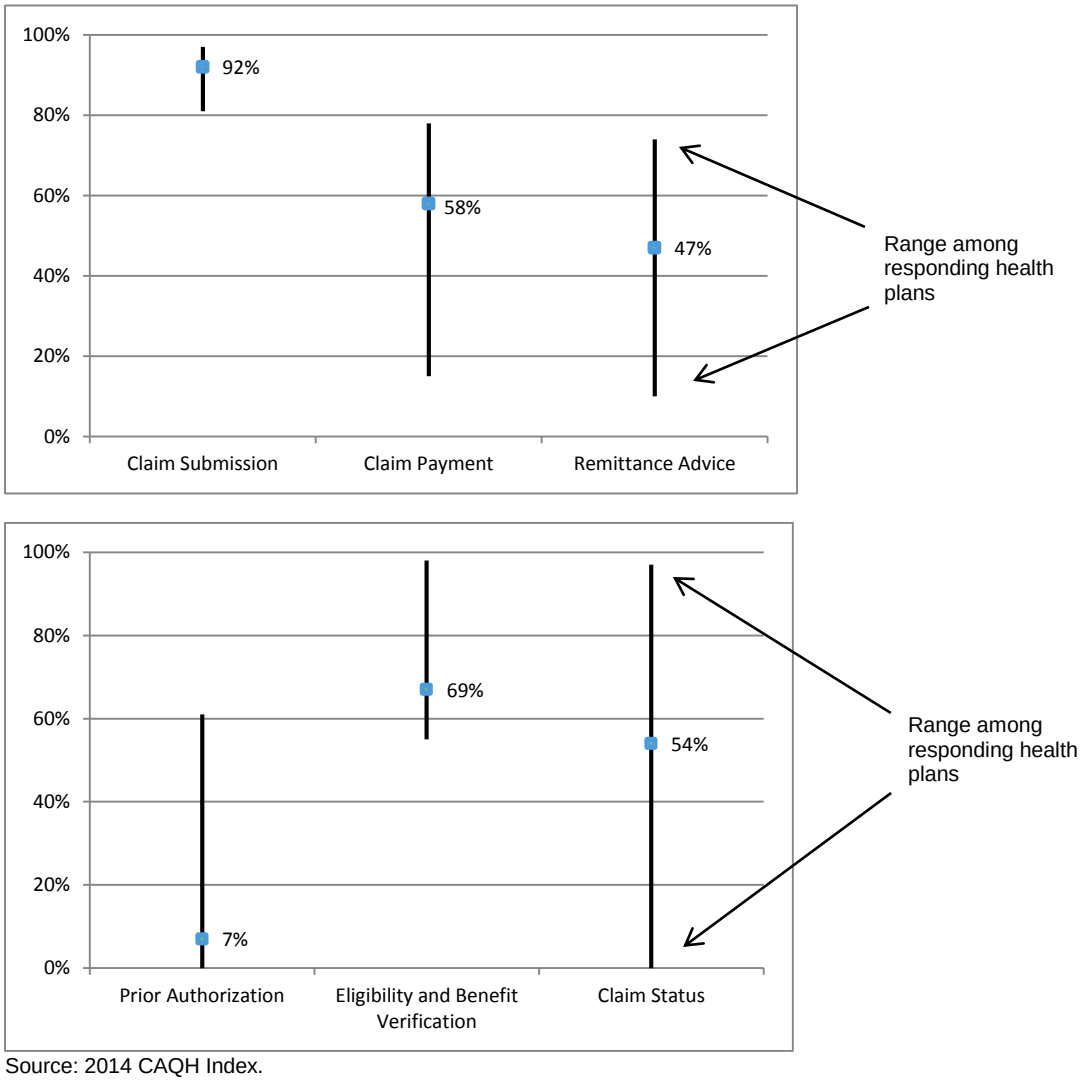
Summary Table 3. Year-over-Year Change in Number of Transactions Reported by Health Plans Reporting Both 2012 and 2013 Data
(annual percentage change from 2012 to 2013)

	Fully Electronic (HIPAA standardized)	Fully Manual (Phone, Fax)	Partially Electronic (Web Portal, IVR)
Claim Submission	+2%	-15%	NA
Eligibility and Benefit Verification	+14%	-1%	+13%
Claim Status Inquiry	+23%	0%	+17%
Claim Payment	+14%	-15%	NA
Remittance Advice	+8%	-16%	+52%

Source: 2014 CAQH Index.
Note: NA = not applicable.

Health Plans Reported a Wide Range of Electronic Adoption Rates. The range of adoption of fully electronic standardized transactions varied widely among responding health plans. The electronic claim submission rate had the narrowest range of adoption (16 percentage points), from a high of 97 percent to a low of 81 percent (see Summary Figure). Other transactions had even wider ranges of adoption. The range of electronic transaction adoption for eligibility verification ranged from a high of 98 percent to a low of 55 percent. Use of electronic funds transfer (EFT) for claim payments ranged from a high of 78 percent to a low of 15 percent, and standardized electronic remittance advice ranged from a high of 74 percent to a low of 10 percent. The largest range of adoption rates of fully electronic transactions among health plans, claim status inquiries, had a high of 97 percent and a low of zero percent (i.e., no adoption by some health plans).

Summary Figure. Average and Range of Adoption Rates for Fully Electronic (HIPAA standardized) Transactions among All Responding Health Plans, 2013



Source: 2014 CAQH Index.

Key Findings: Estimates of Potential Savings

To estimate the potential annual savings available to health plans and healthcare providers for a complete shift from manual to electronic transactions, the CAQH Index measured costs per transaction for both electronic and manual transactions. The 2014 CAQH Index (also referred to in this report as the 2014 Index) computed health plans' average costs per transaction from the data provided by the responding health plans. Milliman Inc. surveyed healthcare providers' costs per transaction for the 2014 Index through a separate data collection process and in-depth interviews with a variety of healthcare facilities and practices.[3]

Per-Transaction Costs are Dramatically Higher for Manual vs. Electronic Processes. Summary Table 4 shows the savings opportunity in dollars per transaction for health plans and providers, as well as the combined sum. For health plans, the 2014 Index found that costs for manual transactions averaged about $2 per transaction for the six main transaction categories studied; costs of electronic transactions ranged from about 5 to 10 cents per transaction. Healthcare providers' estimated costs per transaction averaged more than $5 for manual transactions and approximately $1.60 for each electronic transaction. For example, the transaction with the highest estimated savings per transaction was for prior authorization – nearly $13 – where the difference between manual and electronic costs was nearly $4 per transaction for health plans and $9 per transaction for healthcare providers.

Summary Table 4. Estimated Savings Opportunities, Per Transaction, Health Plans, Healthcare Providers and Combined, 2013
(dollars per transaction)

	Health Plan Savings Opportunity	Healthcare Provider Savings Opportunity	Combined Savings Opportunity
Claim Submission	$0.57	$2.23	$2.80
Eligibility and Benefit Verification	$2.49	$3.07	$5.56
Prior Authorization	$3.95	$8.93	$12.88
Claim Status Inquiry	$4.81	$1.23	$6.04
Claim Payment	$0.14	$3.04	$3.18
Remittance Advice	$0.13	$4.17	$4.30

Sources: 2014 CAQH Index, Milliman Inc.

Importantly, the cost of each transaction studied was focused narrowly on the sending and receiving of information. For example, transactions costs for sending and receiving information manually could include time spent on the phone or sending fax messages, based from data on the salaries, benefits and overhead costs of the staff handling the transactions. Costs for electronic transactions could include software, administration, and tech support, spread over the number of electronic transactions processed. The transaction costs provided do not take into account the effort required to prepare information for a given transaction or to work with the results of a transaction response, such as the costs of physicians' or nurses' work time to prepare information for the transactions; only the direct costs of handling the transactions themselves were counted.

[3] CAQH relied on Milliman Inc. for the estimates of providers' costs per transaction. CAQH is responsible for the aggregated data from health plans and the overall contents of this report and any conclusions made herein. Milliman's contribution to this report was prepared by Susan Philip, MPP, Healthcare Management Consultant, and Andrew Naugle, Principal and Healthcare Management Consultant.

There Is a Potential for More Than $8 Billion in Annual Savings from Greater Adoption of Electronic Transactions. The CAQH Index estimates the potential cost savings that could accrue to health plans and to providers from completely shifting to fully electronic transactions for the six transactions studied. To estimate the annual savings potential, CAQH applied the potential savings per transaction to the remaining manual transactions for health plans and providers, and then extrapolated the savings potential from the transactions of 112 million health plan enrollees to the commercially covered population as a whole (approximately 245 million health plan enrollees).[4] Of course, we cannot be sure the adoption rates and costs per transaction for the rest of the industry are similar to those of the 2014 Index respondents. However, the sheer size of the 2014 Index response and our belief that some 2014 Index respondents may be industry leaders or "first movers" in the transition from manual to electronic business transactions give us reason to believe that our estimates for the industry are reasonable, and may even be somewhat conservative.

Most Savings from Greater Electronic Adoption Would Accrue to Healthcare Providers. Summary Table 5 shows estimated potential savings for the six main transactions studied. For all of the transactions studied, most of the savings would accrue to healthcare providers. For example, of the $4 billion in potential savings available for eligibility and benefit transactions, CAQH estimates that approximately $3.5 billion in potential savings would be available for healthcare providers alone. We estimate that the potential savings from these six transactions total about $8.3 billion per year for health plans and providers combined, with almost $7.2 billion in potential savings – 86 percent – to providers alone.

Summary Table 5. Projected Annual Savings Opportunity, 2013
(millions of dollars)

	Industry Savings Opportunity	Providers Savings Opportunity	Percent of Savings Opportunity for Providers
Claim Submission	$670	$540	81%
Eligibility and Benefit Verification	$4,000	$3,520	88%
Prior Authorization	$530	$450	85%
Claim Status Inquiry	$830	$450	54%
Claim Payment	$740	$710	96%
Remittance Advice	$1,540	$1,500	97%
Total	**$8,310**	**$7,170**	**86%**

Source: 2014 CAQH Index.

[4] Our extrapolation does not include transactions for Medicare and Medicaid that are not handled by commercial health plans.

Call to Action

It has been almost 20 years since HIPAA established rules for the adoption of electronic transaction standards and the use of electronic administrative transactions over manual processes. While the healthcare industry has made significant progress in the intervening years, the transformation is far from complete. The findings of the CAQH Index present not only a measure of the progress made toward electronic transactions, they also can help inform and direct future industry initiatives and government regulation. A sustained effort by health plans and related business partners, vendors, providers, hospitals, government agencies patients and employers is essential to propel the transition to electronic administrative transactions successfully forward. Over time, the value and return on investment for all stakeholders should accelerate as interactions between providers and health plans, as well as intermediaries such as clearinghouses, become less costly and more uniform, predictable, timely, accurate and secure.

Participation Opportunities in 2015

CAQH encourages health plans and providers to participate in the Index process by contributing data and thereby helping to broaden measures of progress toward electronic transactions. Participants may receive organization-specific benchmark and comparison data. For 2014, CAQH introduced benchmarks for single-state Blue Cross and Blue Shield plans, and breakdowns for commercial coverage vs. Medicare Advantage plans. For the 2015 Index, we anticipate additional data categories will become available to participants, as well as preliminary trend information for transactions studied for the first time in 2014. For more information and to inquire about participation in the CAQH Index, please see www.caqh.org/Index or contact Jeff Lemieux of CAQH Research at JALemieux@caqh.org.

INTRODUCTION

For generations, the paper-based culture of the U.S. health system was deeply entrenched. Historically, admission forms were filled out on paper, faxes were sent from doctor to doctor, claims were sent on paper and paid by check, and the explanation of benefits arrived in the mail. Inquiries about coverage and benefits were done by telephone, adding to healthcare providers' frustrations and health plans' administrative costs.

Most of the attention in healthcare IT in recent years has been on the implementation of electronic medical records, which can replace the use of the traditional paper "charts" for each patient. Electronic clinical systems can pave the way for better communication between providers[5] and coordination of care for patients, potentially eliminating redundancies and errors. However, an equally important technological change is occurring on the business (non-clinical) side of health care. Providers are increasingly using practice management IT systems that can communicate automatically with health insurance plans.

Over the past two decades, both commercial and government-led initiatives have facilitated the use of electronic and automated methods instead of paper for administrative and claim-related transactions. With today's technology, it is possible for computer systems at hospitals and physicians' offices to check patients' insurance eligibility and benefit information automatically, as soon as a visit is scheduled. Afterward, claims can be submitted and checked electronically, and payments can be received by direct deposit, with an electronic explanation of benefits or payments sent directly to the provider's accounting system.

The CAQH Index tracks industry-wide progress on this transition from manual (paper, fax, telephone) to electronic back-office business transactions. At the current level of adoption and costs, we estimate that the healthcare industry is already saving tens of billions of dollars per year by using industry standards to process just six types of routine claims-related transactions electronically.

Our findings indicate that billions of additional dollars could be saved annually by completing the shift to electronic methods for these six transactions, and that most of the remaining potential for savings from continued automation would accrue to healthcare providers and facilities.

Of course, these six transaction types are just some of the possible business-related automated communications that could be made more efficient by electronic processing. Starting in 2014 and continuing annually, CAQH will measure new electronic transactions that have the potential to create additional savings through standardization and automation. For example, 2014 represents the first year that the CAQH Index has counted attachments associated with claim submissions and prior authorization requests. (For the 2014 Index, the data on attachments are very preliminary and are not yet included in the savings estimates.)

CAQH hopes to inspire health plans and providers to act on the remaining savings opportunities. We encourage and welcome industry input about the findings and methodology used to benchmark progress.

[5] In this report, we often use the shorthand terms "healthcare providers" or "providers" to include hospitals and other healthcare facilities, as well as clinical outpatient centers and physicians' offices. We also use shorthand terms for some transaction types. For example, "eligibility and benefit verification" may be referred to as "eligibility verification, "claim status inquiries" may be referred to as "claim status," and "claim remittance advice and posting and receiving of payments" may be referred to as "remittance advice."

We invite health plans, hospitals, clinical facilities, and other types of providers to contribute data to future analyses, and, in turn, receive critical information about how your organization compares with our benchmark averages.

About This Report

The 2014 Index is the second published by CAQH. For 2014, eight administrative transactions were analyzed, including six that were also studied in our baseline 2013 CAQH Index report[6]: claim submission, eligibility verification, prior authorization, claim status, claim payment, and remittance advice (see Table 1). The 2014 Index also studies two transactions for the first time – attachments to claims and to prior authorization requests – and reflects an updated method of estimating the number of prior authorization or pre-certification requests from that used in the 2013 CAQH Index.

Table 1. Transactions Studied for the 2014 CAQH Index

	Adopted HIPAA Standard	Description
Claim Submission	ASC X12N 837	A request to obtain payment or transmission of encounter information for the purpose of reporting health care.
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.
Prior Authorization	ASC X12N 278	A request from a provider to a health plan to obtain an authorization for health care, or a response from a health plan for an authorization.
Claim Status Inquiry	ASC X12N 276/277	An inquiry from a provider to a health plan to determine the status of a health care claim or a response from the health plan.
Claim Payment	NACHA Corporate Credit or Deposit Entry with Addenda Record (CCD+)	The transmission of payment, information about the transfer of funds, or payment processing information from a health plan to a provider.
Remittance Advice	ASC X12N 835	The transmission of explanation of benefits or remittance advice from a health plan to a provider.
New for the 2014 Index:		
Claim Attachments	No standard adopted by HHS	Additional information submitted with claims or claim appeals, such as medical records to support the claim.
Prior Authorization Attachments	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.

Source: 2014 CAQH Index.
Notes: HIPAA = Health Insurance Portability and Accountability Act; HHS = U.S. Dept. of Health and Human Services.

[6] 2013 CAQH Index™, May 5, 2014 revision, available at www.CAQH.org

The CAQH Index collects an extensive quantitative dataset on counts of administrative transactions. Health plans representing nearly 112 million covered lives contributed data from calendar year 2013 for the 2014 CAQH Index. The dataset includes information from more than 1.4 billion claims and more than 4 billion transactions. By contrast, the 2013 Index, which was based on results from calendar year 2012, collected data from health plans representing 104 million covered lives and included information on more than 1 billion claims and 3 billion transactions (see Table 2). All of the 2013 Index health plan respondents participated in 2014 as well, allowing year-over-year comparisons.

Table 2. Size and Year of Health Plan Response, 2014 CAQH Index vs. 2013 CAQH Index

	2014 Index	2013 Index
Enrollment	112 million	104 million
Claims Submitted	1.4 billion	1.3 billion
Total Transactions	4.2 billion	3.3 billion
Calendar Year	2013	2012

Sources: 2014 CAQH Index and 2013 CAQH Index.

We estimate that the data contributed for the 2014 Index account for approximately 45 percent of the privately insured U.S. population. Data contributors are primarily large, multi-state commercial health plans and large, single-state health plans (generally Blue Cross and Blue Shield plans). The data include information on administrative transactions for all or most of the health plans' lines of business, including commercial, Medicare Advantage, and Medicaid HMO.

Because the 2014 CAQH Index measures are virtually identical to those used in our benchmark 2013 Index, this year's report contains some preliminary trend analysis. Of course, one year's change may not be sufficient to assess longer-term trends; we will continue to track these measures using identical or similar processes in coming years to capture ongoing trend information.

For the 2014 Index, CAQH performed the 2014 analysis of numbers of transactions and costs per transaction for health plans, and Milliman Inc. performed the 2014 study of costs per transaction for healthcare providers. In addition to the data submissions, CAQH and Milliman interviewed health plan and provider respondents (respectively) to validate data, gain insights about the way the data were gathered, and to get their outlook and perspectives. The following sections explain the data sources and display adoption rates and the calculations of potential savings.

The CAQH Index Advisory Council (Advisory Council) helps guide the measurement strategy and set the specifications for data submissions for the CAQH Index. The Council is comprised of experts in claim-related and business processes (see Appendix A for a list of members in 2014).

For 2014, the CAQH Index Advisory Council concentrated on continuity with the data collection processes and measures used for the 2013 Index. For the 2013 Index, the Advisory Council paid particular attention to clarifying and detailing the measures, and drafting the Index *Reporting Standards and Data Submission Guide*.[7] The process to collect data for the 2014 CAQH Index was therefore built upon the detailed data submission requirements developed for the 2013 CAQH Index.

Looking forward to 2015, the Advisory Council expects to consider additional measures and continue to improve the scope and span of responding health plans and healthcare providers to support benchmarking by breaking out segments of the industry, such as multi-state plans vs. single-state plans, and product types, such as Medicare Advantage vs. commercial coverage.

[7] The 2014 Reporting Standards and Data Submission Guide is available at www.caqh.org/pdf/index.guide.pdf

DATA CHARACTERISTICS

To compute adoption rates for electronic transactions, the CAQH Index draws on an aggregation of data submitted by health plans. These data contributions detail the plans' annual transaction volumes by type of transaction. The 2014 CAQH Index Reporting Standards and Data Submission Guide specifies how the plans should gather and report the data, so that methodologies for reporting the data will be as close to identical as possible from plan to plan.[8]

The health plan dataset includes details on how transactions were performed (e.g., telephone, fax, email, paper delivery, web portal, IVR, HIPAA standardized electronic transactions, as applicable), which allows us to tabulate electronic and manual transactions for both health plans and healthcare providers. For example, we consider IVR transactions reported by health plans as electronic (automated) for health plans but manual for providers, because only health plan systems are automated in this transaction. We also use the health plan dataset for our calculations of health plans' electronic vs. manual costs per transaction.

For the 2014 Index, the health plan data counts contains information from health plans representing 112 million enrollees (see Table 3). Plans with a combined enrollment of 95 million members in the large, multi-state category responded to the data submission request. Most of the remaining respondents were large, single-state Blue Cross and Blue Shield plans (17 million total members). One small regional plan responded in 2014; its data are included in the total but are not separately categorized.

Table 3. 2013 Enrollment and Transactions of Responding Health Plans (all types of transactions – electronic and manual – combined)

	All Responding Health Plans	Multi-State Health Plans	Large Single-State Health Plans
Members (millions)	112	95	17
Transactions (millions)	4,150	3,470	680
Claims Submitted	1,440	1,170	270
Eligibility and Benefit Verification	1,700	1,410	290
Prior Authorization	24	20	4
Claim Status Inquiry*	370	320	40
Claim Payment*	250	220	30
Remittance Advice*	310	260	40
Claim Attachments*	58	57	2
Prior Authorization Attachments*	2.1	2.0	0.1

Source: 2014 CAQH Index.
Note: All responding plans include data from one small plan not shown separately. For this reason and due to rounding, the totals for all responding plans may not equal the sums from multi-state and large single-state plans.
*Claim status, claim payment, and remittance advice data are from plans representing 109 million enrollees. For all responding health plans, claim attachment data are from plans representing 103 million enrollees; prior authorization attachments are based on plans representing 49 million enrollees. The transactions counts above have not been adjusted to account for missing data.

[8] For the Reporting Standards and Data Submission Guide applicable for the 2014 Index, see http://caqh.org/index_contribute.php.

Table 4 illustrates the basic characteristics of the health plan dataset, including several preliminary benchmarks for multi-state and large, single-state plans. For the 2014 Index, we introduce these breakdowns of the data for these sub-groups mainly to help us assess the overall characteristics of the data and to facilitate comparisons between responding health plans and benchmarks from aggregations of similar organizations.

Table 4. 2013 Transactions Per Member Per Year and Per Claim Submitted (all types of transactions – electronic and manual – combined)

	All Responding Health Plans (average)	Multi-State Health Plans (average)	Large Single-State Health Plans (average)
Transaction Type	**Number of Transactions per Member (Enrollee) per Year**		
Claim Submission	12.9	12.3	15.6
Eligibility and Benefit Verification	15.2	14.9	16.9
Prior Authorization	0.2	0.2	0.3
Claim Status Inquiry	3.3	3.4	2.5
Claim Payment	2.3	2.3	2.0
Remittance Advice	2.8	2.8	3.0
Claim Attachments	0.6	0.6	0.2
	Number of Transactions per Claim Submitted		
Eligibility and Benefit Verification	1.18	1.21	1.08
Prior Authorization	0.02	0.02	0.02
Claim Status Inquiry	0.26	0.28	0.16
Claim Payment	0.18	0.19	0.12
Remittance Advice	0.22	0.23	0.19
Claim Attachments	0.04	0.05	0.01
	Number of Attachments per Prior Authorization Transaction		
Prior Authorization Attachments	0.2	0.2	0.2

Source: 2014 CAQH Index.
Note: This table counts all transactions per year via all types, including manual and electronic.

Of course, benchmarking among types of plans can be affected by their product mix of elderly vs. non-elderly members. Some responding health plans were able to break out their data response by product type, such as commercial coverage for the non-elderly vs. Medicare Advantage (see Table 5). For example, among responding plans with product-level detail, there were many more claims submitted per year for Medicare Advantage enrollees (31 per member) compared with commercial enrollees (12 per member).

Table 5. Median Number of Transactions Per Member and Per Claim (2013)
(all types of transactions – electronic and manual – combined)

	Commercial, Non-Medicare and Non-Medicaid (median)	Medicare Advantage (median)
Transaction Type	**Transactions per Member (enrollee)**	
Claim Submission	12.4	31.0
Eligibility and Benefit Verification	12.7	12.9
Prior Authorization	0.2*	1.1
Claim Status Inquiry	3.2	1.6
Claim Payment	1.8	3.3
Remittance Advice	2.2	5.9
	Transactions per Claim Submitted	
Eligibility and Benefit Verifications	1.04	0.52
Prior Authorization	0.01	0.03
Claim Status Inquiry	0.22	0.06
Claim Payment	0.15	0.11
Remittance Advice	0.23	0.17

Source: 2014 CAQH Index.
*Average.

Over time, we intend to use these breakouts by type of coverage and size of plan to help responding health plans benchmark their results more precisely, to better assess their progress against that of similar types of plans. Likewise, we hope to initiate benchmarks by region in coming years, so that responding plans can compare their results against regional averages.

ADOPTION OF ELECTRONIC TRANSACTIONS

The CAQH Index measures adoption of electronic transactions from the large dataset provided by health plans. Because 2014 is the second year of CAQH stewardship of the Index, we can begin to compare results over time.[9] There are two ways to do this:

- Using data from all responding health plans, and
- Using data only from health plans that participated in both years.

There are advantages and disadvantages to each method. Using all responding plans provides the best overall benchmark for the level of adoption rates, since it uses the full dataset in each year. However, the 2014 CAQH Index contains data from more health plans than the 2013 Index. Thus, when we compare the data for all responding plans from the 2013 Index with that of the 2014 Index, the difference could be explained by trends in adoption or simply by the particular results from the plans added to the 2014 Index sample. Therefore, it is also useful to look only at adoption rates among plans that were able to respond comparably in both years, which allows a purer look at year-over-year trends. However, the set of plans responding in both years is smaller than the overall set of respondents, which reduces the size of the sample dataset.

The following sections display adoption rates using both methods, first reflecting all responding health plans, and second using data only from plans participating in both years.

Adoption Rates Based on Data from All Responding Health Plans

Table 6 shows adoption rates for health plans, healthcare providers, and the combined "industry-wide" averages in data from 2012 and 2013. For several categories, the adoption rates for health plans were higher than for providers. As previously noted, many requests for eligibility verification, prior authorization, and claim status were not handled by fully electronic HIPAA standardized transactions, but were processed instead through health plans' web portals, which are electronic (automated) for health plans but require manual data entry by providers. Combined or "industry-wide" adoption rates represent the average of the experience of both health plans and providers – the two sides of each transaction.

For example, the overall electronic transaction rate for prior authorization is 35 percent, but that overall rate reflects a 64 percent electronic transaction rate for health plans (because plans' use of web portals and IVR is considered electronic), and only a 7 percent electronic transaction rate for providers (because web portal and IVR transactions are manual for providers). Likewise, eligibility and benefit verification has an 82 percent overall rate of electronic transmission, but the split is 95 percent for health plans and 69 percent for providers. Claim status requests were 72 percent electronic overall in 2013, 90 percent for health plans and 54 percent for providers.

9 The 2010 U.S. Healthcare Efficiency Index Report, a predecessor of the CAQH Index, used a sufficiently different methodology that trend comparisons are not possible.

For health plans and providers combined, the industry-wide adoption rate for electronic transactions studied was highest for claim submission (92 percent) in data from 2013. Conversely, a large share of claim payments and their corresponding remittance advice statements continued to be handled by paper checks and mail. Among all responding health plans, only 58 percent of claim payments were made electronically, and the remaining 42 percent were paid by check.[10]

Approximately half (47 percent) of remittance advice transactions were made by standardized electronic means, with a roughly equal percentage transmitted by mail (46 percent), and about 8 percent made via web portals. Some remittance advice transactions were duplicative. We estimate that about 1 percent was made both by standardized electronic transactions and mail. Based on interviews with health plans, we also believe that a substantial share was also duplicated on web portals, although we do not have precise counts of remittance advice transactions duplicated on portals from plans.

Table 6. Electronic Transaction Adoption, Health Plans vs. Healthcare Providers, 2012 and 2013 (percent of transactions)

	Health Plans (HIPAA standardized, Web Portal, IVR)		Healthcare Providers (HIPAA standardized)		Combined Industry-Wide Average	
	2012	2013	2012	2013	2012	2013
Claim Submission	91%	92%	91%	92%	91%	92%
Eligibility and Benefit Verification	95%	95%	66%	69%	81%	82%
Prior Authorization*	15%	64%	15%	7%	15%	35%*
Claim Status Inquiry	89%	90%	56%	54%	72%	72%
Claim Payment	56%	58%	56%	58%	56%	58%
Remittance Advice**	57%	55%	47%	47%	52%**	51%

Sources: CAQH 2014 Index (2013 data) and 2013 Index (2012 data). All responding health plans.
Note: IVR = interactive voice response.
* Incorporated into the main CAQH Index data collection process for 2013 data; 2012 data estimated by Milliman.
**2012 Remittance Advice adoption percentage was revised slightly for consistency with the 2013 figures.

Trends in Adoption Rates and Transaction Volume from Health Plans Reporting both 2012 and 2013 Data

Because more health plans provided data for the 2014 CAQH Index than for the 2013 CAQH Index, we looked to comparable plans – those reporting for both years – to assess trends in transaction volume. The year-to-year change in transaction volume can be thought of as something akin to "growth in same-store sales" reported in economic trend indicators. However, this is not a perfect analogy due to mergers, divestitures, or expanded reporting capabilities. Despite the challenges, however, we believe that analysis of data from health plans reporting in both years represents a reasonable way to evaluate trends.

[10] In 2013, responding health plans reported no payments made via Fedwire or bankcard networks. The 2013 Index did not collect data on payments made by that virtual cards. However, 2014 Index respondents indicated in interviews that they either did not use virtual cards in 2013, or that usage was a very small share of payments.

Table 7 shows the transaction adoption rates for 2012 and 2013 based on data from health plans reporting for both years, by type of transaction: fully electronic (standardized), fully manual (phone, fax, mail etc.) and partially electronic (web portal, IVR). In general, these plans reported a small increase in the adoption rates for fully electronic transactions, with a corresponding decrease in the rate of use for fully manual transactions. For example, among plans reporting for both years, the percentage of claim submissions received electronically rose from 90 percent in 2012 to 92 percent in 2013.

Table 7. Electronic Transaction Adoption Rates Reported by Health Plans Responding for Both 2012 and 2013
(percent of transactions)

	Fully Electronic (HIPAA standardized)		Fully Manual (Phone, Fax, Mail)		Partially Electronic (Web Portal, IVR)	
	2012	2013	2012	2013	2012	2013
Claim Submission	90%	92%	10%	8%	NA	NA
Eligibility and Benefit Verification	65%	65%	6%	5%	30%	30%
Prior Authorization	*	7%	*	36%	*	57%
Claim Status	48%	50%	9%	8%	43%	43%
Claim Payment	50%	57%	50%	43%	NA	NA
Remittance Advice**	43%	46%	50%	42%	8%	12%

Source: CAQH Index.
Note: NA = not applicable. Percentages may not sum to 100 percent due to rounding.
*Incorporated into the main CAQH Index data collection process for 2013 data; breakdown for 2012 not available.
**2012 Remittance Advice electronic adoption percentage was revised slightly for consistency with the 2013 figures.

Volume vs. Adoption Rates. Although year-over-year adoption rates only grew modestly, the volume of fully standardized electronic transactions grew by double-digit rates for several transactions in 2013 (see Table 8): eligibility and benefit verifications (+14%), claim status inquiries (+23%), and claim payments (+14%). The largest declines in the volume of manual transactions were for claim submission (-15%), claim payments (-15%) and remittance advice (-16%). However, the trend data indicate that while electronic transactions rose strongly for both standardized and partially electronic eligibility verification and claim status inquiry transactions, the number of manual transactions for those categories was either flat (0 percent change) for claim status or declined very slightly (-1 percent) for eligibility verifications.

Our interviews with health plans indicated that both of the eligibility verification and claim status categories saw a general surge in volume in 2013, possibly because of new federal regulations (see page 19) that promote electronic access and thus allow for more frequent checks on the status of claims. In addition, healthcare providers and vendors may be checking patients' eligibility and benefits more frequently to assist patients with information about their financial responsibilities. This may be especially important as more patients are covered by health benefit plans that have a high consumer financial responsibility.

Table 8. Year-over-Year Change in Transaction Volume (Number of Transactions) Reported by Health Plans Responding with Data for Both 2012 and 2013
(annual percentage change from 2012 to 2013)

	Fully Electronic (HIPAA standardized)	Fully Manual (Phone, Fax)	Partially Electronic (Web Portal, IVR)	Total Volume (All Transaction Types Combined)
Claim Submission	+2%	-15%	NA	0%
Eligibility and Benefit Verification	+14%	-1%	+13%	+13%
Claim Status	+23%	0%	+17%	+18%
Claim Payment	+14%	-15%	NA	-1%
Remittance Advice	+8%	-16%	+52%	-1%

Source: CAQH 2014 Index.
Note: NA = not applicable. Volume trends for Prior Authorization transactions not available.

A key factor for the 2013 increase in the volume of fully electronic claim status inquiries and eligibility and benefit verification requests may be that health plans were required by statute to comply with operating rules for those transactions on January 1, 2013. Operating rules are business rules that more clearly define expectations, such as the rights and responsibilities of all parties to the transactions, security requirements, transmission formats, response times, liabilities, exception processing and error resolution. Operating rules reduce costs and administrative complexities; the Affordable Care Act required that operating rules be adopted for all HIPAA administrative transactions.[11] Due to this ACA requirement, the market has received announcements regarding the regulations and their deadlines, and these communications may have generated a heightened awareness of the benefits of electronic transactions throughout the industry, possibly leading to more use of electronic transactions. Of course, while health plans were required to support the new operating rules in 2013, healthcare providers are only required to use them should they decide to conduct the transaction electronically.

Ranges of Adoption Rates for Fully Electronic (HIPAA standardized) Transactions

Within the type of fully electronic (HIPAA standardized) transactions, the range of adoption varied widely among responding health plans (see Table 9). This illustrates a notable difference in the progress individual health plans have made in adopting fully electronic transactions. This wide variance holds true whether respondents were large, multi-state or large, single-state health plans. For example, while the rate of adoption for electronic claim submission transactions ranged from a high of 97 percent to a low of 81 percent, the range for eligibility verification was much broader (a high of 98 percent and a low of 55 percent). For prior authorization transactions, the overall industry level of adoption of 7 percent for the standardized transactions was based on underlying responses ranging from 61 percent at one responding plan to zero, or no adoption, at others.

[11] See 45 CFR Parts 160 and 162 "Administrative Simplification: Adoption of Operating Rules for Eligibility for a Health Plan and Health Care Claim Status Transactions; Interim Final Rule.

The broadest range of adoption of the standardized electronic transactions among health plans was for claim status inquiries, with a high of 97 percent at one responding plan to a low of zero at another. Broad ranges of adoption were also found for use of electronic funds transfer (EFT) for claim payments, with a high of 78 percent to a low of 15 percent, and adoption of the standardized electronic remittance advice, which ranged from a high of 74 percent to a low of 10 percent.

Table 9. Range of Adoption Rates for Fully Electronic (HIPAA standardized) Transactions, All Plans, Large Multi-State Plans, and Large Single-State Plans
(percent of transactions)

	All Responding Plans		Large, Multi-State Plans		Large, Single-State Plans	
	Average	**Range**	**Average**	**Range**	**Average**	**Range**
Claim Submission	92%	81-97%	92%	90-94%	93%	81-97%
Eligibility and Benefit Verification	69%	55-98%	68%	64-81%	78%	55-98%
Prior Authorization	7%	0-61%	6%	0-10%	10%	0-61%
Claim Status Inquiry	54%	0-97%	55%	52-69%	44%	7-97%
Claim Payment	58%	15-78%	57%	15-69%	74%	62-78%
Remittance Advice	47%	10-74%	48%	30-58%	32%	10-74%

Source: CAQH 2014 Index.

ESTIMATED SAVINGS FROM ELECTRONIC TRANSACTIONS

The first step in evaluating potential savings from electronic transactions is to estimate costs per transaction (electronic and manual) for both health plans and healthcare providers. The next step is to extrapolate our count of the numbers of remaining manual transactions to an estimated national total for commercial coverage, which includes Medicare and Medicaid coverage that is provided by private health plans, such as Medicare Advantage plans. Our extrapolation is based on the enrollment of plans participating in the 2014 Index and overall counts of covered lives based on data from the AIS Directory of Health Plans. Finally, the potential savings is computed as the number of remaining manual transactions multiplied by the difference between electronic and manual costs per transaction.

Determining Costs Per Transaction

For the 2014 CAQH Index, we separately computed costs per transaction for health plans and healthcare providers. For health plans, the survey information on costs per transaction was included as part of the integrated data submission that also requested the data on transactions by type; a separate data collection exercise for healthcare providers was developed and fielded by Milliman Inc.

For both health plans and providers, the estimation process computes "fully loaded" costs per transaction (including benefits and other overhead costs associated with the employees performing and supervising the transactions). Our study focused on the actual resources required to submit a transaction and receive the result, including financial fees and fees paid to vendors or clearinghouses (intermediaries that process transactions between healthcare providers and health plans). However, our definition of costs per transaction did not include the resources required to prepare information for the transaction or resolve issues with a transaction, since those resources could be required regardless of whether the transaction was processed electronically or manually. Of course, the costs of physician, nurse, and health plan staff time to prepare information for inquiries and responses are likely substantial.

Health Plan Costs per Transaction. Among responding health plans, unit costs for manual transactions averaged slightly over $2 in 2013 (see Table 10). The simple average cost for all six major transaction types combined was $2.32. By weighting the responses according to the enrollment levels of responding plans, the average falls slightly, to $2.06 per transaction. Health plans' costs per electronic transaction averaged about 11 cents (simple average) to 5 cents (weighted average).

The weighted average is lower because larger health plans generally had lower costs per transaction than smaller plans, for both manual and electronic transactions. Based on our interviews, we believe this is mostly due to the effects of spreading costs over a larger scale, particularly for IT investments. For the purpose of computing savings, the weighted figures are used, since those are more representative of the industry as a whole.

Based on discussions with health plans, we believe that health plans are increasingly mailing multiple payment checks in the same envelope. Several plans reported that most mailings contained payments for multiple claims, which helps explain how the per-claim transaction costs for mailed claim payments can be considerably less than the cost of a postage stamp.

Table 10. Estimated Costs Per Transaction, Health Plans, 2013
(dollars per transaction)

	Simple Average	Weighted Average
	Manual Transactions	
Claim Submission	$1.01	$0.66
Eligibility and Benefit Verification	$3.50	$2.52
Prior Authorization	$4.38	$3.98
Claim Status Inquiry	$4.27	$4.85
Claim Payment	$0.40	$0.18
Remittance Advice	$0.34	$0.17
Average	**$2.32**	**$2.06**
	Electronic Transactions	
Claim Submission	$0.14	$0.10
Eligibility Verification	$0.06	$0.03
Prior Authorization	$0.10	$0.04
Claim Status Inquiry	$0.08	$0.03
Claim Payment	$0.14	$0.05
Remittance Advice	$0.14	$0.04
Average	**$0.11**	**$0.05**

Source: CAQH 2014 Index.
Note: For the industry-wide potential savings estimates, we used weighted average costs per transaction.

Providers' Costs per Transaction. To capture transaction costs from healthcare providers, Milliman conducted interviews with provider organizations and facilities representing a range of sizes, provider types, and regions of the country. Using the information gathered, Milliman prepared an estimate of the number of minutes required to perform each transaction by type for each organization participating in the study, and estimated the fully loaded, per-minute costs for each transaction.

Milliman worked with CAQH to identify providers interested in participating in this data collection effort. First we targeted providers from all regions of the country and in a wide variety of practice or facility types: integrated delivery systems, academic medical systems and clinical practices of various sizes, including multi-specialty, single-specialty and primary care practices. Several organizations supported the effort to recruit participants for the study, and CAQH and Milliman are very grateful for their efforts:

- American Hospital Association
- California Association of Public Hospitals and Health Systems
- Washington State Hospital Association
- Greater New York Hospital Association
- Medical Group Management Association
- Premier, Inc.
- Washington Hospital Association

Milliman sent the data collection tool to all participating providers and conducted follow-up interviews. Not all organizations were able to provide detailed time or volume information for all transactions or modalities. We asked organizations to provide an estimate of the amount of resources required to conduct their daily volume of transactions and to identify the type of staff responsible for performing these transactions. Some organizations provided time-based estimates; others provided volumes and staffing information, and some provided estimates of time, staffing and volume.

Respondents that had a centralized revenue cycle management system were often able to provide requested information from monthly reports related to billing functions (claims submissions, claims status inquiries, claims remittance advice and claims payment posting). Respondents that had centralized practice management systems were able to provide information from monthly reports related to eligibility and benefit verification transactions. Smaller practices, which did not necessarily have centralized systems, were also able to provide information based on their own internal tracking tools.

During the interview process, several providers noted that they use clearinghouses to facilitate administrative transactions with health plans. According to HIPAA Rules,[12] a health care clearinghouse is defined as a public or private entity that processes non-standard health information received from another entity into standard data elements or a standard transaction (i.e., standard electronic format or data content), or vice versa. Fees paid to clearinghouses or fees charged for electronic financial transactions are included in the estimates of costs per transaction.

Milliman estimated benefit and overhead costs associated with staff positions relevant to each transaction based on data from the Medical Group Management Association (MGMA) 2013 Physician Compensation and Production Survey (PCPS). Milliman assumed that organizations using electronic transactions would incur overhead costs similar to those using electronic medical records and that organizations using manual transactions would incur overhead costs similar to those using paper-based records.

Combined Industry Costs Per Transaction. Table 11 shows the estimated cost of each transaction, by type, to health plans, providers, and the industry overall, as well as the estimated per-transaction savings opportunity by transaction by type. The estimates for transaction costs associated with manual processing of claim attachments and prior authorization attachments were derived from a small set of respondents and should be considered very preliminary. Costs for electronic attachment processes were not available, because electronic processes were not used by a sufficient number of respondents.

[12] Title 45, Section 160.103 in the Code of Federal Regulations (CFR)

Table 11. 2013 Estimated Transaction Costs and Savings Opportunities, Health Plans, Healthcare Providers, and Industry

(dollars per transaction)

		Heath Plan Cost	Healthcare Provider Cost	Industry Cost	Health Plan Savings Opportunity	Provider Savings Opportunity	Industry Savings Opportunity
Claim Submission	Manual	$0.66	$2.39	$3.05	$0.57	$2.23	$2.80
	Electronic	$0.10	$0.16	$0.26			
Eligibility and Benefit Verification	Manual	$2.52	$3.53	$6.05	$2.49	$3.07	$5.56
	Electronic	$0.03	$0.46	$0.49			
Prior Authorization	Manual	$3.98	$14.07	$18.05	$3.95	$8.93	$12.88
	Electronic	$0.04	$5.14	$5.18			
Claim Status Inquiry	Manual	$4.85	$2.87	$7.72	$4.81	$1.23	$6.04
	Electronic	$0.03	$1.64	$1.67			
Claim Payment	Manual	$0.18	$4.15	$4.33	$0.14	$3.04	$3.18
	Electronic	$0.05	$1.11	$1.16			
Remittance Advice	Manual	$0.17	$5.36	$5.53	$0.13	$4.17	$4.30
	Electronic	$0.04	$1.19	$1.23			
New for the 2014 Index:							
Claim Attachments	Manual	$0.63*	$5.45*	$6.08			
	Electronic	NA	NA	NA			
Prior Authorization Attachments	Manual	$0.45*	$45.49*	$45.94*			
	Electronic	NA	NA	NA			

Sources: CAQH Index, Milliman Inc.

Note: NA = not available. Totals may not equal sum of components due to rounding.

*Very Preliminary – reflects a limited number of respondents with data.

The Dataset Used for Costs Per Transaction by Healthcare Providers – A Closer Look

To obtain information on healthcare providers' costs per transaction, Milliman gathered a small dataset directly from a sample of healthcare providers. A key goal for obtaining this sample directly from responding healthcare providers was to obtain cost data from a broad mix of facility and clinical practice types, e.g., multi-specialty and single-specialty clinical groups, hospitals, health systems, etc. This dataset enabled us to assess costs per transaction for various types of providers.

While this provider dataset also contains information on adoption rates of electronic transactions, we did not use it for that purpose in determining our overall estimates of adoption rates and potential savings; it is a much smaller size and represents far fewer transactions. For example, the health plan dataset covered over 4 billion transactions; the provider dataset contains roughly 40 million.

However, despite the relatively small sample, we did examine the adoption rates in this smaller provider dataset with interest. In future years, as this provider dataset grows and stabilizes, it may provide useful insights and facilitate cross-checks on adoption rates from the providers' point of view.

Transactions Reported Directly by Responding Healthcare Providers

	Total Number of Transactions (millions)	Electronic (percent)	Manual (percent)
Claim Submission	11.6	92%	8%
Eligibility and Benefit Verification	8.9	63%	37%
Prior Authorization	0.6	*	99%
Claim Status Inquiry	10.0	21%	79%
Claim Payment	3.5	85%	15%
Remittance Advice	4.3	68%	32%
Claim Attachments	0.8	1%	99%
Prior Authorization Attachments	0.2	2%	98%

Sources: CAQH 2014 Index, Milliman, Inc.
*Less than 1 percent.

For some of the transaction categories, the providers' directly reported rate of electronic transactions was similar to that reported in the much larger sample from health plans. For example, health plans reported that 92 percent of claims submissions from providers were sent electronically (see Table 6), and the sample of providers also reported a 92 percent rate. For eligibility and benefit verifications, health plans reported an adoption rate of standardized electronic transactions for providers of 69 percent; the responding providers reported 63 percent. (The standardized electronic transactions are those that would also be considered electronic for providers.)

In other transaction categories, however, there was a larger difference in the two datasets. In some cases, the health plan dataset showed a higher average rate of standardized, fully electronic transactions for providers: prior authorization was 7 percent in the plans' data, while directly responding providers reported that very few (less than one percent) of their prior authorizations were done electronically. For claim status inquiries, health plans reported the provider (HIPAA standardized) electronic transaction rate as 54 percent, while providers reported a lower rate of only 21 percent. It is possible that some providers may not know that electronic claim status inquiries are being done on their behalf by clearinghouses or claims intermediaries.

In some cases, the difference in datasets resulted in the converse: healthcare providers self-reporting higher rates of electronic payment transactions than did the provider data from health plans. For claim payment, providers themselves reported that 85 percent of their payments were received vie electronic funds transfer, while health plans reported a fully electronic transaction rate of only 58 percent. We can only hypothesize as to the reason for this difference: It is possible that the provider sample size was too small to be reliable, or that responding providers in this sample are "early adopters" in this regard, and thus – in some cases – have electronic transaction rates that exceed the industry average.

Extrapolating to National Totals

The second step in calculating potential savings is to extrapolate to nationwide baseline for the aggregate number of the six major transactions studied. Table 12 shows CAQH's estimate of nationwide totals for all eight transaction types. It is important to note that we are not yet able to reliably estimate numbers of claim attachments and prior authorization attachments that are sent via standardized electronic processes, so the total number of such attachments may be slightly understated, and is certainly subject to a high degree of uncertainty. As previously noted, the 2014 Index is the first time we have sought data for these two transactions.

In total, our extrapolation indicates that there were nearly 1.1 billion manual transactions on the health plan side, and nearly 2.4 billion transactions handled manually by providers in 2013 for the six main categories of transactions studied. We extrapolate that nearly 8 billion electronic transactions were performed by health plans and about 6.6 billion were handled electronically by providers. Based on data from the 1.4 billion claims submitted to health plans representing 112 million enrollees, we project that more than 3 billion claims were submitted to commercial health plans nationwide for payment in 2013. Likewise, we estimate that health insurance plans fielded approximately 50 million requests for prior authorization nationwide in 2013.

Table 12. Number of Manual and Electronic Transactions, Nationwide Industry Extrapolation
(millions of transactions)

	Health Plans		Healthcare Providers	
	Manual	**Electronic**	**Manual**	**Electronic**
	Nationwide Extrapolation (Millions of Transactions)			
Claim Submission	241	2,921	241	2,921
Eligibility and Benefit Verification	192	3,548	1,146	2,594
Prior Authorization	20	34	50	4
Claim Status Inquiry	78	722	367	432
Claim Payment	234	329	234	329
Remittance Advice	307	376	360	322
Total, Six Main Transactions Studied (extrapolated)	**1,071**	**7,930**	**2,399**	**6,603**
New for the 2014 Index:				
Claim Attachments	109	*	110	NA
Prior Authorization Attachments	10	*	11	NA

Source: 2014 CAQH Index.
Notes: NA = not available.
*Less than 500,000, includes portal/web only.

Since Index respondents' data included transactions for both private commercial enrollment and for applicable public coverage (Medicare Advantage, Medicaid managed care or risk plans), we projected to U.S. total private enrollment plus the total managed care/commercially covered population in Medicare, Medicaid, and other public programs – approximately 245 million covered lives.[13] Because enrollment rates for many types of coverage changed significantly in late 2013 with the first ACA open enrollment period, these projections to national totals are subject to some uncertainty. In general, we have used a conservative projection intended to be consistent with the projections from the prior year (2012) in the 2013 CAQH Index.

Potential Savings Estimates from Transition to Electronic Transactions

Table 13 illustrates the potential industry-wide savings opportunity from full adoption of automated process for the six main transaction types studied. In the table, "savings opportunity" represents the gap between current levels of electronic administrative transaction adoption and full adoption. In total, we estimate that completing the transition from manual to electronic processes for the six main transactions studied could save health plans and providers approximately $8 billion annually, with the largest amount accruing to healthcare providers and facilities. The transaction with the highest level of potential savings for the industry is eligibility and benefit verifications, at $4 billion in estimated savings, followed by remittance advice ($1.5 billion) and claim status ($830 million).

While full adoption – meaning exactly 100 percent use of fully electronic transactions – may not be achievable, we did not attempt to base our potential savings estimates on assumptions about the maximum achievable adoption levels. Moreover, since there is a wide range of adoption rates for many transactions, including adoption rates of 95 percent or more, we believe that computing potential savings based on full adoption is a reasonable approximation.

Table 13. Extrapolated Potential Annual Industry Savings Opportunity, 2013
(Millions of Dollars)

	Health Plan Savings Opportunity	Healthcare Provider-Facility Savings Opportunity	Industry Savings Opportunity
Claim Submission	$140	$540	$670
Eligibility and Benefit Verification	480	3,520	4,000
Prior Authorization	80	450	530
Claim Status Inquiry	380	450	830
Claim Payment	30	710	740
Remittance Advice	40	1,500	1,540
Six Transactions Total	**$1,140**	**$7,170**	**$8,310**

Source: CAQH 2014 Index.
Note: Components may not sum to totals due to rounding.

[13] Our estimate of total enrollment is based on data from the 2014 *AIS Directory of Health Plans*.

Changes in Savings Estimate from the 2013 Index

Table 14 details how the estimates of potential savings have changed in the 2014 Index, compared with the prior estimates from the 2013 Index. Although the overall savings estimate in the 2014 Index is roughly the same as that reported in the 2013 Index, there were some substantial, largely offsetting revisions among the transaction categories. The largest revisions are a downward revision of the annual potential savings for prior authorization ($-1,350 million) and an upward revision for the annual potential savings for remittance advice ($+1,140 million).

Table 14. Change in Potential Annual Industry Savings Estimates, 2013 Index vs. 2014 Index
(Millions of Dollars)

	2013 Index	2014 Index	Change
Claim Submission	$570	$670	+$100
Eligibility and Benefit Verification	4,000	4,000	0
Prior Authorization	1,880	530	-1,350
Claim Status Inquiry	890	830	-60
Claim Payment	470	740	+270
Remittance Advice	400	1,540	+1,140
Six Transactions Total	**$8,210**	**$8,310**	**+$100**

Source: CAQH Index.
Note: Components may not sum to totals due to rounding.

The potential for savings to health plans for electronic prior authorization transactions has been revised downward substantially. The reason for this revision is our new finding in the 2014 Index that a large share of prior authorization requests are being handled by plan-specific web portals, which are considered automated for health plans (though they are manual processes for providers). We believe that most of the more than $1.3 billion difference in estimates for prior authorization transactions is simply due to acquiring more detailed data for the prior authorization transaction than was available for the 2013 Index.

On the other hand, the large increase in the estimated savings for remittance advice is mostly due to revised estimates of providers' costs per transaction (see Table 15). The revised estimates of providers' costs per transaction in the 2014 Index have resulted in changes in the estimated potential savings figures for several transactions, although the impact varies from transaction to transaction. The 2014 Index estimates are based on the data from a larger and more representative group of providers, including additional small providers and clinical practices. On balance, we estimate that overall cost savings potential is increased by approximately $590 million due to revisions in the estimates of healthcare providers' costs per transaction.

Table 15. Factors Contributing to the Change in Potential Annual Industry Savings Estimates, 2013 Index vs. 2014 Index
(Millions of Dollars)

	2013 Index to 2014 Index Change ($m)	Due to Providers' Transaction Costs	Other Causes (net)
Claim Submission	+$100	+$160	-$60
Eligibility and Benefit Verification	0	-360	+360
Prior Authorization	-1,350	-220	-1,130
Claim Status Inquiry	-60	-290	+230
Claim Payment	+270	+350	-80
Remittance Advice	+1,140	+950	+190
Six Transactions Total	**+$100**	**+$590**	**-$490**

Source: CAQH 2014 Index.

Of course, the larger trend toward electronic transactions between the two years reduces the potential savings available. Conversely, more people were insured in 2013, which increases potential savings. These two effects roughly cancelled each other out when comparing the savings estimates from the data in the 2013 Index with the 2014 Index results. Despite the increase in electronic transactions for claim status and eligibility and benefit verification in the most recent year, the number of manual transactions in those categories did not fall, based on our analysis of comparable plans with data in both years. This means that the savings potential for those categories remains high.

Finally, we have not yet added savings estimates from the two transactions we tracked for the first time in the 2014 Index, including standardization of attachment transactions, although we believe the potential for savings could be substantial. Likewise, there are certainly other types of business transactions that could be standardized to reduce cost and complexity. In the larger sense, our study of the potential savings from six particular administrative transactions likely represents only a fraction of the administrative costs in the U.S. health system that could be reduced by improving operating efficiencies through automation.

TRANSACTION DETAILS

Claim Submission

Overall, 92 percent of claim submission transactions analyzed were conducted electronically in 2013. By our estimates, each remaining paper-based claim submission costs the healthcare system $3.05. By contrast, electronic claims cost the healthcare system $0.26 each.

Though the level of industry adoption overall is relatively high for claim submission, it is hard to ignore the savings opportunity, which we estimate to be $670 million annually for the industry as a whole. Healthcare providers, by far, have the greatest opportunity to reduce costs by submitting claims electronically. We estimate that every manual claim submission costs providers $2.39, and that electronic transactions cost providers far less, $0.16 each, a difference of nearly 93 percent. For health plans, we estimate that receiving a paper claim costs $0.66 and that electronic submissions cost health plans $0.10, a difference of nearly 85 percent.

Claim Submission Details, By Type of Transaction

Manual by Provider --Medical (non-facility)	97,864,245
Manual by Facility	11,748,262
Electronic via HIPAA 837 – Medical (non-facility)	1,178,899,943
Electronic via HIPAA 837 – Facility/Institution	150,765,701
Total Submissions	**1,439,278,151**

Percent of all Claim Submissions Conducted Fully Electronically

Average	92%
High	97%
Low	81%
Median	92%

Some health plans participating in the 2014 Index were unable to distinguish between claim submissions for payment and transmissions of encounter information made only for the purpose of reporting care delivery (for example, for Medicare Advantage or Medicaid managed care plans paid on a capitated basis). All claim submissions made in a standard format were included in our counts. The measure does not account for claims that were later adjusted or identified as duplicate claims in the adjudication process.

For claim submissions, we are able to break down the numbers of claims submitted by healthcare facilities (such as hospitals) and non-facility providers (such as physicians' offices). In 2013, the rate of electronic claims from non-facility providers (92.3 percent) was nearly equal to that of those coming from facilities (92.8 percent). Participating health plans reported an average of nearly 13 claim submissions per member, with the vast majority, not surprisingly, coming from non-facility-based providers.

Health plans reporting the highest percentages of electronic claim submission transactions continued to indicate in interviews that these achievements were the result of thoughtful and deliberate organizational efforts to drive electronic adoption. Likewise, health plans reported successful partnerships with facilities and large provider organizations to boost the percentage of claims submitted electronically. One responding plan with a large number of small and rural practitioners noted higher numbers of paper claim submissions.

Closing the remaining gaps in manual claim submission may require either more generous incentives or stricter penalties to induce all providers to submit electronic claims. Medicare reported achieving a 98.4 percent electronic submission rate for Part B (claims processed by Medicare "carriers," mostly for physician and related outpatient services) in August 2014.[14] This suggests that even small providers can arrange to submit claims electronically when it is required.

[14] Personal communication with Niall Brennan, CMS. October 2, 2014.

Eligibility and Benefit Verification

Participating health plans reported fielding nearly 86 million telephone calls from providers to verify eligibility and benefits in 2013. At a per-call cost of more than $6, including about $3.50 to providers and $2.50 to health plans, we estimate that non-automated eligibility and benefit verification calls contributed approximately $4 billion annually in cost to the healthcare system in 2013.

Eligibility and Benefit Verification Details, by Type of Transaction

Telephone	85,983,504
Fax	1,511,843
Interactive Voice Response (IVR)	39,820,976
Portal	394,340,619
HIPAA 270	1,180,854,846
Total Verifications	**1,702,511,788**

Percent of all Eligibility and Benefit Verifications Conducted Fully Electronically

Average	69%
High	98%
Low	55%
Median	75%

Eligibility verification requests were among the fastest growing of all transactions studied. Using year-to-year changes among comparable plans, we estimate that the volume of all eligibility and benefit transactions increased by 13 percent in 2013 over 2012. This included increases in standardized electronic transactions (+14%), a slight decline in telephone and fax transactions (-1%), and an increase in web portal/IVR transactions (+13%).

Counting telephonic eligibility requests can be a challenge. Multiple questions are often resolved in a single phone call, making records about the primary purpose of calls somewhat subjective. For instance, representatives may respond to inquiries about multiple patients or multiple diagnosis codes and services for a single patient during a single call. However, this challenge is unlikely to change much from year to year, so we believe that even if the counts of telephone transactions may be subject to some uncertainty, year-over-year trends may still be very useful.

Several responding health plans cited complex coverage designs, such as multiple tiers of benefits, as key reasons for increased overall volumes of benefit verification inquiries. These benefit designs can be a source of confusion, elevating the need for clarification by telephone in some cases.

Health plans also reported that some vendors may now use the electronic transaction capability to run routine checks for eligibility daily, weekly or monthly for their provider clients' entire patient roster, regardless of the patient's status. Others reported that non-provider organizations are utilizing the eligibility and benefit inquiry transactions, such as state Medicaid plans and benefits companies. For example, one company reported that, "We do know, for example, that [a healthcare information services company] sent us 180,000 eligibility/benefit inquiry transactions in 2013 and has sent 175,000 transactions to us [this year to date, as of] July 2014."

Another health plan respondent noted that his company received huge surges in transaction requests on particular days. These requests were too numerous to be related to patients' upcoming medical appointments, and were presumably coming from information service vendors, not from clinicians. In this case, the company had to upgrade its IT systems capacity so that routine inquiries from clinicians concerning impending patient visits were not delayed by the surge in vendor-generated electronic requests.

Additionally, it is likely that new coverages initiated during the fall 2013 ACA open enrollment period may have triggered additional eligibility and benefit verification requests. This factor, however, was too recent to have been directly analyzed by plans we interviewed. We expect that the impact of new coverage under health reform in 2014 will be a key topic for the 2015 Index.

Finally, the ACA mandated new operating rules for claim status and eligibility and benefit verification transactions, which became effective January 1, 2013. Since the data for the 2014 Index report are from calendar year 2013, they are reported after the implementation of the new rules. It is probable that the increase in volume of standardized electronic transactions for eligibility verification and claim status could be associated with effective date for the ACA rules.

Prior Authorization

Overall, we estimate that there was approximately one prior authorization request for every 60 claims submitted in 2013, and approximately one request for every five members enrolled in the year. Average estimated costs per transaction were 4 cents for automated and $4 for manual transactions for health plans, and $5 for automated and $14 for manual transaction for providers.

For 2013, we estimate that standardized electronic transactions accounted for about 7 percent of prior authorization requests. A much higher percentage of transactions were performed via company-specific web portals (43 percent) and IVR systems (14 percent). Telephone (28 percent) and fax requests (9 percent) accounted for the remaining prior authorization transactions.

Even though there may be far fewer prior authorization transactions than other types of business transactions, such as claims submission or eligibility verification, the high estimated transaction costs of prior authorization imply that health plans could save an additional $80 million annually from automation, and providers could save approximately $450 million.

Prior Authorization (Medical/Surgical) Details, by Type of Transaction

Telephone	6,607,553
Fax	2,079,456
Interactive Voice Response (IVR)	3,234,431
Portal / Website	10,371,087
HIPAA 278	1,602,135
Total Authorization Requests	**23,894,662**

Percent of all Prior Authorization Requests Conducted Fully Electronically

Average	7%
High	61%
Low	0%
Median	2%

These savings estimates are considerably reduced from our 2013 Index estimate, primarily due to a finding that a high number of prior authorization requests are handled by web portal and IVR systems, which are considered automated from the health plans' point of view and manual for healthcare providers.

For the 2014 Index, prior authorization transactions and costs per transaction were computed directly as part of the CAQH data collection processes for the first time. (For the prior Index, Milliman estimated prior authorization transactions based on proprietary benchmarks for inquiries per member in a year, and on overall estimates of enrollment.)

Claim Status Inquiries

Electronic claim status inquiries represent another significant opportunity for the industry to streamline routine operations and reduce cost.

Approximately one of every four claims generated an inquiry in 2013. While the vast majority of those were electronic inquiries, the participating health plans nevertheless fielded nearly 33 million telephone inquiries regarding claim status. At a cost of more than $6 per transaction, including $1 to providers and nearly $5 to health plans, we estimate that manual claim status inquiries contributed approximately $800 million in unnecessary administrative costs to the healthcare industry.

Claim Status Inquiry Details, by Type of Transaction

Telephone	32,738,569
Fax	2,768,390
Interactive Voice Response (IVR)	24,270,456
Portal / Website	110,500,730
HIPAA 276	196,844,703
Total Inquiries	**367,122,848**

Percent of all Claim Status Inquiries Conducted Fully Electronically

Average	54%
High	97%
Low	0%
Median	53%

In the 2013 Index, we reported:

> *"Participants also indicated that streamlining this specific transaction is a relatively new focus, and growing awareness is expected to increase use of electronic systems. However, the transition from manual or telephonic transactions to electronic is expected to follow a pattern similar to that of eligibility and benefit verification transactions. That is, the number of electronic transactions may climb as the number of telephonic transactions remains static."*

This prediction appears to have been prescient, since the 2014 Index results showed strong growth in the overall number of claim status requests (+18%), including strong increases in the number of fully electronic transactions (+23%) and partially electronic transactions (+17%) and no change in the level of telephonic transactions.

As with eligibility verification, the ease of querying health plans for claim status electronically may be driving up the number or inquiries. For example, one health plan reported:

> *"[V]endor service-level agreements may mandate automated inquiries until the claim is completed, driving the number of transactions up overall."*

Another cited a similar finding:

> *"We learned that some vendors exchanging transactions via that trading partner on behalf of their provider clients automatically generate claim status inquiry transactions daily, beginning on the first day following claim submission [and continuing] until the claim is closed in the provider AR [accounts receivable] system. "*

Claim Payment

Forty percent of all claim payments by participating health plans continued to be made by paper check in 2013 at a cost of $4.33 each, representing another opportunity to reduce cost by streamlining payment to providers. Our counts of claim payments do not include payments made by patients, such as through a Health Savings Account (HSA), but do include adjudicated claims resulting in $0 payments, and may include claims with dates of service in the prior year.

Claim Payment Details, by Type of Transaction

Printed Check or Paper-Based Instrument	103,856,775
Electronic Funds Transfer (EFT) via ACH Network	146,003,774
Total Payments	**249,860,549**

Percent of all Claim Payment Transactions Conducted Fully Electronically via EFT

Average	58%
High	78%
Low	15%
Median	66%

Participants believe that the expanded awareness of electronic funds transfer (EFT) will foster increased and rapid adoption of electronic claims payment by healthcare providers. Health plans and related entities are actively campaigning to enroll providers in EFT, focusing initially on providers responsible for generating the highest number of claims, such as facilities and large provider groups, to most quickly increase the percentage of claims being paid electronically.

However, the spread in reported EFT use is still quite wide, ranging from a high of 78 percent to a low of 15 percent among responding health plans.

> Health plans are working to reduce the processing cost of manual claim payments by settling more claims in each payment. This has caused the average cost for paying claims manually to fall, compared with our estimates for 2012. The reduced cost of manual claim payment may have also reduced the urgency of switching providers to EFT systems.

For 2013, health plan respondents reported no usage of claim payments via Fedwire or bankcard transactions. The 2014 Index did not ask about virtual card transactions, although in interviews health plans reported that the use of virtual card payments was either zero or a very small share of payments.

Claim Remittance Advice

Overall, slightly more than half, or 51 percent, of the claim remittance advice transactions processed by participating health plans in 2013 were electronic. For healthcare providers, fewer remittance advice transactions were considered electronic (47 percent) than for health plans (55 percent). This is due to transactions that were handled by web portal or IVR systems (8 percent), which are automated for health plans, but are considered manual for providers. We estimate that more than $1.5 billion could be saved annually in the healthcare industry by full conversion to standardized electronic statements.

Claim Remittance Advice Details, By Type of Transaction

Printed or Paper-Based	135,322,073
Portal or Other Electronic Explanation of Payment*	24,406,702
HIPAA 835	142,375,856
HIPAA 835 with Printed or Paper-Based Sent**	4,194,624
Total Remittance Advice Transaction	**310,493,878**

*Includes some transactions that were duplicative; that is, more than one transaction per claim payment. Not all responding plans were able to break out duplicative portal transactions.
**Counts as one 835 and one paper transaction.

Using data from plans responding with data from both 2012 and 2013, we estimate that the number of fully electronic transactions for claim remittance advice rose (+8%) in 2013 over 2012, while the number of paper-based remittance advice mailings dropped (-16%). However, the most dramatic change in our 2013 data was the large (+52%) increase in portal postings of remittance advice documents.

Percent of all Remittance Advice Transactions Conducted Fully Electronically

Average	47%
High	74%
Low	10%
Median	47%

Claim remittance advice represents a high-value opportunity to reduce cost by eliminating redundancies and expanding adoption of electronic transactions. Participants noted a substantial increase in the number of explanation of payment (EOP) documents being posted on health plans' web portals, which, in turn, has significantly boosted the total number of claim remittance transactions.

The number of paper remittance advice documents that were duplicated with standardized electronic transactions for the same claim fell substantially in 2013. In the 2013 Index, health plans reported that more than 10 percent of remittance advice mailings were duplicates for electronically-sent remittance advice transactions; in the 2014 Index we found that only 1 percent of remittance advice transactions were duplicated in that manner.

> Several health plans responding to the 2014 Index reported that they routinely posted remittance advice statements to their secure web portals for providers, regardless of whether the statements were also mailed or transmitted electronically. We believe the large increase in portal postings of remittance advice documents may reflect an effort by health plans to provide a reference of remittance advice documents for providers instead of sending a mailed statement.

Claim Attachments and Prior Authorization Attachments

There are two transactions measured for the first time in the 2014 Index: claim attachments and prior authorization attachments. As new measures, some responding health plans have not yet set up internal tracking mechanisms to count attachments, and others made extrapolations from part-year data. Therefore, our preliminary counting of these transactions is more uncertain than with the more established measures.

Attachments provide additional information that a health plan needs in order to process a claim or to affirm that specific healthcare procedures or services will be covered. In many cases, attachments to the claim or prior authorization request contain clinical information. From our research, we know there are some health plans and providers that are using electronic methods to transmit attachments to claims. Historically, this supporting clinical documentation has been printed on paper and either mailed or faxed, and may include many pages of detailed information.

The ACA requires that the Department of Health and Human Services (HHS) adopt an electronic standard and associated operating rules for the claims attachments. Because the information in attachments is mostly clinical in nature, HHS has signaled that the standard, or standards, that will be adopted will align with standards used in the electronic health records (EHR) environment. However, as of the end of 2014, HHS had not formally mandated standards and endorsed operating rules to enable consistent use of those standards, and the industry may be reluctant to make significant changes to current processing methods until those issues are clarified.

Claim Attachments. For the 2014 Index, responding plans representing 103 million enrollees returned data on claim attachments. From those responses, there was approximately one claim attachment for every 24 claims in 2013. The vast majority of claims attachments were submitted manually, via paper delivery or fax. Among the plans reporting, we counted approximately 46 million claim attachments processed, which can be extrapolated to roughly 110 million claim attachments industry-wide.

Our preliminary estimate is that manual claim attachment processing costs health plans about $0.63 per transaction, and about $5 for healthcare providers. Neither health plans nor providers estimated their costs for electronic claim attachments for 2013.

We believe the relatively low cost of processing for health plans represents the cost of scanning the records and associating them with a claim. No other work is done in inbound processing at that stage of the claim (analysis of the medical records or other information contained in the claim attachment would be done at a later time as part of the claim resolution, but that is not considered a transaction cost associated with receiving and filing the attachment).

On the other hand, the relatively high transaction cost for providers probably relates to the time and effort to send the documents, whether by mail, fax, or sending a scanned document by email. Even if attachments are sent by email, there may be considerable staff time involved in scanning, converting, and attaching files to emails.

On balance, we believe that the savings potential from converting claims attachments from manual to electronic processing could be substantial. For example, if only half of the estimated 110 million manually processed claim attachments were converted to electronic processes that saved $4 per transaction for providers, costs for providers alone would be reduced by $200 million.

Prior Authorization Attachments. Health plans that provided data on prior authorization attachments represent an enrolled population of approximately 49 million people. From those plans, we counted two million prior authorization attachments, or approximately one attachment for every 11 prior authorization requests. Although our projections to nationwide total are more uncertain due to the smaller response, our preliminary estimate of the number of prior authorization transactions nationwide is approximately 10 million, most of which are currently processed manually.

As with claim attachments, we estimate that costs per transaction are much higher for healthcare providers than health plans. Our preliminary estimates indicate that costs for healthcare providers are nearly $45 per transaction to send attachments for prior authorization requests. Of course, the sample of providers able to return data on costs for preparing attachments was small, so this preliminary estimate is subject to uncertainty. One participant noted that many prior authorization attachments are related to major procedures costing thousands of dollars, and that providers may have an incentive to use rapid or overnight delivery services, to send the attachments. While this may decrease the time needed to complete the prior authorization process, it would indeed add greatly to the costs for such attachments; costs that could be greatly reduced by the use of electronic processes.

The potential savings from automating prior authorization attachments is likely much lower than for claim attachments, since there are fewer of them. However, if even half of prior authorization attachments were sent electronically instead of manually, with a cost savings of $20 per transaction, $100 million in total savings for providers alone would be possible. As with claim attachments, these preliminary estimates are subject to considerable uncertainty. Future Index reports, with data from larger numbers of health plans and providers, will target improvements in these preliminary estimates.

STUDY LIMITATIONS AND GOALS

The estimates and projections in the 2014 Index are subject to several limitations and uncertainties. Some of these are definitional – an inherent part of the study process we have chosen – but in other cases we are striving to make incremental improvements each year. By definition, we report costs and savings 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, we did not include them in our analysis. However, we are aware that some forms of electronic transactions may reduce the cost of information gathering by providers, and we may add finer details on these costs to the analysis in future years. We have also adopted the simplifying convention of estimating savings opportunities based on the full gap between current levels of electronic administrative transaction adoption and full adoption. This latter approach overestimates the opportunity to reduce costs in cases where achieving 100 percent adoption may not be realistic.

Improving the Representation of Smaller Health Plans. Most of the 2014 Index health plan respondents are large plans that could benefit more quickly from economies of scale in their investments in automation than smaller plans. In particular, our analysis would be improved from a broader response from small and medium-sized health plans, and from a larger set of healthcare providers and facilities.

Importantly, all of the responding health plans and providers have volunteered to submit data. This may indicate they have greater resources available for this analysis than others, or have already begun to assess and improve their efforts in this area; some Index respondents may thus reflect first movers and industry leaders. Therefore, it is possible that our results and estimates lean closer toward industry best practices in some cases rather than industry averages or median performance.

Expanding the Set of Responding Healthcare Providers. While our data response from healthcare providers on their costs per transaction has grown and expanded to encompass additional types of providers (particularly smaller clinical practices), the number of respondents remains small. Therefore, the cost per transaction estimates will remain somewhat uncertain until we are able to interview larger numbers of providers. Nevertheless, we believe our data collection efforts likely reflect a reasonable approximation of industry-wide results.

Adding Government Programs. The Index does not include data from Medicare's traditional fee-for-service program and Medicaid programs that are operated directly by the states. Operationally, 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 our current estimates. In general, data on Medicare fee-for-service claims are available with a lag; however, Medicaid program data can be much more difficult to obtain. The Index Advisory Council may consider approaches to filling out the Medicare and Medicaid sections to provide a more complete result for the entire U.S. covered population in future reports.

Improving the Precision of the Measurements and Extrapolations. The potential savings estimates assume a one-to-one conversion of manual to electronic transactions. In reality, the availability of inexpensive, automated transactions may sometimes lead to additional numbers of transactions – not a pure one-for-one replacement.

Our estimates of potential savings also assume a strict demarcation of manual vs. electronic transactions, where in reality some electronic process may sometimes require manual oversight. In the case of multi-payer portal systems, some plans may record transactions as fully automated when in fact providers may have had to manually input some data. Clearinghouses that act as intermediaries between providers and health plans may sometimes convert transactions from manual to electronic, or vice versa. This may cause us to over- or under-estimate the potential for savings, especially for healthcare providers.

The extrapolation from our health plan dataset representing approximately 112 million enrollees to the larger privately covered population is necessarily imprecise. For example, some plans were unable to provide information segmented by major insurance type – private commercial vs. Medicare Advantage vs. Medicaid – because the data were not collected in ways that allowed that classification. Thus, we chose to use relatively simple methods to project nationwide impacts and the industry-wide potential for additional savings. With more granular data, future Index reports may be able to use more precise projections of national-level savings.

Another key factor is the possibility of bundled or duplicative transaction counts, notably for eligibility and benefit verification. For example, call center representatives may respond to multiple questions in a single phone-based inquiry (i.e., multiple patients; multiple diagnosis codes; or multiple reasons, such as eligibility, coverage, benefits, appeals, resubmissions, or status of claim within the adjudication cycle). This fundamental characteristic of health plan operations may cause transaction counts to be understated. Thus, some health plans are unable to track eligibility and benefit verification transactions as unique events. On the other hand, we believe there may be some duplicative counting because health plans may have difficulty classifying manual transactions (primarily telephone calls) in a reliable and consistent manner by type of transaction. The Advisory Council will continue to discuss these issues and make modifications to the data submission guides as necessary to clarify and standardize the Index results.

On balance, we have probably underestimated potential industry savings in some areas and overestimated it in others. Ongoing refinements in data specification and collection will improve the precision of our future estimates. And the addition of new transactions to the study will likely lead to changes in the aggregated estimates of potential savings as the CAQH Index evolves in upcoming years.

CALL TO ACTION

The need to streamline the business of healthcare is universal and urgent: All stakeholders are aligned around the imperative to reduce cost, and for many, data holds the key. When healthcare administrative data is electronic, its true value is unlocked. It becomes useful to support innovative applications of data analytics that reduce cost by improving health and elevating the quality and consistency of healthcare delivery, or that provide an exceptional experience to healthcare consumers.

The healthcare industry transition to use electronic administrative transactions over manual processes is important to these and other initiatives. The effort by the CAQH Index to track the progress of this transition tells us whether efforts to streamline processes are moving the needle, and if so, whether it is moving in the right direction. It shows us where progress is slowing or accelerating.

The 2014 CAQH Index report makes significant steps toward achieving the CAQH vision for the Index. It reflects improvements in our ability to track progress, deliver useful benchmarks to the industry, and articulate the value of electronic administrative transaction adoption.

Also, as the second report published by CAQH, this report is the first to document and track trends in adoption. It reveals that the industry is making measurable progress in the transition to conduct routine business electronically and spotlights the remaining opportunities to reduce cost and improve efficiency. In doing so, this report demonstrates that there is a role for all stakeholders to propel this transition forward -- by continuing to adopt electronic administrative transactions, by using the 2014 CAQH Index report to benchmark progress, and by participating in the Index as data contributors.

Adopt: The findings in the CAQH Index can help inform and direct industry-wide initiatives as well as government regulations that seek to increase the shift from manual to electronic transactions. In our interviews with stakeholders, many revealed that they are making concerted efforts to eliminate as many manual transactions as possible in favor of electronic transactions. Others, however, lack a strategic plan and/or have not adopted best practices that lead to greater use of electronic transactions. A concerted commitment is needed not only by individual health plans, but also the industry as a whole, working together to achieve the goal of stakeholders benefiting from a more efficient and effective healthcare system.

Benchmark: For the first time, this report includes benchmarks, such as numbers of transactions per-member, per-year and per-member, per-claim. CAQH will maintain and track these benchmarks over time and will introduce others as more transactions are studied and as our dataset becomes richer. Industry stakeholders can accelerate the transition to electronic administrative transactions by using these and future benchmarks to evaluate their own progress relative to comparable industry players and to assess, prioritize, and act on opportunities to streamline operations.

Participate: Data contributions are the foundation of the CAQH Index. For the 2014 Index, CAQH collected and examined a dataset from health plans and healthcare providers representing nearly 30 percent more transactions in 2014 than in the 2013 Index. The 2014 dataset also reflects a significantly higher number of covered lives and claims.

As the size and diversity of the Index dataset continues to grow, so does our ability to accurately track progress and provide actionable benchmarks. Expanding the size and scope of Index data continues to be a top priority for CAQH. Health plans and healthcare providers can help by reviewing the Index Reporting Standards and Data Submission Guides, which are available at www.caqh.org. Organizations that are capable of extracting and reporting data according to the guide hold valuable information, and are encouraged to reach out to CAQH for more information about contributing data to the Index.

CAQH Commitment: CAQH is a non-profit alliance focused on shared initiatives that streamline the business of healthcare. Our commitment to increasing industry-wide efficiency is reflected in the investment in research summarized in this Index, as well as other initiatives that encourage and ease the move towards greater use of electronic transactions. These include:

- CAQH CORE (Committee on Operating Rules for Information Exchange) -- Maximizes business efficiency and savings by developing and implementing federally mandated Operating Rules for electronic transactions

- CAQH Solutions – Shared utilities for health plans, healthcare facilities, and providers that address industry-wide inefficiencies related to EFT/ERA enrollment, coordination of benefits, healthcare provider credentialing and practice information, and providers with practice sanctions.

These initiatives enable the industry to accelerate the transformation of business processes, in turn delivering real value to healthcare providers, patients, and health plans. CAQH invites organizations to learn how they can participate by visiting the website, www.caqh.org.

Appendix A – 2014 CAQH Index Advisory Council

Organization	2014 Advisory Council Member
Aetna	Jay Eisenstock
AHIP	Tom Meyers
Anthem	Katy Blomeke
BCBS of Michigan	John Bialowicz
Streamline Health, Inc. (Cooperative Exchange)	Richard Nelli
CAQH	Robin Thomashauer
CAQH	Jeff Lemieux
CAQH	Matthew Albright
CIGNA	Paul Keyes
Florida Blue	Tab Harris
InstaMed	Bill Marvin
MGMA	Rob Tennant
Milliman, Inc.	Andrew Naugle
Milliman, Inc.	Susan Philip
Nachimson Advisors, LLC	Stanley Nachimson
Premier Inc.	Erik Swanson
Scheuren-Ruffner Associates	Fritz Scheuren
Scheuren-Ruffner Associates	Patrick Baier
THINK-Health and Health Populi	Jane Sarasohn-Kahn
UnitedHealthcare	Chris Kent

Appendix B – Guiding Principles to Measurement and Reporting

CAQH and the Index Advisory Council believe that when collecting and reporting industry data it is imperative that the results are collected and reported consistently and accurately from one entity to another and from year to year. While there will always be some inherent differences between business operations and there will be barriers and challenges to defining measurement standards that can be applied across the large and diverse healthcare industry, all steps should be taken to set guiding principles, standardized definitions and a foundation to measurement and reporting.

There are many characteristics, attributes and methodologies that are important to defining useful, actionable and reliable measurement and reporting.

Measures should be relevant, meaningful and address processes and outcomes that are applicable and actionable for improvement (e.g., Improve Results, Reduce Cost, Increase Efficiency).

- Meaningful and Important
  - Significant to those being measured and the findings are useful for action.
  - The item of measurement is prevalent enough to warrant measurement and/or the financial implications are large enough to be considered for measurement.

- Controllable and Actionable
  - Impact can be made acting on the results of the measurement.
  - The item of measurement is controllable and action can be taken to improve that which is being measured.

- Strategically Important or Cost Effective
  - The measurement drives recognition in the marketplace.
  - Promotes efficient uses of resources, or reduces waste/low cost-effective activities.

- Variation and Potential for Improvement
  - Wide variation shows an opportunity for improvement, cost reduction and control.
  - Benchmarking against current state and working towards better performance drives improvement and efficiency.

Standardized methods, data availability and clear definitions are required for consistent, valid and accurate measurements for comparison and action. Measurement should not create an unnecessary burden for data collection and reporting, and should use a reliable methodology that is feasible to implement.

- Evidence Based
  - There is strong evidence supporting the need for measurement.
  - There are guidelines or standards documenting the benefits and need for measurement.

- Reproducible, Valid and Accurate
  - Measures should produce the same results when applied to the same population and setting using the same method.
  - Measures are logical and precisely evaluate what is being studied or measured.

- Data Availability and Comparability
  - Data is accessible and available.
  - Stratification to account for differences among variables and reporting entities (e.g., entity type, geography, size, level of sophistication).
  - If there is potential for inconsistent measurement or manipulation that is undetectable, clear instructions and documentation must be provided to address limitations.

- Precise Specifications for data extraction, analysis methods and reporting
  - The measurement is clearly defined and reproducible by an independent third party.
  - Clear definitions and standardized reporting methods to drive repeatable and consistent measurement are necessary to achieve adoption and use of results as industry benchmarks.

Appendix C – 2014 Data Submission Acknowledgment

CAQH Index® Data Submission Acknowledgment

This Data Submission Acknowledgement (the "Acknowledgement") governs the contribution of healthcare data by the organization identified below ("Submitter") to the Council for Affordable Quality Healthcare ("CAQH") in connection with the CAQH Index® ("Index") program and website located at www.caqh.org.

Submitter acknowledges that the value of the Index is dependent on full and accurate data from the contributing organizations. Accordingly Submitter agrees to submit complete and faithful data to the Index in the designated format and in accordance with data submission standards made available to respondents. Submitter represents that any data submitted is accurate and has not been falsified.

Supplier hereby grants to CAQH, the operator of the Index, a non-exclusive, irrevocable, royalty-free, worldwide license to manipulate the data submitted by Submitter, to incorporate such data into the Index, and to present such data as aggregated into the Index for public use on the Index website. Supplier represents that it has all rights necessary to grant such license to CAQH, and will defend and hold harmless CAQH against any claims to the contrary.

The Index aggregates data to report on industry trends. Accordingly, CAQH agrees that it will keep the disaggregated data submitted by Submitter confidential and will not disclose it to third parties other than (i) to subcontractors for the purpose of aggregating the data into the Index; and (ii) if and as required by applicable law. CAQH owns all data as modified and/or aggregated into the Index, and any use of the Index data is governed by the terms available on the Index website or under a separate license agreement.

NEITHER PARTY, ITS EMPLOYEES, OFFICERS, DIRECTORS, MEMBERS, AND/OR REPRESENTATIVES WILL BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY, CONSEQUENTIAL LOSSES OR OTHER DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS ACKNOWLEDGEMENT.

This Acknowledgement is governed by the laws of the State of New York.

Acknowledged and Agreed: _____

Organization: _____

By: _____

Name: _____

Title: _____

Date: _____

APPENDIX D – 2014 CAQH Index Highlights

- Health plans representing 112 million enrollees – approximately 45 percent of the commercially covered population in 2013 – contributed data for the 2014 Index. The responding health plans provided data on more than 4 billion transactions, including 1.4 billion claims submitted.
- For the six main categories of claim-related transactions studied, adoption rates of fully electronic standardized transactions (automated for both health plans and healthcare providers) varied from over 90 percent to less than 10 percent. For fully electronic (HIPAA standardized) transactions, adoption rates in 2013 were: claim submission (92%), eligibility and benefit verification (69%), prior authorization (7%), claim status inquiries (54%), claim payment (58%), and remittance advice (47%). Based on data from health plans responding in both years, adoption rates of fully electronic transactions rose slightly between 2012 and 2013.
- In 2013, the volume of fully electronic standardized transactions grew by double-digit rates on a year-over-year basis for eligibility and benefit verifications (+14%), claim status inquiries (+23%), and claim payments (+14%). The largest declines in the volume of manual transactions were for claim submission (-15%), claim payments (-15%), and remittance advice (-16%).
- Nearly 8 billion transactions were performed electronically by commercial health plans and about 6.5 billion were handled electronically by healthcare providers. Despite the increase in electronic transactions, approximately 1 billion transactions were handled manually (telephone, fax, mail etc.) by health plans in 2013, and there were over 2.4 billion transactions handled manually by healthcare providers. These counts are based on an extrapolation from the plans reporting for the 2014 Index (112 million enrollees) to the whole commercially covered population (approximately 245 million enrollees).
- The range of adoption of fully electronic standardized transactions varied widely among responding health plans. The rate of adoption for electronic claim submission had the narrowest range, from a high of 97 percent to a low of 81 percent. The transaction with the largest range of adoption rates of fully electronic transactions among health plans was claim status inquiries, from a high of 97 percent down to zero percent (i.e., no adoption).
- In 2013, a large share of claim payments and their corresponding remittance advice statements continued to be handled by paper checks and mail. Among all responding health plans, only 58 percent of claim payments were made electronically, and the remaining 42 percent were paid by check. Approximately half of remittance advice transactions were made electronically, with roughly equal percentages transmitted by HIPAA standardized electronic transactions (47 percent) and by mail (45 percent), and about 8 percent made via web portals.
- For health plans, costs for manual transactions averaged approximately $2 per transaction for the six main transaction categories studied; costs of electronic transactions ranged from about 5 to 10 cents per transaction. Healthcare providers' estimated costs per transaction averaged more than $5 for manual transactions and approximately $1.60 for each electronic transaction.
- In total, completing the transition from manual to electronic processes for the six main transactions studied could save health plans and healthcare providers approximately $8 billion annually. In addition, the 2014 Index studied claim attachments and prior authorization attachments for the first time, virtually all of which were handled manually. If those attachments were instead processed electronically, additional savings for both health plans and healthcare providers would be possible. The transaction type estimated to have the highest potential savings is eligibility and benefit verification ($4 billion).