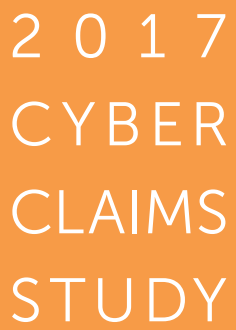


The NetDiligence logo features the brand name in a blue serif font with a registered trademark symbol. A stylized orange 'u' shape is positioned below the 'i' in 'Diligence'.

# NetDiligence®

The title '2017 CYBER CLAIMS STUDY' is displayed in white, uppercase, sans-serif font on a large orange geometric shape that overlaps the background.

2017  
CYBER  
CLAIMS  
STUDY

The text '2018 Sector Spotlight HEALTHCARE' is centered in a grey, sans-serif font. 'HEALTHCARE' is in a larger, bold font. The background features a light grey bar chart and a line graph.

2018 Sector Spotlight  
**HEALTHCARE**





# Introduction

As an adjunct to its annual *Cyber Claims Study*, NetDiligence® is proud to release the first in a series of “deeper dive” business sector reports. From a dataset of 591 claims provided by our Insurance partners, we have identified and analyzed 103 Healthcare claims. These claims provide insight into losses sustained from breaches in the years 2014–2016. Most of the findings in this report have not previously been published.

## Summary

Healthcare is under attack. Hackers, malware and viruses, rogue employees, ransomware, lost and stolen devices, and even staff mistakes, system glitches, and the failure to properly handle paper records have all contributed to large losses in the healthcare sector.

Of the 591 claims in the 2017 analysis set, 103 pertain to Healthcare. From the examination of this data, we offer the following key findings.

# Breach Costs and Records Lost



# Cost of Post Breach Services

Average Legal Guidance/Breach Coach® costs are comparable to other sectors (\$57K vs. \$55K).

Average Total Crisis Services costs in Healthcare are more than 3 times higher than the average of all other sectors (\$676K vs \$204K).

Average Healthcare Forensics costs are comparable to other sectors (\$166K vs \$163K).

Average Healthcare Credit/ID Monitoring costs are nearly 4 times higher than the average of all other sectors (\$246K vs. \$64K). This is due to the very high numbers of records exposed/people affected (>97M).

Average Healthcare Notification costs are more than 11 times the overall average of all other sectors combined (\$1M vs \$92K).

Healthcare Credit/ID Monitoring and Notification costs account for approximately 70% of all Healthcare breach costs.

Average Regulatory Defense costs in Healthcare are dramatically lower than the average of all other sectors (\$133K vs \$1.05M).

There are no Regulatory or PCI fines in our dataset for Healthcare.

Average Legal Defense costs in Healthcare are comparable to the average of all other sectors (\$116K vs \$118K), but average Legal Settlements are about 40% of the average of all other sectors (\$116K vs \$260K).

Average Lost Business Income and Recovery expense for Healthcare and all other sectors are comparable: (\$33-33K and \$157-101K) respectively.

Average Total Breach Costs for Healthcare organizations with <\$2B in revenues are dramatically lower than for ones with >\$2B in revenues: \$313K vs \$2.7M.

## Causes of Loss

Approximately 63% of Healthcare breaches are due to criminal or malicious activity. When compared to the average of all other sectors, average Total Breach Costs in Healthcare are almost 10 times higher (\$972K vs \$99K).

Ransomware continues to be a frequent and costly event in Healthcare, representing 10% of Healthcare claims in the dataset. The average Ransomware event cost \$76K, with maximum Recovery costs approaching \$450K.

Hacking is the most common cause of loss in Healthcare (20%), with an average breach cost of \$2.4M.



## Discussion

### Events and Incidents

Events involving malware or viruses alone had little impact on the overall cost, resulting in the exposure of zero records. However, incidents in which a hacker used malicious code did negatively affect Healthcare companies, necessitating the use of all crisis services to respond. Criminal acts breached 80M PII and 17M PHI records, and are the reason that the Healthcare sector has the highest total Notification (\$37.1M) and Credit/ID Monitoring (\$6.6M) costs.

### Are Third-Parties Your Weakest Link?

Information leaks revealing potential intrusions and data breaches can have legal consequences. The organization may be required to report the problem in order to comply with financial and privacy regulations. Business partners are often the weakest link. In the Healthcare sector, Third-Parties were the second biggest cause of loss, exposing nearly 4M records and incurring the highest Legal Damages.

### Social Engineering: Up Close and Remote

Social engineering can occur in two ways: in physical encounters (phone, face-to-face) and/or by means of remote digital methods (email). Either way, tricking another person into sharing confidential information has costly ramifications. Our dataset is 50% one-on-one physical and 50% email interactions. These interactions granted unauthorized access to confidential patient records and employee W-2 records, resulting in the third highest Total Breach Cost and the highest per record cost across sectors.

### Rogue Employees: Past and Present

Employees who access, view or steal sensitive, protected or confidential patient information fall into two categories: current employees and terminated employees whose user credentials have not been revoked. While events caused by rogue employees may involve forensics, notification, and credit/ID monitoring costs, expenditures for Legal Guidance, Legal Damages Defense and/or Legal Regulatory Defense are usually high.

## Protecting Assets

Laptop theft is still happening! Theft of employee laptops from cars continues apace, as does the leaving of PII and PHI on unsecured devices. The cost of replacing stolen items, of lost productivity, and of negative soft costs that effect reputation and customer confidence are not captured in our claims. However, we can calculate the average cost of a stolen device. This figure—\$37K—may provide risk managers with a specific value they can use in their analyses.

## Ransomware

By targeting the user environment through remote communication mediums, criminals exploit the end user in order to breach the security of the corporate environment. Business Recovery and Lost Income account for 90% of the cost of these claims.

## Staff Mistakes

Unlike brute force attacks, which use specific tools to relentlessly pursue their objectives, staff mistakes are one-time events, caused by human error. These incidents arise out of accidental email exchanges and improper paper disposal of PHI records. While the number of claims caused by employee mistake is the same as claims caused by malicious actions, the cost per record is 98% higher.

## A Note on Methodology

Our data collection, analysis, and reporting methodology are described in detail in the full 2017 Netdiligence® *Cyber Claims Study*.

## Contact Us

For more information about NetDiligence or any of our service offerings, please visit us at [NetDiligence.com](https://www.netdiligence.com), email us at [management@netdiligence.com](mailto:management@netdiligence.com), or call us at 610.525.6383.



# Appendices

Please note that, due to the re-examination and reclassification of certain claims, the overall numbers reported here may not match the numbers published in the 2017 reports.

**Table 1**

| <b>Entire 2017 Analysis Set INCLUDING Healthcare</b> | <b>Cases</b> | <b>Min</b> | <b>Median</b> | <b>Average</b> | <b>Max</b>  | <b>Total</b> | <b>Std Deviation</b> |
|--|--------------|------------|---------------|----------------|-------------|--------------|----------------------|
| Records  | 343          | 1          | 1,091         | 1,833,822      | 110,000,000 | 629,001,076  | 10,670,308           |
| Payouts  | 507          | 14         | 40,366        | 278,970        | 10,000,000  | 141,437,583  | 1,018,068            |
| Breach Costs   | 545          | 110        | 55,000        | 419,890        | 16,849,411  | 228,840,146  | 1,633,302            |
| per Record Breach Cost                               | 317          | 0.02       | 41.71         | 7,654          | 1,603,800   |              | 90,962.26            |
| <b>Crisis Management</b>                             |              |            |               |                |             |              |                      |
| Forensics  | 288          | 265        | 35,352        | 163,077        | 4,900,000   | 46,966,219   | 495,216              |
| Notification   | 148          | 14         | 12,973        | 324,983        | 15,000,000  | 48,097,455   | 1,431,029            |
| Credit/ID Monitoring                                 | 125          | 10         | 5,534         | 109,512        | 2,000,000   | 13,689,053   | 353,436              |
| Legal Guidance                                       | 357          | 112        | 15,000        | 55,632         | 2,500,000   | 19,860,562   | 194,504              |
| Other Crisis   | 74           | 149        | 10,273        | 78,484         | 2,000,000   | 5,807,797    | 267,121              |
| Total Crisis   | 473          | 14         | 34,343        | 289,734        | 15,000,000  | 137,044,107  | 1,120,263            |
| <b>Other</b>   |              |            |               |                |             |              |                      |
| Legal Damages - Defense                              | 68           | 319        | 15,500        | 117,124        | 2,500,000   | 7,964,399    | 329,898              |
| Legal Damages - Settlement                           | 38           | 1,502      | 50,000        | 248,637        | 4,800,000   | 9,448,224    | 784,616              |
| Regulatory Action - Defense                          | 11           | 2,000      | 67,500        | 633,386        | 5,791,000   | 6,967,244    | 1,714,725            |
| Regulatory Action - Fines                            | 2            | 28,943     | 44,634        | 44,634         | 60,324      | 89,267       | 22,190               |
| PCI Fines  | 13           | 6,950      | 64,324        | 389,047        | 3,000,000   | 5,057,611    | 807,626              |
| Business Income Lost                                 | 8            | 7,408      | 28,037        | 32,938         | 105,375     | 263,501      | 30,941               |
| Recovery Expense                                     | 9            | 3,000      | 25,158        | 120,102        | 473,935     | 1,080,921    | 186,769              |

**Table 2**

| <b>Entire 2017 Analysis Set EXCLUDING Healthcare</b> | <b>Cases</b> | <b>Min</b> | <b>Median</b> | <b>Average</b> | <b>Max</b>  | <b>Total</b> | <b>Std Deviation</b> |
|--|--------------|------------|---------------|----------------|-------------|--------------|----------------------|
| Records  | 274          | 1          | 1,050         | 1,887,668      | 110,000,000 | 517,221,098  | 10,923,715           |
| Payouts  | 415          | 14         | 41,000        | 231,420        | 10,000,000  | 96,039,100   | 838,640              |
| Breach Costs   | 446          | 110        | 55,150        | 367,884        | 16,849,411  | 164,076,227  | 1,492,284            |
| per Record (Breach Cost)                             | 251          | 0.02       | 46.50         | 2,561.62       | 160,932.00  |              | 14,554.08            |
| <b>Crisis Management</b>                             |              |            |               |                |             |              |                      |
| Forensics  | 246          | 265        | 35,075        | 162,504        | 4,900,000   | 39,976,065   | 524,334              |
| Notification   | 111          | 14         | 12,677        | 91,574         | 2,200,000   | 10,164,683   | 278,561              |
| Credit/ID Monitoring                                 | 94           | 22         | 5,000         | 64,445         | 1,712,000   | 6,057,809    | 233,985              |
| Legal Guidance                                       | 288          | 112        | 15,020        | 55,237         | 2,500,000   | 15,908,326   | 208,445              |
| Other Crisis   | 61           | 149        | 10,295        | 68,964         | 2,000,000   | 4,206,779    | 263,170              |
| Total Crisis   | 387          | 14         | 34,230        | 203,971        | 6,160,000   | 78,936,683   | 645,611              |
| Legal Damages - Defense                              | 50           | 319        | 15,500        | 117,648        | 2,500,000   | 5,882,398    | 368,117              |
| Legal Damages - Settlement                           | 35           | 1,502      | 50,000        | 260,042        | 4,800,000   | 9,101,477    | 816,864              |
| Regulatory Action - Defense                          | 6            | 2,000      | 54,250        | 1,050,310      | 5,791,000   | 6,301,858    | 2,326,354            |
| Regulatory Action - Fines                            | 2            | 28,943     | 44,634        | 44,634         | 60,324      | 89,267       | 22,190               |
| PCI Fines  | 13           | 6,950      | 64,324        | 389,047        | 3,000,000   | 5,057,611    | 807,626              |
| Business Income Lost                                 | 7            | 7,408      | 27,135        | 32,929         | 105,375     | 230,501      | 33,420               |
| Recovery Expense                                     | 6            | 3,000      | 15,503        | 101,437        | 473,935     | 608,622      | 185,260              |

**Table 3**

| Healthcare - Overall        | Cases | Min    | Median  | Average   | Max        | Total       | Std Deviation |
|-----------------------------|-------|--------|---------|-----------|------------|-------------|---------------|
| Records                     | 69    | 1      | 1,000   | 1,618,817 | 80,000,000 | 111,698,377 | 9,669,887     |
| Payouts                     | 91    | 478    | 32,264  | 498,781   | 8,959,000  | 45,389,045  | 1,591,187     |
| Breach Costs                | 99    | 765    | 55,000  | 654,080   | 15,000,000 | 64,753,919  | 2,151,441     |
| per Record Breach Cost      | 66    | 0.19   | 28.42   | 27,021    | 1,603,800  |             | 197,305       |
| <b>Crisis Management</b>    |       |        |         |           |            |             |               |
| Forensics                   | 42    | 1,650  | 37,545  | 166,432   | 1,000,000  | 6,990,154   | 271,681       |
| Notification                | 37    | 52     | 15,000  | 1,025,210 | 15,000,000 | 37,932,772  | 2,730,021     |
| Credit/ID Monitoring        | 31    | 10     | 23,610  | 246,169   | 2,000,000  | 7,631,244   | 566,515       |
| Legal Guidance              | 69    | 426    | 14,168  | 57,279    | 600,000    | 3,952,236   | 121,137       |
| Other Crisis                | 13    | 850    | 9,500   | 123,155   | 1,065,000  | 1,601,018   | 291,810       |
| Total Crisis                | 86    | 478    | 40,955  | 675,668   | 15,000,000 | 58,107,424  | 2,211,757     |
| <b>Other</b>                |       |        |         |           |            |             |               |
| Legal Damages - Defense     | 18    | 2,253  | 19,706  | 115,667   | 603,800    | 2,082,001   | 195,802       |
| Legal Damages - Settlement  | 3     | 32,500 | 50,000  | 115,582   | 264,247    | 346,747     | 129,044       |
| Regulatory Action - Defense | 5     | 25,163 | 100,000 | 133,077   | 250,000    | 665,386     | 110,344       |
| Regulatory Action - Fines   | 0     |        |         |           |            |             |               |
| PCI Fines                   | 0     |        |         |           |            |             |               |
| Business Income Lost        | 1     | 33,000 | 33,000  | 33,000    | 33,000     | 33,000      | N/A           |
| Recovery Expense            | 3     | 25,158 | 30,000  | 157,433   | 417,141    | 472,299     | 224,927       |

Table 4

| Healthcare - Revenue Size<br>< \$2B | Cases | Min    | Median | Average | Max       | Total      | Std Deviation |
|-------------------------------------|-------|--------|--------|---------|-----------|------------|---------------|
| Records                             | 51    | 1      | 864    | 288,979 | 3,900,000 | 14,737,911 | 960,400       |
| Payouts                             | 79    | 478    | 32,172 | 310,522 | 7,105,000 | 24,531,225 | 1,142,529     |
| Breach Costs                        | 83    | 902    | 54,537 | 313,345 | 7,130,000 | 26,007,661 | 1,118,364     |
| per Record Breach Cost              | 51    | 0.75   | 41.06  | 3,513   | 50,000    |            | 10,762        |
| <b>Crisis Management</b>            |       |        |        |         |           |            |               |
| Forensics                           | 36    | 1,650  | 34,361 | 127,189 | 1,000,000 | 4,578,815  | 239,531       |
| Notification                        | 28    | 52     | 13,463 | 345,188 | 2,900,000 | 9,665,273  | 827,500       |
| Credit/ID Monitoring                | 24    | 10     | 24,770 | 204,257 | 2,000,000 | 4,902,168  | 556,162       |
| Legal Guidance                      | 58    | 426    | 14,584 | 54,917  | 600,000   | 3,185,192  | 122,505       |
| Other Crisis                        | 10    | 850    | 9,451  | 123,352 | 1,065,000 | 1,233,518  | 332,465       |
| Total Crisis                        | 71    | 478    | 32,264 | 331,901 | 7,105,000 | 23,564,966 | 1,180,829     |
| <b>Other</b>                        |       |        |        |         |           |            |               |
| Legal Damages - Defense             | 15    | 2,253  | 9,762  | 38,547  | 330,000   | 578,201    | 82,683        |
| Legal Damages - Settlement          | 3     | 32,500 | 50,000 | 115,582 | 264,247   | 346,747    | 129,044       |
| Regulatory Action - Defense         | 2     | 25,163 | 32,693 | 32,693  | 40,223    | 65,386     | 10,649        |
| Regulatory Action - Fines           | 0     |        |        |         |           |            |               |
| PCI Fines                           | 0     |        |        |         |           |            |               |
| Business Income Lost                | 1     | 33,000 | 33,000 | 33,000  | 33,000    | 33,000     |               |
| Recovery Expense                    | 3     | 25,158 | 30,000 | 157,433 | 417,141   | 472,299    | 224,927       |

Table 5

| Healthcare - Revenue Size<br>> \$2B | Cases | Min     | Median  | Average   | Max        | Total      | Std Deviation |
|-------------------------------------|-------|---------|---------|-----------|------------|------------|---------------|
| Records                             | 11    | 1       | 11,000  | 8,209,740 | 80,000,000 | 90,307,143 | 23,885,617    |
| Payouts                             | 8     | 10,175  | 117,950 | 1,486,792 | 5,500,000  | 11,894,332 | 2,482,035     |
| Breach Costs                        | 11    | 10,175  | 164,900 | 2,703,030 | 15,000,000 | 29,733,332 | 4,739,408     |
| per Record Breach Cost              | 10    | 0.19    | 5.32    | 160,392   | 1,603,800  |            | 507,162       |
| <b>Crisis Management</b>            |       |         |         |           |            |            |               |
| Forensics                           | 5     | 6,000   | 267,000 | 322,468   | 798,576    | 1,612,339  | 331,957       |
| Notification                        | 8     | 2,500   | 14,700  | 2,843,437 | 15,000,000 | 22,747,499 | 5,212,916     |
| Credit/ID Monitoring                | 5     | 2,000   | 18,000  | 285,800   | 1,300,000  | 1,429,000  | 568,498       |
| Legal Guidance                      | 6     | 694     | 13,750  | 58,866    | 250,000    | 353,194    | 97,047        |
| Other Crisis                        | 2     | 7,500   | 63,750  | 63,750    | 120,000    | 127,500    | 79,550        |
| Total Crisis                        | 10    | 10,175  | 117,950 | 2,626,953 | 15,000,000 | 26,269,532 | 4,867,622     |
| <b>Other</b>                        |       |         |         |           |            |            |               |
| Legal Damages - Defense             | 2     | 400,000 | 501,900 | 501,900   | 603,800    | 1,003,800  | 144,108       |
| Legal Damages - Settlement          | 0     |         |         |           |            |            |               |
| Regulatory Action - Defense         | 2     | 100,000 | 175,000 | 175,000   | 250,000    | 350,000    | 106,066       |
| Regulatory Action - Fines           | 0     |         |         |           |            |            |               |
| PCI Fines                           | 0     |         |         |           |            |            |               |
| Business Income Lost                | 0     |         |         |           |            |            |               |
| Recovery Expense                    | 0     |         |         |           |            |            |               |

Table 6

| Healthcare - Cause of Loss<br>Criminal Actions | Cases | Min     | Median  | Average   | Max        | Total       | Std Deviation |
|--|-------|---------|---------|-----------|------------|-------------|---------------|
| Records  | 41    | 1       | 3,942   | 2,722,686 | 80,000,000 | 111,630,124 | 12,485,332    |
| Payouts  | 58    | 765     | 49,213  | 750,241   | 8,959,000  | 43,513,972  | 1,952,845     |
| Breach Costs                                   | 63    | 765     | 63,212  | 971,532   | 15,000,000 | 61,206,520  | 2,644,854     |
| per Record Breach Cost                         | 40    | 0.19    | 11.99   | 1,904     | 36,947     |             | 7,929         |
| <b>Crisis Management</b>                       |       |         |         |           |            |             |               |
| Forensics                                      | 34    | 1,650   | 42,682  | 200,084   | 1,000,000  | 6,802,857   | 292,328       |
| Notification                                   | 24    | 1,817   | 26,118  | 1,573,662 | 15,000,000 | 37,767,894  | 3,282,084     |
| Credit/ID Monitoring                           | 21    | 76      | 30,002  | 344,592   | 2,000,000  | 7,236,440   | 669,593       |
| Legal Guidance                                 | 43    | 689     | 19,478  | 75,580    | 600,000    | 3,249,953   | 148,019       |
| Other Crisis                                   | 10    | 1,500   | 11,500  | 158,440   | 1,065,000  | 1,584,402   | 327,919       |
| Total Crisis                                   | 55    | 765     | 56,938  | 1,029,846 | 15,000,000 | 56,641,547  | 2,710,006     |
| <b>Other</b>                                   |       |         |         |           |            |             |               |
| Legal Damages - Defense                        | 12    | 2,253   | 32,206  | 117,207   | 500,000    | 1,406,480   | 180,896       |
| Legal Damages - Settlement                     | 1     | 264,247 | 264,247 | 264,247   | 264,247    | 264,247     |               |
| Regulatory Action - Defense                    | 5     | 25,163  | 100,000 | 133,077   | 250,000    | 665,386     | 110,344       |
| Regulatory Action - Fines                      | 0     |         |         |           |            |             |               |
| PCI Fines                                      | 0     |         |         |           |            |             |               |
| Business Income Lost                           | 1     | 33,000  | 33,000  | 33,000    | 33,000     | 33,000      |               |
| Recovery Expense                               | 3     | 25,158  | 30,000  | 157,433   | 417,141    | 472,299     | 224,927       |

Table 7

| Healthcare - Cause of Loss<br>Non-Criminal Actions | Cases | Min     | Median  | Average   | Max        | Total       | Std Deviation |
|--|-------|---------|---------|-----------|------------|-------------|---------------|
| Records  | 41    | 1       | 3,942   | 2,722,686 | 80,000,000 | 111,630,124 | 12,485,332    |
| Payouts  | 58    | 765     | 49,213  | 750,241   | 8,959,000  | 43,513,972  | 1,952,845     |
| Breach Costs                                       | 63    | 765     | 63,212  | 971,532   | 15,000,000 | 61,206,520  | 2,644,854     |
| per Record Breach Cost                             | 40    | 0.19    | 11.99   | 1,904     | 36,947     |             | 7,929         |
| <b>Crisis Management</b>                           |       |         |         |           |            |             |               |
| Forensics  | 34    | 1,650   | 42,682  | 200,084   | 1,000,000  | 6,802,857   | 292,328       |
| Notification                                       | 24    | 1,817   | 26,118  | 1,573,662 | 15,000,000 | 37,767,894  | 3,282,084     |
| Credit/ID Monitoring                               | 21    | 76      | 30,002  | 344,592   | 2,000,000  | 7,236,440   | 669,593       |
| Legal Guidance                                     | 43    | 689     | 19,478  | 75,580    | 600,000    | 3,249,953   | 148,019       |
| Other Crisis                                       | 10    | 1,500   | 11,500  | 158,440   | 1,065,000  | 1,584,402   | 327,919       |
| Total Crisis                                       | 55    | 765     | 56,938  | 1,029,846 | 15,000,000 | 56,641,547  | 2,710,006     |
| <b>Other</b>                                       |       |         |         |           |            |             |               |
| Legal Damages - Defense                            | 12    | 2,253   | 32,206  | 117,207   | 500,000    | 1,406,480   | 180,896       |
| Legal Damages - Settlement                         | 1     | 264,247 | 264,247 | 264,247   | 264,247    | 264,247     |               |
| Regulatory Action - Defense                        | 5     | 25,163  | 100,000 | 133,077   | 250,000    | 665,386     | 110,344       |
| Regulatory Action - Fines                          | 0     |         |         |           |            |             |               |
| PCI Fines  | 0     |         |         |           |            |             |               |
| Business Income Lost                               | 1     | 33,000  | 33,000  | 33,000    | 33,000     | 33,000      |               |
| Recovery Expense                                   | 3     | 25,158  | 30,000  | 157,433   | 417,141    | 472,299     | 224,927       |

Table 8

| Healthcare - Type of Data<br>PHI | Cases | Min    | Median | Average | Max       | Total      | Std Deviation |
|----------------------------------|-------|--------|--------|---------|-----------|------------|---------------|
| Records                          | 46    | 1      | 1,118  | 385,612 | 3,900,000 | 17,738,170 | 1,080,507     |
| Payouts                          | 64    | 478    | 32,218 | 455,849 | 7,105,000 | 29,174,307 | 1,416,361     |
| Breach Costs                     | 67    | 765    | 51,762 | 474,581 | 7,130,000 | 31,796,937 | 1,418,931     |
| per Record Breach Cost           | 45    | 0.75   | 14.78  | 38,568  | 1,603,800 |            | 238,855       |
| <b>Crisis Management</b>         |       |        |        |         |           |            |               |
| Forensics                        | 24    | 1,650  | 37,545 | 189,476 | 1,000,000 | 4,547,413  | 290,739       |
| Notification                     | 26    | 52     | 15,673 | 505,578 | 3,500,000 | 13,145,036 | 1,047,446     |
| Credit/ID Monitoring             | 22    | 10     | 24,770 | 264,539 | 2,000,000 | 5,819,867  | 624,361       |
| Legal Guidance                   | 46    | 426    | 9,934  | 67,868  | 600,000   | 3,121,916  | 139,139       |
| Other Crisis                     | 8     | 850    | 13,804 | 166,620 | 1,065,000 | 1,332,958  | 366,270       |
| Total Crisis                     | 54    | 478    | 37,227 | 517,911 | 7,105,000 | 27,967,190 | 1,522,460     |
| <b>Other</b>                     |       |        |        |         |           |            |               |
| Legal Damages - Defense          | 15    | 2,253  | 9,762  | 76,467  | 603,800   | 1,147,001  | 167,682       |
| Legal Damages - Settlement       | 2     | 32,500 | 41,250 | 41,250  | 50,000    | 82,500     | 12,374        |
| Regulatory Action - Defense      | 3     | 25,163 | 40,223 | 105,129 | 250,000   | 315,386    | 125,688       |
| Regulatory Action - Fines        | 0     |        |        |         |           |            |               |
| PCI Fines                        | 0     |        |        |         |           |            |               |
| Business Income Lost             | 1     | 33,000 | 33,000 | 33,000  | 33,000    | 33,000     |               |
| Recovery Expense                 | 3     | 25,158 | 30,000 | 157,433 | 417,141   | 472,299    | 224,927       |

Table 9

| Healthcare - Type of Data<br>PII | Cases | Min     | Median  | Average   | Max        | Total      | Std Deviation |
|----------------------------------|-------|---------|---------|-----------|------------|------------|---------------|
| Records                          | 18    | 2       | 1,589   | 5,219,884 | 80,000,000 | 93,957,909 | 18,770,203    |
| Payouts                          | 13    | 4,900   | 32,128  | 1,152,024 | 8,959,000  | 14,976,309 | 2,788,456     |
| Breach Costs                     | 17    | 4,000   | 82,128  | 1,851,947 | 15,000,000 | 31,483,107 | 4,252,596     |
| per Record Breach Cost           | 17    | 0.19    | 41.06   | 460       | 3,362      |            | 963           |
| <b>Crisis Management</b>         |       |         |         |           |            |            |               |
| Forensics                        | 6     | 9,000   | 163,435 | 330,941   | 799,000    | 1,985,645  | 373,275       |
| Notification                     | 10    | 1,000   | 14,700  | 2,478,592 | 15,000,000 | 24,785,919 | 4,849,846     |
| Credit/ID Monitoring             | 6     | 2,000   | 5,000   | 236,500   | 1,300,000  | 1,419,000  | 522,549       |
| Legal Guidance                   | 11    | 4,900   | 14,168  | 50,762    | 350,000    | 558,386    | 101,214       |
| Other Crisis                     | 3     | 1,658   | 7,500   | 83,053    | 240,000    | 249,158    | 135,952       |
| Total Crisis                     | 17    | 4,000   | 49,000  | 1,705,771 | 15,000,000 | 28,998,107 | 4,092,963     |
| <b>Other</b>                     |       |         |         |           |            |            |               |
| Legal Damages - Defense          | 3     | 35,000  | 400,000 | 311,667   | 500,000    | 935,000    | 244,762       |
| Legal Damages - Settlement       | 0     |         |         |           |            |            |               |
| Regulatory Action - Defense      | 2     | 100,000 | 175,000 | 175,000   | 250,000    | 350,000    | 106,066       |
| Regulatory Action - Fines        | 0     |         |         |           |            |            |               |
| PCI Fines                        | 0     |         |         |           |            |            |               |
| Business Income Lost             | 0     |         |         |           |            |            |               |
| Recovery Expense                 | 0     |         |         |           |            |            |               |