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SYSTEM TEST PLAN FOR ESS  
ORCHESTRATE DTPEND USER: HCP, Potential Patient

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# **COMPONENTS**

|  |  |
| --- | --- |
| **Application/Component/Integration** | **Purpose** |
| Data Ingestion and Storing Snowflake (OE DWH) | ESS owned data warehouse storing all data required for orchestrating journeys via GrowthLoop, AI recommendations, ACTICS, AFINITY and other data sources pulled for project purpose. |
| Destination management Console | ESS campaign management with i-frame integration with GrowthLoop audience builder. DM attributes are used in GrowthLoop as tags for Meta data tracking |
| GL Audience Builder | GrowthLoop Audience Platform is a group of customers whose actions, inactions or attributes match a set of criteria you've defined, sometimes known as segments or lists |
| GL Journey Builder | GrowthLoop journey builder helps orchestrate journeys across ESS entire Marketing stack |
| ESP-Salesforce Marketing Cloud | Used to deliver personalized customer  engagement with marketing software built on the CRM platform via emails |
| ESP-Iterable | ESS licensed email platform. Used to deliver personalized customer  engagement with marketing software via emails/SMS. |
| Veeva Salesforce | Built on the Salesforce Platform, Veeva CRM ​​is a cloud-based CRM part of Veeva’s Commercial Suite for life sciences, which delivers the accurate customer data and compliant content required to enable more effective customer engagement across multiple communication channels. |
| AWS instances | used to host scalable websites and applications, manage big data, and provide backup and disaster recovery solutions |
| API Integrations | Application integration protocol between systems to make REST/SOAP calls to retrieve/create/update data |
| POSTGRES (Application DB) | ESS owned Destination manager database data storing campaign details |
| OE Media Activation | Partner with Media vendors to target media activation on client provided target list via banner ads, e-new letters, etc |
| Content Management – Tagging & Tracking | ESS tagging and tracking playbook with end-to-end meta data tracking. Also used for reporting success measurement |
| AI NBE (Applied insights Next best action) | AI model to determine a consumer next best action for targeting to increase the sales revenue based on ACTICS, AFINITY and Consumer engagement across various channels. |
| EMAIL ACTIVATION (Iterable/SFMC/EPSILON) | Partner with Email vendors or use Eversana licensed vendor tool to build SAD specific journeys with email templates set up to target client provided list of consumers. |
| Pharmacy Intake | Eversana pharmacy prescription intake via fax, electronic transmission to create patient enrollment and order processing. |
| Digital Concierge (PWA) | Patient web application used by patient to track their prescription activities including the ability to transfer an Rx and apply for Co-pay. |
| TELEHEALTH Platform | Telehealth platforms use digital technologies to provide virtual medical services, including live video consultations, remote patient monitoring, and mobile health apps. They increase access to care, offer convenience, and improve efficiency by allowing patients to receive care from home. |
| Pharmacy Services (Ex: Amazon) | To track patient's medication shipment and delivery from vendor pharmacy dispense data |
| ESS TABLEAU Reporting | Client facing dashboards brand specific for overall orchestrate success measurement |
| Web (GA4) | Google analytics data to track vendor/client website activities performed by HCP or potential patient. |
| Data Feeds | Data feeds sent via secured transfer including metrics defined by the Client for reporting/tracking. |

# **Introduction**

The purpose of the ESS is to develop Direct-to-Patient (DTP), Direct-to-consumer (DTC) Telehealth program with Digital Concierge and pharmacy intake supporting clients with seamless targeting via OMNI CHANNEL

**Purpose**

The purpose of this Test Plan is to outline the testing strategy and activities for the Omni-Channel Enterprise success solutions (ESS) DTP project, ensuring that the project meets its specified requirements and functionalities as expected by a DTP module.

# **QA Components test process**

## **Testing Data Ingestion and Storing**

1. Verifying Client provided target list with MDM, UDM and control/test split based on decided baseline. (ex: Top decile, brands, segments etc)
2. Verifying ESS data Warehouse for data pulled to check patient insurance for soft/hard check.
3. Verifying MuleSoft API integration data with patient services BRE API.
4. Verifying data received by the Telehealth platform for patient, order and GA4.
5. Verifying data load and schedule for ESS data warehouse.
6. Verifying Digital concierge data for PWA, patients’ prescription activity.
7. Verifying data from vendor Dispense file for pharmacy delivery.
8. Verifying Data pipelines/SFTP/ S3 bucket file drop to vendor/client.
9. Verifying GrowthLoop snowflake destination data stored in ESS data warehouse.
10. Verifying ESS data Warehouse for MEDIA and EMAIL Engagement data.
11. Verifying Media analytics data.
12. Verifying Tableau dashboards for reporting for all client data for success measurement.
13. Content Management meta data tagging and tracking in ESS DWH Snowflake

## **Testing Destination Management Console**

* User, Role, Brand, Franchise
* Cognito (Identity Platform) – User Authentication
* Destination Creation
* Uploading a target list to s3
* Destination Approval
* Destination Rejection
* Campaign/Destination Prioritization
* UX Testing.
* Content Tagging -Tracking (metadata)- OE Metadata Catalogue
* Destination manager REST API (stores destination info from web console)
* Orchestrate Database/Application Database (Postgres).
* Security testing via POSTMAN (permissions applied via backend)
* Multi-brand management
* Multi-indication management
* Campaign set up verification based on CRD (campaign requirement document)

## **Testing GL Audience builder**

* Verifying Data set group availability for building audience.
* Verifying audience built for Media journeys using data set groups.
* Verifying audience built for email journeys using data set groups.
* Verifying all base criteria covered for each audience.
* Campaign set up verification based on CRD (campaign requirement document)

## **Testing GL Journey builder**

* Verifying Manual handshake between EVR-Destination manager & GL-Journey Builder.
* Verifying Audience export with target list.
* Verifying GL Journey set-up based on SAD (Strategic Activation Document)
* Verifying Entry and exit criteria/conditions for each sub-journey/experience.
* Verifying Global rules & Triggers for each journey and cross journeys.
* Verifying pre-determined cadence and basic governance rules.
* Verifying Ad-hoc/one- triggers that enter the HCP into another branch of the same journey.
* Verifying Destination ID integration (linking campaign/destination audience) – as tags.
* Verifying Journey activity log for tracking the journey counts and status
* Verifying Journey destination exports are successful for each specific destination.
* Campaign set up verification based on CRD (campaign requirement document)

## **Testing Email service platform (Salesforce/Iterable)**

* Verifying integration between GL-Journey Builder and ESP for target file drop.
* Verifying the cadence for target file drop/s.
* Verifying the audience list exported to ESP and journey built for same.
* Verifying ESP Journey criteria and email templates set up match with SAD content for that journey.
* Verifying ESP logs for successful inbox delivery.
* Verifying IP Warming for a new client target list to ensure no spam delivery from domain/sub-domain.

## **Testing with Veeva Salesforce system**

* Verifying integration between GL-Journey Builder and Veeva SFTP for target file drop.
* Verifying the fields sent to Veeva for HCP suggestions and Insights.
* Verifying Rep engagement on the same
* Verifying NPI account to Territory match with Veeva.

## **Testing AWS Instances**

* Verifying integration between AWS S3 bucket for vendor specific target file drops.
* Verifying IPs whitelisted for authorized member access.
* Verifying engagement data pull for media analytics.

## **Testing Postgres Application Database**

* Verifying integration between Campaign manager and backend for data storage.
* Verifying related tables that support the campaign.

## **Testing pharmacy services (ex: Amazon Pharmacy)**

* Verifying in co-ordination with patient services team, integration between Eversana pharmacy and vendor pharmacy delivery system.
* Verifying file transfer for dispense and delivery.
* Verifying data storage at patient services for same.
* Verifying data load and schedule refresh for ESS data warehouse reporting.

## **2.10 Testing ESS Tableau reporting**

* Verifying integration between ESS data warehouse and tableau cloud.
* Verifying tableau metrics with SQL queries at presentation view level.
* Verifying the counts match for each metric between Tableau and snowflake in reference to success measurement DDM (dashboard data mapping) spreadsheet.
* Verifying UX/UI requirements if any provided.

## **2.11 Testing web GA4 data**

* Verifying access to Google analytics specific client instance to pull the GA4 data.
* Verifying each action is captured like views, session log ins, clicks and page landing activities.

## **2.12 Testing data feeds for client secured transfer**

* Verifying successful integration and file drop to client SFTP.
* Verifying metrics and details needed for each data feed with file format, fields and values sent per FIA (File integration agreement)

## **2.13 Testing vendor Media activation**

* Verifying GrowthLoop connection with vendor SFTP location for file drop from Eversana for target list.
* Verifying Target file drop cadence (one-time /re-targeting)
* Verifying File format, frequency, location, file drop defined in File Integration Agreement (FIA)
* Verifying End to End testing with engagement data (target list file drop, DI file drop stored to s3 bucket, engagement data load)
* Verifying Engagement data coming back from Media vendor to ESS data warehouse.
* Verifying ETL if any for view level data.
* Verifying Media console – CMTT (content management tagging & tracking)
* Verify data display per metric calculation for success measurement after data refresh to ESS Snowflake views for Tableau.

## **2.14 Testing CMTT (Content management-tagging & tracking)**

* Verifying inbound and outbound data collection on ESS data warehouse.
* Verifying all necessary tags included for end-to-end meta data tracking.

## **2.15 Testing AI NBE**

* Verifying AI model output to ESS data warehouse.
* Verifying all fields and values required for GL Journey criteria and audience building.
* Verifying AI criteria for end user recommendations.
* Verifying journey and snowflake counts match for same.

## **2.16 Testing pharmacy intake (Patient Services)**

* Verifying in co-ordination with patient services team for successful intake for patient fax or electronic transfer from telehealth platform.
* Verifying patient enrollment created in Eversana pharmacy system without any missing information for further processing.

## **2.17 Testing Digital Concierge (PWA)**

* Verifying the PWA authentication for mobile OPT log in.
* Verifying Patient navigation and app features working as per requirements (BRD).
* Verifying as a patient, able to log in to track my prescription activity.
* Verifying as a patient, able to make an Rx transfer.
* Verifying as a patient, able to apply for Co-pay card.
* Verifying satellite and API integrations with salesforce system for data flow.

## **2.18 Testing with Telehealth Data**

* Verifying the connection between Telehealth platform and ESS data warehouse via API.
* Verifying the data flow and schedule per requirements.
* Verifying the link between telehealth platform, pharmacy services up until order delivery.
* Verifying collection on data and display on ESS tableau dashboards for success measurement.

# **Out of Scope for ESS QA Team**

* Unit Testing - Performed by development team.
* Testing telehealth application or database
* MEDIA vendor campaigns and activities.
* Patient services application/s and database.

# **Test Execution**

All test cases will be executed on the management tool and the results stored in the same place. Each test case will be marked Pass, Fail, or Blocked by the executing QA Analyst. A Zephyr dashboard will provide status on demand to any stakeholder with access to JIRA. The Test Case workflow will work as follows:

* When a user story moves to Eversana QA’s swim lane- that can be the indication that it is ready for internal QA testing.
* Prior to execution, the EVERSANA tester will create an instant test case with minimal description (Description with a distinct format –like a key word, which can help in advance search filters). These test cases will be linked to the original user story /acceptance criteria to ensure requirement traceability.
* The test cases will be updated before/during test execution to meet the acceptance criteria.
* After test execution, test results including what feature/functionality was tested, test data used, test proof with appropriate screenshots will be documented for future reference.
* Test cases will not be marked as passed until all the acceptance criteria for that associated user story is met.
* Test cases will be considered as blocked if half of the acceptance criteria is not testable for any reason (access issue, environment issue, etc)
* Every defect written will be mapped to a test case (which in turn is mapped to a user story)
* For a user story to be moved to production ready status, it should be marked as test complete /test pass Eversana QA and Eversana product owners (UAT). All associated defects and tasks need to be fixed, closed, or converted to another user story.

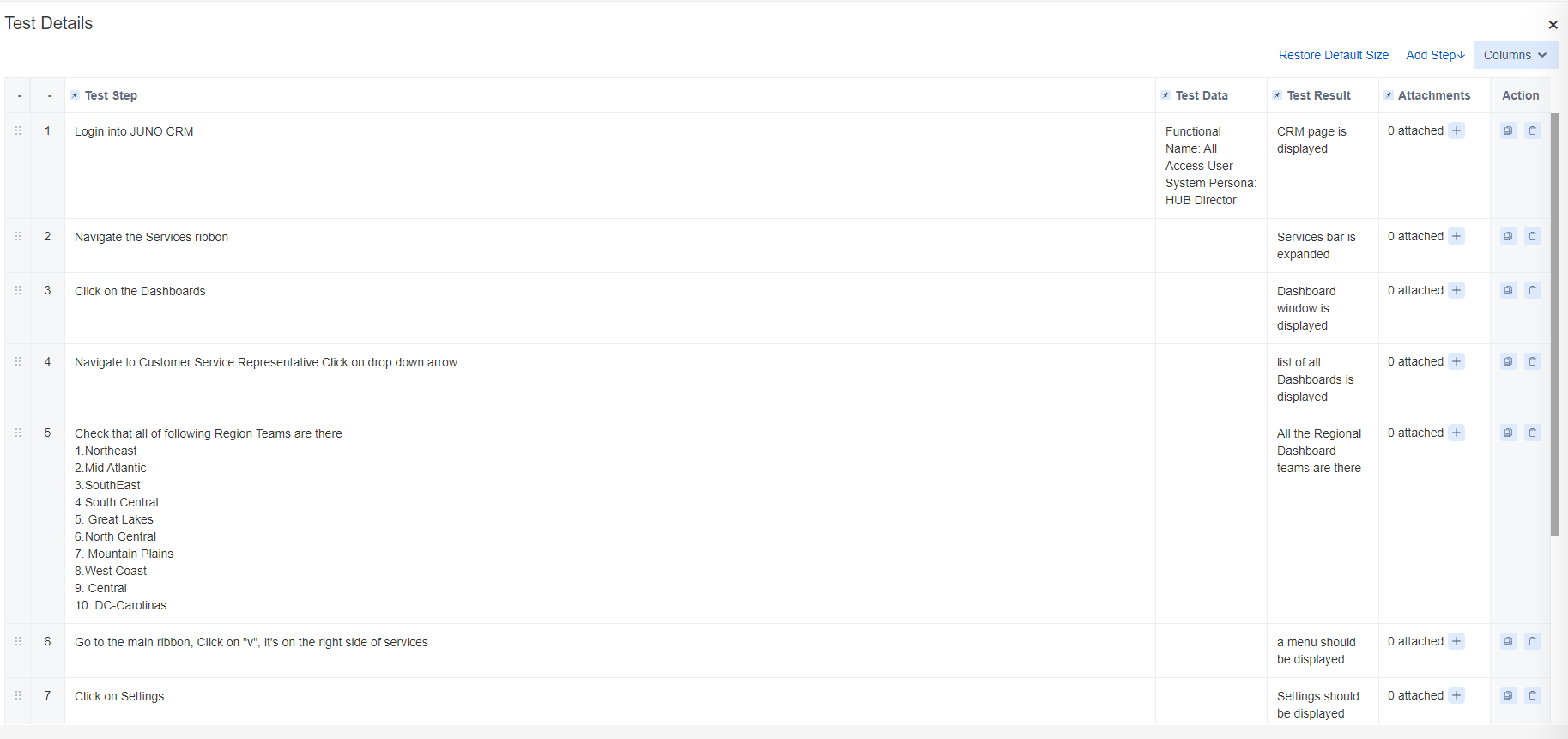


Figure 1: Proposed screenshot from a sample sprint Zephyr test case from JIRA

# **Test Cycle**

## **Sprint based: sprint/iteration/Kanban**

* Any User story prior to QA’s testing will have gone through a 3-Amigo/similar meeting (Dev, QA and BA) to give all the necessary information for the QA team needed to start testing.
* In a two-week sprint cycle, the expectation is that all QA testable user stories are in QA’s swim lane providing sufficient time for the QA team to complete testing accurately and efficiently prior to the end of that sprint.
* Any ad-hoc functionality additions or development deployments might result in deferring the testing to the next sprint based on the time factor/priority/severity of the user story delivery.
* If testing is completed for all sprint items before the sprint ends, QA team will start working on test cases for the next sprint user stories.

## **Defect Tracking**

* All defects found during testing will be logged in the test management tool with defect severity/priority (High/medium/low) and mapped to a corresponding test case (in turn mapped to the user story.
* Defect review board meetings will be initiated by QA if necessary for timely and effective triage of defects.

# **Risks**

* **Development** **environment** in all systems has been identified as the primary testing environment. Since dev environment will be shared by both QA and Dev teams which is not ideal for testing, potential risks might include frequent outage, data clashes or environment instability.
* QA timeline to complete testing is purely dependent on dev delivery of functionalities.
* Commitment to test each piece and end to end workflow/process before the given deadline while understanding the requirements and design, documenting all necessary information for next run, with limited resources is time consuming.
* Time and readiness constraints for all internal and external integration tests.
* Testing the input vs output of AI/ML might be challenging.

# **Assumptions**

## **8.1Test Entry Criteria**

* Dev Environment, which is the primary testing environment, is available and functional.
* Test Role ids with security roles (i.e., campaign manager, sales rep, admin, etc) or similar have been configured appropriately.
* Test data is created and available for testing.
* User stories promoted to QA, have been unit tested by Dev team.
* Connectivity with necessary integrations is confirmed, as a part of unit testing by dev before it is assigned to QA.
* The requirement is stable and does not change once it's tested by a QA without intimation/creation of a new story.

## **8.2Test Exit Criteria**

* If the acceptance criteria mentioned in the user story has been met, only then will the user story be marked as QA passed and will be moved to Ready for UAT swim lane with QA sign-off.
* Once UAT testing by business is complete, a sign off report for each functionality is provided by business.

# **Test Reporting Strategy**

* Generate test reports with detailed results (from JIRA) indicating:
* Test care coverage progress
* Tet case execution summary
* Defect report with prioritization
* JIRA dashboard will be created for more real time updates as needed.
* Notify stakeholders of test failures.

# **QA resources**

* Varsha Raghavendra – Onshore SQA lead
* Varun Kumar – Offshore QA -100%