Spotlight: Electronic Data Interchange

December 2024

Background

Adoption of electronic data interchange (EDI) in the health care industry began in the 1970s to streamline financial and administrative transactions that relied heavily on paper processes.[2] Today, most claims are submitted to payers electronically using national standards and code sets. Prior the passage of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), nearly 400 standards for EDI were in use.[3] Multiple standards often led to data conversion errors, poor interoperability, high technology costs, and data security challenges.[4]

On August 17, 2000, the U.S. Department of Health and Human Services (HHS) published a Final Rule titled *Health Insurance Reform: Standards for Electronic Transactions* (HIPAA transaction). The rule aimed to improve the efficiency and effectiveness of the health care system by establishing national standards for claims and related transactions.[5] The HIPAA transactions include standards for eight transaction types; a nineth transaction type was added in 2009 (Figure 1).[6] Covered entities (providers, clearinghouses, and payers) are required to use these standards.[7, 8]

Figure 1: Electronic Health Care Transactions[1]

1. Health Care Claims or Equivalent Encounter Information
2. Eligibility for a Health Plan
3. Referral Certification and Authorization
4. Health Care Claim Status
5. Enrollment and Disenrollment in a Health Plan
6. Health Care Electronic Funds Transfers (EFT) and Remittance Advice
7. Health Plan Premium Payments
8. Coordination of Benefits
9. Medicaid Pharmacy Subrogation

About this Spotlight

The Maryland Health Care Commission (MHCC) annually collects data from select payers operating in Maryland on the volume of HIPAA transactions, as required by COMAR 10.25.09.[9] The MHCC reports on payer volumes for electronic claims, both locally and nationally. National comparison data is sourced from the Council for Affordable Quality Healthcare (CAQH). Additional information on the federal electronic prior authorization requirements established in January 2024 is included.

Electronic Claims

The use of EDI for medical claims has reached a level that is generally viewed as full implementation (Figure 2 and Table 1). In contrast, there are opportunities for further growth in dental EDI (Table 2). The adoption of dental EDI is hindered by the need for supporting documentation (e.g., x-rays and treatment plans), which often leads providers to submit paper claims.[10] Additionally, there is no federally mandated format to support electronic attachments.

Figure 2: Maryland Private Payers
% EDI Claims
2003-2023

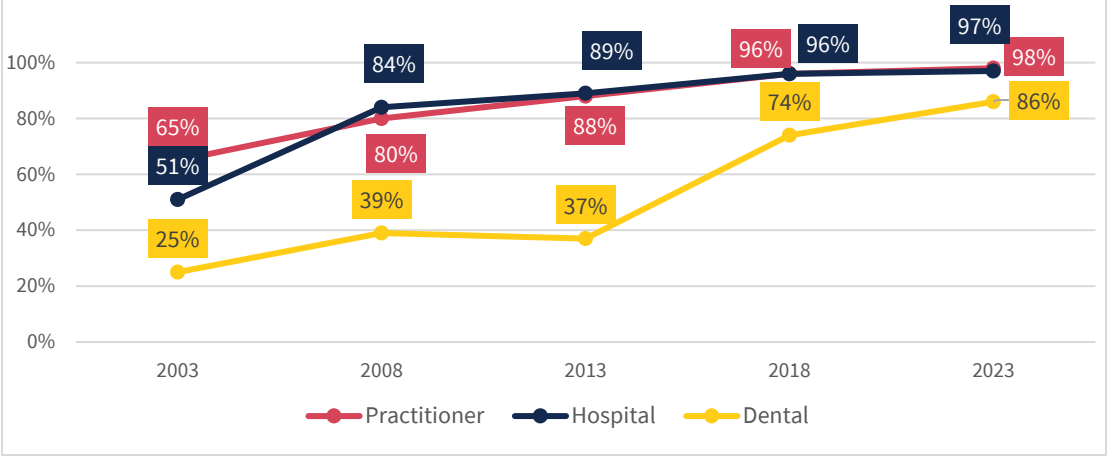

Table 1: EDI Medical Claims
Maryland and Nation
% of Total Claims

Payer Name	2021	2022	2023
Aetna	96.6	96.2	96.0
CareFirst	97.7	98.0	98.1
Cigna	97.7	98.2	97.9
Kaiser	93.4	94.1	93.8
UnitedHealthcare	95.0	95.9	96.2
Total Commercial	97.2	97.8	97.8
Medicare	**99.7**	**99.8**	**99.7**
Medicaid	**99.2**	**99.7**	**99.3**
Total Government	99.7	99.4	99.5
Total Commercial + Government	98.6	98.9	98.9
Total Nation	97%	97%	98%

Table 2: EDI Dental Claims
Maryland and Nation
% of Total Claims

Payer Name	2021	2022	2023
Aetna	78.9	80.9	81.8
CareFirst	86.8	87.6	86.7
Cigna	89.5	89.7	91.2
Delta	78.3	75.0	77.3
United Concordia	82.7	82.7	85.6
Total Commercial	85.6	85.2	86.1
Medicaid	**97.2**	**97.2**	**96.9**
Total Commercial + Government	87.5	87.3	88.5
Total Nation	84%	86%	87%

Manual data entry and handling of paper claims increase processing time and cost. Savings generated by electronic claims are outlined in Tables 3 and 4.[11]

Table 3: Average Cost Paper & Electronic Medical Claims					
Mode	**Cost**			**Savings Opportunity**	
	Paper	Electronic	*Ratio Paper to Electronic*	Paper - Electronic	*Ratio Provider to Payer*
Provider	$5.65	$3.10	*2:1*	$2.55	*3:1*
Payer	$1.09	$0.10	*11:1*	$0.99	

Table 4: Average Cost Paper & Electronic Dental Claims					
Mode	**Cost**			**Savings Opportunity**	
	Paper	Electronic	*Ratio Paper to Electronic*	Paper - Electronic	*Ratio Provider to Payer*
Provider	$4.27	$2.21	*2:1*	$2.06	*5:1*
Payer	$0.49	$0.10	*5:1*	$0.39	

Electronic Prior Authorization

Electronic prior authorization using the HIPAA transaction is not widely supported by payers. Most payers have established online portals to receive and respond to prior authorization requests. Providers have mixed opinions on the use of these portals and often rely on manual processes, such as telephone and fax, to submit prior authorization requests. On January 17, 2024, the Centers for Medicare & Medicaid Services released the *Interoperability and Prior Authorization Final Rule*.[12] The rule aims to improve access to care and reduce the administrative burden associated with prior authorization for providers, payers, and consumers. Requirements apply to medical items and services only for federally regulated payers (Medicare Advantage Organizations, Medicaid and the Children's Health Insurance Program, Medicaid managed care plans, and state Qualified Health Plans) and include technical provisions (Appendix 1) to connect payer systems with electronic health record systems by January 1, 2027 (Appendix 2).

Conclusions

EDI adoption has significantly improved administrative efficiency and reduced costs associated with paper. Over the past decade, payers have made notable progress in advancing medical EDI. However, dental payers need to focus more on addressing EDI challenges to fully unlock its potential for administrative efficiencies and cost savings.

Endnotes

[1] Centers for Medicare and Medicaid Services, *About Administrative Simplification*. Available at: www.cms.gov/files/document/health-care-transactions-basics.pdf.
[2] Forbes, *EDI Is Cool Again*, August 2019, available at: www.forbes.com/sites/stevebanker/2019/08/07/edi-is-cool-again/.
[3] The HIPAA Journal. *What is EDI in Healthcare?*, July 2024. Available at: www.hipaajournal.com/edi-in-healthcare/.
[4] *Ibid*.
[5] See n. 1, *Supra*.
[6] Transaction standards are defined by the Accredited Standards Committee X12 (ASC X12) and are administered and enforced by the Centers for Medicare & Medicaid Services.
[7] Federal Register. Health Insurance Reform: Standards for Electronic Transactions, August 2000. Available at: www.federalregister.gov/documents/2000/08/17/00-20820/health-insurance-reform-standards-for-electronic-transactions.
[8] Compliance was required by October 16, 2003.
[9] COMAR 10.25.09.05 requires payers, as defined by COMAR 10.25.09.02(11), operating in the State whose premium volume exceeds $1,000,000 as reported in the most recent annual statement to the Maryland Insurance Administration each calendar year to report. Medicare and Medicaid voluntarily report information to MHCC.
[10] HHS was required under HIPAA to develop an attachment standard. In December 2022, the Centers for Medicare & Medicaid Services released a Notice of Proposed Rule Making ("NPRM"), Adoption of Standards for Health Care Attachments Transactions and Electronic Signatures, and Modification to Referral Certification and Authorization Transaction Standard (CMS0053-P), which would adopt standards for attachments under HIPAA; however, the rule has not yet passed. More information available at: www.federalregister.gov/documents/2023/03/24/2023-06034/administrative-simplification-adoption-of-standards-for-health-care-attachments-transactions-and.
[11] CAQH. 2023 CAQH Index Report: A New Normal: How Trends from the Pandemic are Impacting the Future of Healthcare Administration, January 2024. More information available at: www.caqh.org/hubfs/43908627/drupal/2024-01/2023_CAQH_Index_Report.pdf.
[12] CMS.gov. *CMS Interoperability and Prior Authorization Final Rule (CMS-0057-F)*. Available at: www.cms.gov/priorities/key-initiatives/burden-reduction/interoperability/policies-and-regulations/cms-interoperability-and-prior-authorization-final-rule-cms-0057-f.

Appendix 1

Interoperability and Prior Authorization Final Rule *Technical Provisions for Application Programming Interfaces (API)*
Patient Access API: Expands the set of data payers must make available to members via the Patient Access API that was implemented for CMS-9115-F to now include information about prior authorization status and decisions
Provider Access API: Payers are required to share data about members, including information about prior authorization status and decisions, with in-network treating providers at the request of the provider if the member does not opt out
Payer-to-Payer API: Requires data sharing via a FHIR Payer-to-Payer API, including prior authorization information to facilitate care coordination, between one payer and other payers covering that member, if the member opts in, when an individual changes payers, or has concurrent coverage.
Prior Authorization API: Mandates adoption of electronic prior authorization processes using a Prior Authorization API and requires authorization decisions within narrow windows, and public reporting of metrics about authorizations.

Appendix 2

Prior Authorization APIs
Payer Implementation Status

Payer	Patient Access API	Provider Access API	Payer-to-Payer API	Prior Authorization API
Aetna	Implemented	In Progress	Implemented	In Progress
CareFirst	Implemented	Planned	Implemented	Planned
Kaiser Foundation Plan of the Mid-Atlantic States	Planned	Planned	Planned	In Progress
UnitedHealthcare	Planned	Planned	Planned	Planned

Note: The table includes information for select payers as of Q2 2024.