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| Dental Payment integrity – client inbound and outbound | |
| Last Edited on | 3/14/2019 | Test Strategy Document |
| Document Version | DRAFT| Version 0.4  Prepared By | Manmeet Chadha | |

**Template Control**

| Version | Date | Reviewer Name and Role | Approve by Name and Role |
| --- | --- | --- | --- |
| 0.1 | 02/19/2019 |  |  |
| 0.2 | 02/27/2019 |  |  |
| 0.4 | 03/19/2019 |  |  |

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# Document Control

## Version History

| Version No. | Date | Author | Change Description |
| --- | --- | --- | --- |
| 0.1 | 02/19/2018 | Manmeet Chadha | Initial Draft |
| 0.2 | 02/27/2019 | Manmeet Chadha | Section 5.2 added |
| 0.3 | 03/14/2019 | Manmeet Chadha | * Removed Modifier Description from Inbound Map for 837D Load – Section 5.1.3 * Outbound file Segment for New\_Proc\_Code/Factor\_Proc\_Code added -   Section 5.1.6   * Client EOB to be sent out only for lines with flags like ‘I’,’M’ or ‘D’ – Section 5.1.7 |
| 0.4 | 03/19/2019 | Manmeet Chadha | * HCP01=10 added as Out Of Scope, to section 4 |

## Review/Approval History

| **Date** | **Name, Title** | **Role, Department** | **Version #** | **Document Responsibility** | **Notes/Attachments** |
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## Open Items

| **ID** | **Description** | **Date entered** | **Status** | **Resolution** | **Resolution Date** |
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Introduction

## Project Identification

|  |  |  |
| --- | --- | --- |
| Project Name | Project Number | Date Created |
| ‘Dental Payment Integrity – Client Inbound and Outbound’ | eTime Code: | 02/19/2018 |
| Project Sponsor | Project Owner | |
| IT Management | Meenu Talwar | |
| Program Manager | Project Manager | |
| Meenu Talwar | Mahender Singh | |
| Project Assessment | | |
|  | | |

## Project & Testing Summary

The purpose of this project is to implement a Payment Integrity product for client’s priced and non-priced dental claims and provide recommendations on the technical & clinical merits of the claim, at a line level, so that it can be paid properly and in accordance with the industry billing standards.

Features To Be Tested

The SQA team will validate the functional, end to end claim, prior to release.

Below are the features that will be verified as part of the ‘Dental Payment Integrity – Client Inbound and Outbound’ testing:

* 837D claim load process for dental claims
* 837 D maps for dental fields
* 837D claim validation
* Client EOB generation
* Dental Client Product Type Setup in UCW
* Client Options – Presenting information to clients based on options they are setup with
* 837D claim extract process for dental claims

Features OUT OF SCOPE from testing

* 837D Load process for the below ACCOUNT\_PROFILE fields that exist in UCW data store but not being used:
* Load\_Status\_Code
* Client\_Claim\_ID\_Segment
* Orig\_Client\_Claim\_Id\_Segment
* Target\_Amt\_Segment
* Line\_Payer\_Liab\_Segment
* Line\_Target\_Amt\_Segment
* Line\_Coins\_Amt\_Segment
* Line\_Deduct\_Amt\_Segment
* Line\_Copay\_Amt\_Segment
* Inbound\_Post\_procedure
* 837D Extract process for the below ACCOUNT\_PROFILE fields that exist in UCW data store but not being used:
  + Outbound\_Post\_procedure
* Changes to ACK process.
* Fields in source\_input table that are marked MVP Optional and not avlbl with MPI.
* Passing Multiplan derived values to DentaLens platform, for the purpose of DL Portal
* DentaLens portal integration
* Historical Claim file/data validation and stripping PHI will not be done.
* Historical Claims load to the DentaLens system.
* Recalling dental claims
* Pricing Methodology HCP01=10

CLIENTS to be used for both Functional and E2E testing :

| **Client** | **Alternate\_acct\_id** | **Acct\_Id** | **CDM Setup** | **Product Hierarchy in XN table** |
| --- | --- | --- | --- | --- |
| Client\_1 | 1129000000 | 1129010001  CCode- MARSP3 R1 | xDentalReview | xDentalReview (RO=0)  OR  xDentalReview (RO=2)  OR  xDentalReview (RO=8) |

Approach – Testing Types

## Unit/Component and E2E Testing

In the UCW DB, the below tables need to be setup for the clients sending dental claims, in the CLAIMS\_CONFIG schema:

1. Account\_Profile
2. Claim\_Exchange
3. External\_Network
4. Wkflow\_process\_reg (Product setup only)

### Dental Client Setup

* Verify the 'EOB\_MESSAGE\_SETUP' for a client using the new standard\_value\_type 'DL\_CLIENT\_EOB\_SETUP', for both values ‘D’ and ‘S’.

### Database updates for dental claims

* Verify new column ‘Claim\_Form\_Type’ being added to the below tables:

|  |  |
| --- | --- |
| **UCW Table Name** | **Currents Column(s)** |
| Account\_Profile | HCFA, UB |
| Account\_Profile\_Audit | HCFA, UB |
| External\_Network | Claim\_Source\_Code |
| External\_Network\_Audit | Claim\_Source\_Code |
| Reason\_Codes\_Xwalk | HCFA\_UB |
| Reason\_Codes\_Xwalk\_Audit | HCFA\_UB |
| Standard\_Values | HCFA\_UB |
| Standard\_Values\_Audit | HCFA\_UB |
| Vendor\_List | HCFA, UB |
| Vendor\_List\_Audit | HCFA, UB |
| Wkflow\_keyprocess | Claim\_Type |
| Wkflow\_keyprocess\_h | Claim\_Type |
| Wkflow\_keyprocess\_clntconfig | Claim\_Type |
| Wkflow\_keyprocess\_clntconfig\_h | Claim\_Type |

* Verify new column ‘Factor\_Classification’ added to the table Outbound\_Claim .

### 837D Load

* Verify the below for the 837D load process:
* Single claim loaded per STSE segment.
* Multiple claims loaded per STSE segment.
* 837D file with multiple STSE segments
* ETL\_File\_Log entry for each 837D file loaded. (JIRA Defect CPROC-12072)
* Client Allowed, is continued to be preserved in MPI\_TARGET\_AMT. This to be corrected in June release.
* 837D Inbound Mapping to be verified for the below fields:

XML Root Element - claimRequestInt/dentalClaim

XML Child Element - dentalClaimLines/claimLine

| **Loop** | **Segment** | **Element** | **XML Field Element** | **Table Name** | **Column Name** |
| --- | --- | --- | --- | --- | --- |
| 2300 | DN2 | 01  (Missing tooth number) | Missing\_teeth | DENTAL\_CLAIM | MISSING\_TEETH |
| 2300 | DN2 | 02  (Tooth Status Code) | If DN202 is M, then only DN201 should be populated in field Missing\_Teeth. | | |
| 2400 | LX | 01 | clientLineNumber | CLAIM\_LINE | CLIENT\_LINE\_NUM |
| Sequencial Line Number | | | mpiLineNumber | CLAIM\_LINE | LINE\_NUM |
| 2400 | SV3 | 01-02 | cptCode | CLAIM\_LINE | PROCEDURE\_CD |
| 2400 | SV3 | 01-03 | modifier1 | CLAIM\_LINE | MODIFIER1 |
| 2400 | SV3 | 01-04 | modifier2 | CLAIM\_LINE | MODIFIER2 |
| 2400 | SV3 | 01-05 | modifier3 | CLAIM\_LINE | MODIFIER3 |
| 2400 | SV3 | 01-06 | modifier4 | CLAIM\_LINE | MODIFIER4 |
| 2400 | SV3 | 01-07 | cptDescription | Not to be mapped to DB | |
| 2400 | SV3 | 02 | lineBilledAmount | CLAIM\_LINE | LINE\_CHARGE |
| 2400 | SV3 | 03 | placeOfService | CLAIM\_LINE | PLACEOFSERVICE\_CD |
| 2400 | SV3 | 04  Oral Cavity Designation | surface | DENTAL\_CLAIM\_LINE | SURFACE |
| 2400 | SV3 | 06 | unitsOfService | CLAIM\_LINE | SERV\_QTY |
| 2400 | HCP | 01 | pricingMethodology | CLAIM\_LINE | PRICING\_METHODOLOGY |
| 2400 | HCP | 02 | mpiTargetAmount | CLAIM\_LINE | MPI\_TARGET\_AMT |
| 2400 | HCP | 02 | lineAllowedAmount | CLAIM\_LINE | ALLOWED\_AMT |
| Default to Zero | | | lineSavingsAmount | CLAIM\_LINE | SAVINGS\_AMT |
| Default to CPC | | | mpiReasonCode | CLAIM\_LINE | REASON\_CD |
| 2400 | TOO | 01  (Qualifier Code : JP) |  | - | - |
| 2400 | TOO | 02 | toothNum | DENTAL\_CLAIM\_LINE | TOOTH\_NUM |
| 2400 | TOO | 03  03-01/03-02/03-03/03-04 | surface | DENTAL\_CLAIM\_LINE | SURFACE |
| 2400 | DTP | 03 | dateOfService | CLAIM\_LINE | SERVICE\_START\_DATE,  SERVICE\_END\_DATE |
| 2430 | SVD | 02 | targetAmount | CLAIM\_LINE | TARGET\_AMT |
| 2430 | SVD | 02 | resonableCustomary | CLAIM\_LINE | REASONABLE\_CUSTOMARY |
| 2430 | SVD | 06 | bundledLineNumber | CLAIM\_LINE | BUNDLED\_LINE\_NUM |
| 2430 | CAS | PI - BI/96/150 | excludeLineAmount | CLAIM\_LINE | EXCLUDE\_LINE\_AMT |

### Dental claim validation

* Verify the below validations and update the claim data as required.

| **Validation Rule** | **Applies to:** | **If edit is applied:** | **Test for MVP?** |
| --- | --- | --- | --- |
| **Claim Level** |  | | |
| Billed Amount:   * If claim-level billed amount is zero or null, then update with sum of line billed amounts * If claim-level billed amount does not equal the sum of the line-level billed, and client is configured to allow ‘UPDATE’, then update the claim billed amount with sum of line billed amounts | Priced claims  Not-priced claims | Data is updated | Yes |
| Allowed Amount:   * If the sum of the line-level allowed is greater than zero, then update the claim-level allowed amount to sum of line allowed amounts (regardless of whether or not claim-level allowed was submitted on the claim) * If allowable amount does not exist on any line (all lines are NULL), all line allowables are kept as NULL and claim level is set as submitted; (In this case we could keep claim level allowable as the original claim allowable instead of making it null.) | Priced claims | Data is updated | Yes |
| Target Amount:   * If claim-level target amount is null, and the sum of the line-level target amounts is greater than zero, then update the claim-level target amount with sum of line target amounts | Priced claims  Not-priced claims | Data is updated | No |
| Calculate First DOS:   * Set to the earliest date from claim lines Date of service | Priced claims  Not-priced claims | Data is updated | Yes |
| Provider Tax ID – Billing & Rendering:   * Remove non-numeric values, if any * If the value is less than 9 digits, then pad zeros on left side to make length 9 digits | Priced claims  Not-priced claims | Data is updated | Yes |
| Address line1 and line2 – Billing & Rendering:   * Remove character ‘#’ from address, if any | Priced claims  Not-priced claims | Data is updated | Yes |
| Zip Code – Billing & Rendering:   * Remove non-numeric values, if any * If the value is more than 5 digits, then trim to 5 digits * If the value is less than 5 digits, then pad zeros on left side to make length 5 digits | Priced claims  Not-priced claims | Data is updated | Yes |
| State – Billing & Rendering:   * If State is missing or invalid, then update based on Zip Code * If State is missing or invalid and Zip Code is not valid, then update the State to NULL | Priced claims  Not-priced claims | Data is updated | Yes |
| Priced vs Not Priced Claims  Set claim to 54/CPC :   * If claim has an original claim level allowable coming from the client OR at least one line allowable   Else do not set claim to 54/CPC | Priced claims  Not-priced claims |  |  |
| **Line Level** |  | | |
| Allowed Amount:   * If line-level allowed is negative, then update to ‘0’ * If client has submitted pricing on at least one line, but other line(s) do not have pricing, then update missing line-level allowed amount to Covered Charges (line-level billed amount minus line-level excluded amount) **\*** | Priced claims | Data is updated | Yes |

* Verify the below validations and reject the claim back to the client.

| **Validation Rule** | **Applies to:** | **If edit is applied:** | **Test for MVP?** |
| --- | --- | --- | --- |
| NPI– Billing & Rendering:   * NPI must be a 10-digit number and start with ‘1’ or ‘2’, else claim will fail validation with message *“Invalid NPI”* | Priced claims  Not-priced claims | Claim is rejected | Yes |
| If claim does not have line items, then claim will fail validation with message *“No lines for claim”* | Priced claims  Not-priced claims | Claim is rejected | Yes |
| If First DOS is null (even after attempting to update as noted in the above table), then claim will fail validation with message *“First DOS is null”* | Priced claims  Not-priced claims | Claim is rejected | Yes |
| If the claim-level billed amount does not equal the sum of the line-level billed, and client is configured for ‘REJECT’, then claim will fail validation with message *“Claim billed amount does not match with sum of lines billed amounts”* | Priced claims  Not-priced claims | Claim is rejected | Yes |

### UCW Outbound Process

* Verify the column ‘Factor\_Classification’ populated only if the client is setup in EDP\_STANDARD\_VALUES table for value\_type 'EOB\_MESSAGE\_SETUP'.
* Verify the column ‘Factor\_Classification’ of table Outbound\_Claims, populated with description from Look Up table for claim\_lines with one factor\_code.
* Verify the column ‘Factor\_Classification’ of table Outbound\_Claims, populated with description from Look Up table for claim\_lines with multiple factor\_code. The descriptions to be concatenated with pipe symbol (|).
* Verify the column ‘Factor\_Classification’ for claim\_lines with no factor\_code.
* Verify client specific claim level XWALKED reason\_codes populated in column ‘Client\_reason\_Code’ of table Outbound\_Claims.
* Verify client specific line level XWALKED reason\_codes populated in column ‘Client\_reason\_Code’ of table Outbound\_Claims.
* New\_Procedure\_Code if present, to be populated in the Outbound\_Claims table in field Factor\_Proc\_Code.

### 837 D Extract

* Verify 837D outbound files for:
  + Claims successfully processed by DL. (Network\_Code=344)
  + Claims rejected during validation. (Network\_Code=344 and reason\_code=DX0)
  + CPC claims validated successfully but ineligible for DL processing. (Network\_Code=54 and reason\_code=CPC)
  + Non CPC claims validated successfully but ineligible for DL processing. (Network\_Code=? And reason\_code= ?)
* Verify the below segments in the client outbound 837D file:
  + Pricing methodology in HCP01
  + MultiPlan calculated claim and line-level Allowed/Savings in HCP02/HCP03
  + Derived Claim-level Reason Code /Remark Code( NTE03)
  + Client specific Claim-level XWALKED Reason Code/Remark Code (NTE03)
  + Derived Line-level Reason Code / Line Flag – (K3\*MPI1;RMRK/REASON\_CD)
  + Client specific Line-level XWALKED Reason Code / Line Flag– (K3\*MPI1;RMRK/REASON\_CD)
  + Network Code (HCP04)
  + HCP13 to be absent
  + Line-level message or classification corresponding to the ***'MPI Factor Code’*** , depending on client preference– (K3\* MPI1;FACT;FACTOR\_CLASSIFICATION)
  + Verify outbound file for lines which have OUTBOUND\_CLAIMS.FACTOR CLASSIFICATION populated as NULL.
  + Verify no K3 segment generated for lines having factor\_classification as NULL.
  + Verify outbound file for lines which have OUTBOUND\_CLAIMS.FACTOR CLASSIFICATION populated as one or more MPI\_factor\_Codes.
  + Verify the ETL outbound process parsing the field OUTBOUND\_CLAIMS.FACTOR CLASSIFICATION for each line to determine the no. of factor code descriptions and generating a separate K3 segment for each description.
  + New\_Procedure\_Code if present, to be sent in the outbound file in segment HCP10.

### Client EOB

* Verify client preference setup for sharing EOB , and hence EOB shared one of the following ways:
  1. a generic/ standard statement
  2. high level classification corresponding to ***'MPI Factor Code’***
  3. 50-char short description corresponding to the ***'MPI Factor Code’***
* Verify the Client EOB populated with the high level classification/50-char short description corresponding to ***'MPI Factor Code’*** returnedon individual lines, only for lines with flags **like ‘D’,’I’ or ‘M’.**
* Verify no EOB generated if client not setup for Value\_Type= 'DL\_CLIENT\_EOB\_SETUP'.
* Verify EOB shared as 50 char short description, when table STANDARD\_VALUES setup for the client with Value\_Type= 'DL\_CLIENT\_EOB\_SETUP', Standard\_Value = 'EOB\_MESSAGE\_SETUP' and Return\_Value=’D’.
* Verify EOB shared as highlevel classification, when table STANDARD\_VALUES setup for the client with Value\_Type= 'DL\_CLIENT\_EOB\_SETUP', Standard\_Value = 'EOB\_MESSAGE\_SETUP' and Return\_Value=’S’.
* Verify high level classification/50-char short description for lines with multiple factors/single factors.
* On Line level, verify a separate K3 segment generated for multiple factor\_codes returned on the line.
* Verify the line level K3 segment with EOB populated in 837D

(K3\* MPI1;FACT;FACTOR\_CLASSIFICATION).

## Low Priority Testing

* Inbound and Outbound 837D maps that are getting copied from 837I and 837P.
* 837D Load/Extract process for the below ACCOUNT\_PROFILE fields that exist in UCW data store and already being used:
  + Claims\_per\_ ST\_SE\_ segment
  + HCP01\_For\_ExtNW\_Claims
  + Outbound\_Segment\_terminator
  + Outbound\_Element\_Delimiter
  + Outbound\_Subelement\_Delimiter
  + Create\_Sent\_report
  + Outbound\_File\_Skeleton
  + Outbound\_ClientClaimId\_segment
  + Outbound\_PreProcedures
  + Outbound\_Ack\_Format
  + Outbound\_ISA14
  + Outbound\_Segments\_Suppress
  + Load\_Prov\_Match\_Code

## Regression Testing

The below existing UCW service is changed as part of the Dentalens project:

* ‘UCWClaimTransactionSvc’.

The below package is changing as part of the DentaLens project.

* pkgProcessClaim – Functions in this package are changing for conditions to search by the column CLAIM\_FORM\_TYPE instead of HCFA\_UB

UCW Regression ????

## Performance/Volume Testing

Pass / Fail Criteria

## Approval Criteria

All functional and E2E test case execution should be complete in Quality Center.

# Testing Controls & Procedures

## Test Deliverables

* Test Strategy for functional and E2E testing
* Test Cases for functional / E2E testing

## Testing Tasks

* Test Data creation
* Functional Testing
* Regression Testing
* E2E testing

## Key Roles and Responsibilities

| Role | Responsibility |
| --- | --- |
| SQA | * Manmeet Chadha |
| BAT |  |
| EDI |  |
| BA, functional core team | * Gowri Narasimhan |
| Business SMEs |  |
| Project Management | * Mahender Singh |
| Technical Team | * Pramod Paidipelly * Sanjay Ranganathan |

## Resources

Enter text here.

## Schedule

Test planning

Test cases:

Execution (Functional and E2E) :

## Testing Success Criteria

### Entrance Criteria

| **Entry Criteria** | **Test Team** | **Technical Team** | **Notes** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
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### Exit Criteria

| **Exit Criteria** | **Test Team** | **Technical Team** | **Notes** |
| --- | --- | --- | --- |
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|  |  |  |  |
|  |  |  |  |

## Defect Management

All defects will be raised in JIRA, for Version=’DentaLens’

### Defect Management Severity Definitions

1 - Urgent

2 - High

3 - Medium

4 - Low

### Defect Management of Testing Completion

All defects for Version=’DentaLens’ should be Closed or Deferred to a later release, for marking Test Completion.

## Risk Management

### Risks and Assumptions

|  |  |  |
| --- | --- | --- |
| **Risk Number** | **Risk Description** | **Mitigation Steps** |
|  |  |  |

## Progress Reporting

Enter text here.

Environmental Requirements

## Test Environment Provisioning Request Process

* The product ‘xDentalReview’ to be in place in SQA.
* ETL processes to be in place, in SQA.
* The new database instance to be in place on the DL side, for dental claim flow.

# References

| Artifact Name | Location/ Link | Notes |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Glossary

|  |  |
| --- | --- |
| Term | Description |
|  |  |
|  |  |
|  |  |