

### Executive Summary

While EDI has transformed dental claims processing to a streamlined, electronic endeavor, paper still represents approximately 20% of all claims submitted — and about 20% of those contain a dental x-ray that also needs to be processed with the claim. These ratios are not expected to change over the next 10 years.

Because processing paper claims is labor-intensive, many dental plans struggle processing them internally in a timely manner and without too much overhead. Other dental plans that outsource paper claims processing have issues with scanning x-rays and ensuring the security of their data (keeping data entry on-shore and with a provider that has proper security audits, such as SOC 2). In both cases, achieving claim-level accuracy of 98% or above, and processing them within 48 hours can also be challenging.

The purpose of this whitepaper is to identify the best practices that make processing paper dental claims faster, in a fully secure manner and with the highest degree of accuracy. These best practices break down into three categories:

1. Overall process for processing paper dental claims and x-rays
2. In-house claims processing and the use of OCR scanning software
3. Outsourced claims processing and finding the right partner

### Overall Claims Processing Best Practices

#### Incoming Mail Tracking & Sorting

Paper dental claims arrive via post office trays. To ensure chain of custody, it's important to begin tracking each claim as they are received through to its final processing and data export.

Trays may first need to be sorted by lines of business, based on geography or other categorization, and are then logged into the system. Each tray is then bar-coded, meaning that a sheet of paper is created with a barcode. This is referred to as the tray ticket. The barcode on the tray ticket is then scanned, which includes information on date, time, number of trays, and ID badge of who scanned them.

All mail in each tray is run through an automated slitting machine by a slitter operator and a daily count is stored in the tracking database. Because trays contain too many envelopes for any one person to process in a day, each tray is broken down into a series of baskets of approximately 100 envelopes each. The mailroom clerk then stages the baskets so they are now ready for prep.

#### Prepping

With barcoded baskets and barcoded employee ID badges, the mail opening staff checks a basket out. The tracking system notes who signed the basket out as well as date and time. Upon “checkout” the system prints off a prep ticket, which accompanies the basket through entire sorting process. Clerical staff then opens and sorts all claims documentation based on the contents of each envelope into two main categories and then sub-categories:



- Paper
  - Single page claims: one page claim
  - Single page claim with attachments: attachments can be an explanation of benefits (EOB) and/or correspondence
  - Multi-page claims: claims that have more than 10 lines
- X-rays
  - X-rays can accompany any of the three types of paper claims listed above for six sorts in total plus the additional two white mail sorts
  - When this occurs, both the paper claim and x-ray are barcoded with the same number so they can be merged back together following scanning
- White mail: anything that is deemed “not a claim” this is sorted separately with and without x-rays

### Paper Scanning

Paper claims and attachments are then scanned by an operator on a high-volume production scanner. We recommend using scanners that can scan 200 pages per minute or more, such as the IBML ImageTrac Series, as well as capturing images at 300 dpi for better image quality and increased OCR results.

White mail is scanned without any further sorting or OCR and then uploaded to a separate folder or cabinet within the dental plan’s document management software. A customer service rep typically works this cabinet on a daily basis.

### X-Ray Scanning

Radiograph x-rays need to be scanned on a specialty x-ray scanner, such as the P&R Dental Strategies Rapid Review Imaging System (RRIS).

### Claims Processing

Once everything is scanned, document capture and scanning software capable of image enhancement,

document classification and optical character recognition (OCR) takes over.

The capture software will first enhance each document image with auto cropping, deskew and brightness to increase legibility. The software then runs a “black line drop out” to remove only the form, leaving all the needed data. The software then automatically classifies each claim by ADA form type. There are about a six different forms and variations of each that need to be trained into the system—claims go back several years and some dentists still submit claim forms from the 1990s. By knowing each form type, the software then knows the location of each field to perform OCR.

All separator sheets and blank document images are deleted, and a document control number (DCN) is applied to each claim image.

### OCR & Manual Validation

OCR is the software’s ability to automatically recognize machine print on each claim form. The best OCR engines typically achieve 99% character accuracy but 96% for field accuracy, which is far more important.

When the OCR engine is not sure about a character (because of low machine print confidence or handwriting), it routes the image for manual validation.

### Business Rules Validation

Following OCR, claims are then routed through business rules validation to determine that the right procedure codes are used, the right minimum/maximum fees are applied, that valid procedure codes line up with the correct tooth number worked, etc.

In this way, the claims processing system mimics the dental plan’s back-end adjudication system in the front-end, and so that issues can either be quickly



resolved or flagged for follow-up as part of the adjudication process. About 80% of all claims require either OCR or business rules exception handling.

Note: at this stage, manual validation and QA are only meant to verify what's on the paper claim. It's up to the adjudication system and process to resolve business rule exceptions. If 9500 is put as the procedure code, but it should really be 4500, the business rules validation process simply ensures that 9500 is what appeared on the claim and that is what the OCR engine is reporting, even though someone in the adjudication process will need to make the change.

### Image & Data Export

At this point there are two output streams. The first is an image of the paper claim with attachment and the x-ray, if applicable. These images are then uploaded to the dental plan's document management software for archival and future search and retrieval — software like OpenText AX, Documentum, FileNet, RRI, and even homegrown systems.

A data file is then compiled in 837D format and uploaded into the dental plan's adjudication system.

### In-House Claims Processing Best Practices

#### Un-Touched Rate

Also referred to as “straight-through processing,” un-touched rate refers to the ability to process a paper dental claim without the need for human intervention. This includes achieving 100% optical character recognition (OCR) and satisfying all business rules (which vary per dental plan).

Based on our experience, we've seen un-touched rates range between 8% and 23%. A higher rate can be achieved by utilizing leading software technology,

a strong process and experienced developers with strong OCR experience.

Here's how un-touched rate corresponds to savings:

$$\frac{\text{\# of incoming claims per day} \times \text{un-touched rate \%}}{\text{\# claims processed per hour}} \times \text{average hourly rate for operators} \times \text{\# working days in a year}$$

#### Example:

If you process 2,000 claims per day, an un-touched rate of 23% means that 460 claims would be processed automatically—a total of 119,600 claims annually (over 260 working days—5 days per week over 52 weeks). If your operators process 100 claims per hour on average, you will save 4.6 hours of productivity per day. If the average hourly rate of your operators, after benefits and payroll taxes (fully loaded), is \$30, then you save \$138 per day. Annualized, this means you would recoup 1,196 hours and \$35,880.

Since these are not hard dollar savings, it means that you would be able to process another 57.5 claims per hour over the course of an 8-hour day.

If you can estimate your un-touched rate today, then substitute yours for 23% and use that number for un-touched rate.

#### Automated Software Capabilities

A best practice is to use document capture software that has the following automated capabilities:

- Image enhancement: cropping, deskew and brightness
- Black line drop out
- Document classification: sorts claims by form type





- Separator and blank page deletion: eliminates unnecessary images
- Batch merging: merging x-rays with claims images based on the barcode

### Chain of Custody & Accountability

We've found that dental plans who process their own claims often do not track each claim. They often weigh postal trays to estimate how many claims were received based on a ratio of number of sheets per pound—even though these claims contain some amount of x-rays.

They also don't usually have strong operator monitoring and accountability. Management doesn't know who received, opened and entered data from each claim, so there is now way to determine productivity and it's also difficult to take corrective action.

A best practice is to use a reporting tool that tracks how long each basket took to prep, QA rates per operator and field vs. claim-level accuracy—with the ability to create any other custom report you need.

If your team cannot achieve 98% claim-level accuracy within a 48-hour turnaround, you may want to consider outsourcing this process.

### Outsourced Claims Processing Best Practices

#### A Holistic Approach

Some outsourcing providers can only “key and capture.” While data entry and quality control are labor intensive, so is the logging, prepping, sorting, and scanning of paper claims, attachments and x-rays.

Outsourcing all of these manual processes is the key to maximum efficiency—from PO box pick-up to data upload to document shredding.

To ensure the highest claim-level accuracy rates, we also recommend that 10% or more of all claims are manually validated prior to data export, whether all claim data is manually entered or automatically extracted with manual exception handling.

#### X-Ray Scanning

Most claims outsourcing providers do not have the right equipment to scan x-rays. It is our experience that the only x-ray scanner available to produce an image with the quality needed to make medical decisions, is the P&R Rapid Review Imaging System (RRIS).

#### Data Security

North American dental plans are increasingly leery of having sensitive health information overseas where privacy laws and enforcement may be questionable.

The main reason providers accepted this risk in the past is because the major cost savings from outsourcing labor outweighed costs associated with the small degree of risk.

Today however, the risk has grown and domestic outsourcing providers using technology are able to automate much of the manual labor processing and can efficiently handle the small amount of data entry that remains—and can do so on-shore at near off-shore prices, thus eliminating security as a major issue while being cost-effective.

Whether domestic or offshore, outsourcing providers need to have a secure facility, including controlled access and video surveillance, with employees that pass background checks with clean records. They also need strong IT security, consisting of encrypted servers, firewalls and secure transmission encryption.



# WHITEPAPER

## Paper Dental Claims Processing Best Practices



INFORMATION CAPTURE SOLUTIONS

It is also recommended to look for a provider that has completed a third-party security audit such as a SOC 2 Type 2 assessment.

Paper claims, attachments and x-rays are then often shredded 60 days after processing. Just make sure you receive a certificate of destruction upon request.

### **Business Rules Validation & 837D Exporting**

Being able to run claims through a business rule validation process and to export the resulting data files in the 837D format streamlines the adjudication process more than anything else. This cuts down on data field mapping of non-837D files as well as manual adjudication exception handling

## About Information Capture Solutions, Inc. (ICS)

ICS is the nation's leading provider of paper dental claims processing solutions. By combining automation technology and outsourcing services for processing 500 to 20,000 claims per day, ICS helps dental plans double throughput and cut costs in half.

As a software integrator, ICS is a leading provider of OpenText Captiva document capture and ApplicationXtender workflow automation and document management software. As an outsourcing provider, ICS provides on-shore quality and near off-shore prices—from the mailroom to 837D data export. Using our outsourcing experience, we can help you achieve un-touched rates of 20-25%+.

If you're not satisfied with the cost, timing and quality of your paper claims processing system or outsourcing provider, ask us about our Dental Claims Assessment.

