Testing Plan

# Testing Plan: nmvalidate 0.0.0.9000

## Product Release Name or Number: nmvalidate 0.0.0.9000

## Scope

The purpose of this Testing document is to outline the plan to test the Requirements outlined in the nmvalidate 0.0.0.9000 Requirements Specification document. Automated Testing at the unit level and End to End will be conducted to ensure that all Requirements have been met. Test results will be documented in the Test Results document. All Test results will be time stamped and attested by the tester. As new information becomes available during development, requirements may be added, removed or modified. As a result, corresponding tests will be updated to reflect the appropriate requirements. However, at the time of Validation, all tests will reflect the functionality outlined in the final Requirements Specification document.

## Automated Testing

Testing in both development and validation phases proceeded using a standardized, automated unit testing framework via the testthat R package. Tests were written in testthat format and saved to R source files located within the package repository. Testing was executed using the testthat::test\_check function which ran all tests in every test file in the test directory. Each test was run in a clean R environment. The test\_check function returns a matrix of result data, with one line for each test and the corresponding result. The test matrix was retained and saved as an artifact from the validation testing. Tests relevant to the user stories covered by this change request were extracted from the larger test matrix to create the traceability matrix connecting the user story with the test result.

### Automated Tests

The table below outlines the automated tests that will be conducted:

| **Test ID** | **Test name** |
| --- | --- |
| NMV-GAT-001 | gather\_flags standard case: Works with standard case |
| NMV-GAT-002 | gather\_flags special cases |
| NMV-SUM-001 | nm\_summary base cont covariates |
| NMV-SUM-002 | nm\_summary base cat covariates |
| NMV-SUM-003 | nm\_summary primary keys |
| NMV-SUM-004 | nm\_summary outputs figures: Baseline c |
| NMV-VAL-001 | nm\_validate standard case: Works with no failures |
| NMV-VAL-002 | nm\_validate works with failure on test 1 |
| NMV-VAL-003 | nm\_validate works with failure on test 2 |
| NMV-VAL-004 | nm\_validate works with failure on test 4: Missing time varying covariates |
| NMV-VAL-005 | nm\_validate works with multiple failures: Finds issues in data |
| NMV-VAL-006 | nm\_validate works with no failures, stop on failure |
| NMV-VAL-007 | nm\_validate works with multiple failures, stop on failure: Print |

## Signature Page:

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