

# newsbriefs

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## *EDI's Hidden Cost for Health & Welfare Benefit Plans*

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### BACKGROUND

*Electronic data interchange (EDI) as it relates to health care claim processing is the electronic transmission of billing information from hospitals and physicians (providers) to insurance companies and claim administrators (payers). Interest in EDI as a major component of health care reform is increasing because of estimated savings. Much of the developmental work has been completed as a result of Health Care Financing Administration (HCFA) claim filing initiatives for Medicare<sup>1</sup>. It is estimated that 85% of all billing will utilize EDI by the end of 1996<sup>2</sup>. This article discusses EDI cost implications for health and welfare benefit plans (benefit plans) and a strategy to limit the impact.*

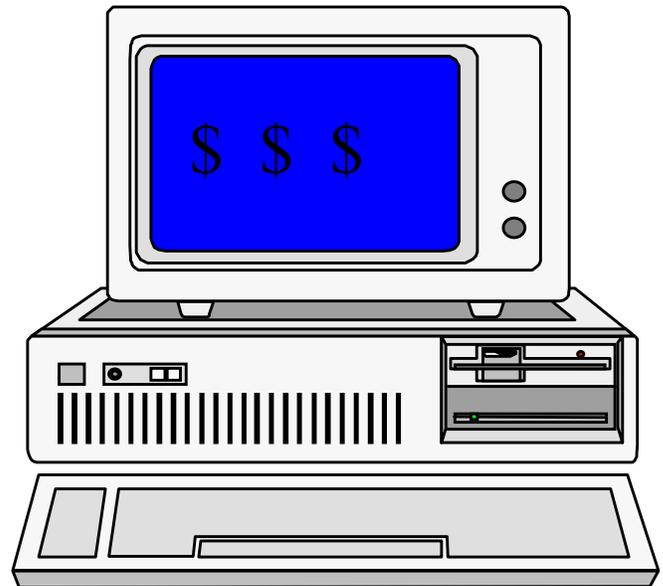
### BENEFIT vs. COST

Providers like EDI for two reasons: First, payments for services rendered will be received more quickly. Second, legions of clerks staffing accounts receivable departments can be eliminated as paper is traded for electronic images on magnetic media.

To achieve these advantages, hospitals are investing in new technology to streamline their current patchwork of systems. They are developing a seamless system in which information flows from admitting, through hospitalization and results in a magnetic media billing<sup>3</sup>. This information then flows to regional clearinghouses for processing and simultaneous distribution to payors.

Payors like EDI also. With billing information provided in a standardized record format, systems

can automatically accept and process that information



to calculate eligible payment. The entire process could be completed within hours.

Claim examiners who struggled to achieve 15 claims per hour will experience a tenfold productivity increase. Data entry errors will disappear since provider information will automatically be accepted into the system.

However, the cost of these improvements is substantial. It is estimated that by 1996 hospitals will increase systems spending by 37% to \$ 6.7 billion<sup>4</sup>. Automated claim processing modules for payors cost upwards of \$750,000. While these costs will be passed on in the form of higher administrative costs, there are other EDI costs that benefit plans can minimize.

### IMPACT OF EXPEDITED CLAIM PAYMENTS

As claim payments move through the system more quickly and more efficiently, benefit plans could be negatively impacted in several ways. First, an

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increase in the number of claim payments made will reduce outstanding claim inventories and impact cash flow. Second, these additional claim payments will artificially inflate current plan costs. Finally, future benefit cost projections will be distorted to the extent they rely on these artificially inflated claim costs. This effect is similar to a payor's compressing 13 months of claim payments into 12 months by reducing in-house claim inventory. The following paragraphs explain how these conclusions were reached.

Whether a welfare benefit plan is insured or self insured, there is a lag between the time an eligible expense is incurred and when it is paid. To compensate for this delay, an Incurred But Not Reported (IBNR) claim reserve is established. While the actual amount of the reserve is actuarially determined, the Internal Revenue Service safe harbor funding limit for self insured benefit plans is 35% of claims paid the prior year<sup>5</sup>. If a plan has paid claims of \$2.4 million in the prior year, its IBNR would be \$840,000 (\$2,400,000 X 35%) using the IRS safe harbor limit to calculate IBNR. With the electronic transfer of billing information, the speed with which claims are received and paid will increase and impact the dollar value of this reserve.

By creating a claim inventory model for IBNR based on lag report characteristics (measuring the time from when a claim is incurred to when it is paid), we can develop a tool to measure the impact of EDI.

Table I<sup>6</sup> represents such a model:

TABLE I		
Days from Service to payment	Claims	Percentage of Total
0-9	30.00	2.4%
10-14	100.00	7.8%
15-19	200.00	15.6%
20-29	600.00	46.9%
30-89	300.00	23.4%
90-365	<u>50.00</u>	<u>3.9%</u>
Totals	1280.00	100%

By expanding this model we can calculate the total number of days required to receive and pay (process) all IBNR claims. If we assume the mid point of the "Days from service to payment" ranges is the average number of days needed to process a claim payment for that range (average processing time) we can calculate the total days needed to process all claims. This is done by multiplying the "average processing time" by the number of claims (claim

counts) in each range and then totaling all of the ranges. Table II demonstrates this:

TABLE II			
Days from Service to payment	Average Processing Time	Claims	Total Days
0-9	4.50	30.00	135.00
10-14	12.50	100.00	1250.00
15-19	17.50	200.00	3500.00
20-29	25.00	600.00	15,000
30-89	60.00	300.00	18,000
90-365	228.00	<u>50.00</u>	<u>11,400</u>
Totals		1280.00	49,285

If we divide the total days for all the ranges (49,285) by the total claims for all ranges (1,280), we find the average number of days needed to process IBNR claims pre-EDI is 38.5 days (49,285 / 1280).

Our model can now measure the impact of EDI. Assume claims in the 30-89 and 90-365 ranges will continue to require the same "average processing time" representing claims requiring investigation such as those that involve coordination of benefits, subrogation, etc.. Claims in all other ranges will be expedited and paid in 5 days with EDI. Table III combines claims from the 0-9, 10-14, 15-19 and 20-29 ranges into the 0-9 range.

Table III			
Days from service to payment	Average processing time	Claims	Total days
0-9	5	930	4,650
10-14	12.5	0	0
15-19	17.5	0	0
20-29	25	0	0
30-89	60	300	18,000
90-365	228	<u>50</u>	<u>11,400</u>
Totals		1,280	34,050

Dividing the total days for all ranges in Table III (34,050) by the total number of claims (1,280), we find that the average number of days required for processing IBNR claims post-EDI is 26.6 days (34,050 / 1,280).

The impact of EDI's expedited processing can be shown by comparing the average number of days required to process IBNR claims pre- and post EDI (See Figure 1).

methodology used to calculate IBNR balances. Since EDI is being phased in over 2-3 years, its impact could be masked as increased claim payments are spread over multiple years.

Regardless, EDI has the potential to artificially increase costs and overstate claim payments in the short run as claims are paid more quickly. The impact can be minimized by monitoring reductions in the average number of days between service date and payment date of claims and making corresponding adjustments to IBNR balances to compensate for expedited claim payments under EDI.

<b>Figure 1</b>	
PreEDI	38.5 days
Post EDI	<u>(26.6 days)</u>
Impact	11.9 days or 30.9% Reduction

This 30.9% (11.9 days 38.5 days) reduction in the average number of days required to process IBNR claims results in additional claims being included in the benefit plan's current cost as IBNR claim inventory is reduced because claims are paid more quickly. Stated another way, EDI has moved claim payment from 30 claims in 4.5 days (Table II) to 930 claims paid in 5 days (Table III). The dollar impact of this shift would be \$259,560 (\$840,000 x 30.9%) using our previously calculated IBNR. Figure 2 shows the new plan cost including these additional claim costs.

<b>FIGURE 2</b>	
Current Claim Cost	\$2,400,000
Claim Inventory Reduction	<u>+ 259,560</u>
New plan cost	<u>\$2,659,560</u>

However, this is an artificial increase of \$259,560 due to a reduction in claim inventory resulting from expedited claim processing and not due to increased cost or utilization.

Therefore, a corresponding adjustment to IBNR is needed to reflect the reduction in outstanding claims. Such an adjustment would establish IBNR at \$580,440 (\$840,000 - \$259,560) by subtracting the IBNR claim inventory reduction. This would eliminate the impact of expedited claims on cost (cash flow would still be impacted). Figure 3 shows what this adjustment would look like:

<b>FIGURE 3</b>	
Artificial Claim Cost	\$2,659,560
Ending IBNR	\$580,440
Beginning IBNR	<u>(\$840,000)</u>
Adjustment	<u>(\$259,560)</u>
Actual Claim Cost	<u>\$2,400,000</u>

## CONCLUSION

The true impact on a particular welfare benefit plan will depend on a variety of factors ranging from the volume of claims actually processed by EDI to the

## ENDNOTES

- 1 HCFA Electronic Claims Transaction Initiative (ECTI) 35 step action plan.
- 2 Recommendation of the Workgroup for Electronic Data Interchange (WEDI)
- 3 Scott, Jeanne Schulte "Reform Models Require Strong Information Access", Health Management Technology, January, 1994
- 4 Southwick, Karen "Selling the Client Server Cure," Upside, January 1994
- 5 1984 DEFRA, P.L. 98-369, codified at 98 STAT 854
- 6 Study of hospital billing and payment cycle conducted by a hospital owned Third Party Administrator.

### *About the Author*

**Theodore R. (Ted) Carlson, CEBS** is the founder of Carlson's Consulting, a Houston based management consulting practice that helps organizations design and administer cost effective – high quality employee benefit plans by providing practical solutions to complex problems. Previously he held various senior management positions in insurance, managed care and private industry.

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