# Introduction

## Overview

Deblistering and stock spreadsheets program has been written to automate creation of these documents as a part of a wider set of continuous improvement processes in the deblistering department.

## Purpose of this document

The purpose of this document is to present the results of manual tests conducted to check the program’s output.

# Version history

|  |  |  |
| --- | --- | --- |
| Date | Description | Author |
| 24/09/2022 | First draft in progress | T. Macheychuk |
|  |  |  |

# Deblistering and stock spreadsheets program manual tests

## Data input:

* SalesForce robots’ usages report from last 56 days [.csv]
* BD Rowa medicines report [.json]
* BD Rowa canisters report [.json]
* BD Rowa pots report [.json]

## Data output:

* Stock in pots report [StockInPots.csv]:
  + Fields:
    - Drug name
    - Number of pills in pots
* Deblistering spreadsheet for drugs with stock levels lower or equal to their 1-day usage [DeblisteringJobs1.csv]:
  + Fields:
    - Drug name
    - Pills in pots
    - Pills in canisters
    - Total pills
    - 1 day usage
    - 56 days usage
    - Quantity to deblister
    - Has canister?
* Deblistering spreadsheet for drugs with stock levels higher than their 1-day usage, but lower or equal to their 7-day usage [DeblisteringJobs7.csv]:
  + Fields:
    - Drug name
    - Pills in pots
    - Pills in canisters
    - Total pills
    - 1 day usage
    - 56 days usage
    - Quantity to deblister
    - Has canister?
* Deblistering spreadsheet for drugs with stock levels higher than their 7-day usage, but lower or equal to their 14-day usage [DeblisteringJobs7.csv]:
  + Fields:
    - Drug name
    - Pills in pots
    - Pills in canisters
    - Total pills
    - 1 day usage
    - 56 days usage
    - Quantity to deblister
    - Has canister?
* Robots stock summary spreadsheet [RobotsStockSummary.csv]:
  + Fields:
    - MedicineID
    - Drug name
    - Pills in pots
    - Pills in canisters
    - Total pills
    - 1 day usage
    - 56 days usage
    - Quantity to deblister
    - Has canister?
    - Dispensing counter
    - Dispensing counter 0-1 days
    - Dispensing counter 1-7 days
    - Dispensing counter 7-14 days
    - Dispensing counter 14-28 days
    - Dispensing counter 28-56 days

# Stock in pots report tests

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Drug name** | **Drug name received** | **Quantity records in .json file** | **Quantity** **expected** | **Quantity received** | **Test passed?** | **Comments** |
| Clomipramine 50mg capsules (Teva UK Ltd) | Clomipramine 50mg capsules (Teva UK Ltd) | 280, 0 | 280 | 280 | **True** | None |
| Identifier\_A2 | None | 3656 | 0 | 0 | **True** | Identifier\_A2 should be excluded from the report |
| Metformin 500mg tablets (Relonchem Ltd) | Metformin 500mg tablets (Relonchem Ltd) | 130 x 500, 24 x 0 | 65000 | 65000 | **True** | None |
| Atenolol 25mg tablets (Strides Pharma UK Ltd) | Atenolol 25mg tablets (Strides Pharma UK Ltd) | None | 0 | 0 | **True** | None |
| Rasagiline 1mg tablets (Teva UK Ltd) | Rasagiline 1mg tablets (Teva UK Ltd) | 4, 4 | 8 | 8 | **True** | None |

As per above table, the program has successfully passed 5 tests for the Stock in pots report. No issues have been noticed at this stage.

# Deblistering spreadsheet – 1-day usage tests

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Drug name expected** | **Drug name received** | **Test passed?** |
| 1 | Levothyroxine sodium 25microgram tablets (Advanz Pharma) | Levothyroxine sodium 25microgram tablets (Advanz Pharma) | **True** |
| 2 | Ferrous sulfate 200mg tablets (Sandoz Ltd) | Ferrous sulfate 200mg tablets (Sandoz Ltd) | **True** |
| 3 | Digoxin 125microgram tablets (Bristol Laboratories Ltd) | Digoxin 125microgram tablets (Bristol Laboratories Ltd) | **True** |
| 4 | Entresto 97mg/103mg tablets (Novartis Pharmaceuticals UK Ltd) | Entresto 97mg/103mg tablets (Novartis Pharmaceuticals UK Ltd) | **True** |
| 5 | Keppra 750mg tablets (UCB Pharma Ltd) | Keppra 750mg tablets (UCB Pharma Ltd) | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in pots expected** | **Pills in pots received** | **Test passed?** |
| 1 | 500 | 500 | **True** |
| 2 | 0 | 0 | **True** |
| 3 | 0 | 0 | **True** |
| 4 | 0 | 0 | **True** |
| 5 | 0 | 0 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in canisters expected** | **Pills in canisters received** | **Test passed?** |
| 1 | 3372 | 3372 | **True** |
| 2 | 1366 | 1366 | **True** |
| 3 | 1159 | 1159 | **True** |
| 4 | 0 | 0 | **True** |
| 5 | 0 | 0 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Total pills expected** | **Total pills received** | **Test passed?** |
| 1 | 3872 | 3872 | **True** |
| 2 | 1366 | 1366 | **True** |
| 3 | 1159 | 1159 | **True** |
| 4 | 0 | 0 | **True** |
| 5 | 0 | 0 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **1 day usage expected** | **1 day usage received** | **Test passed?** |
| 1 | 503.6786 | 503.6786 | **True** |
| 2 | 255.75 | 255.75 | **True** |
| 3 | 54.625 | 54.625 | **True** |
| 4 | 45 | 45 | **True** |
| 5 | 41 | 41 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **56-day usage expected** | **56-day usage received** | **Test passed?** |
| 1 | 28206 | 28206 | **True** |
| 2 | 14322 | 14322 | **True** |
| 3 | 3059 | 3059 | **True** |
| 4 | 2520 | 2520 | **True** |
| 5 | 2296 | 2296 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Quantity to deblister expected** | **Quantity to deblister received** | **Test passed?** |
| 1 | 14103 | 14103 | **True** |
| 2 | 7161 | 7161 | **True** |
| 3 | 1529 | 1529 | **True** |
| 4 | 1260 | 1260 | **True** |
| 5 | 1148 | 1148 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Has canister? expected** | **Has canister? received** | **Test passed?** |
| 1 | TRUE | TRUE | **True** |
| 2 | TRUE | TRUE | **True** |
| 3 | TRUE | TRUE | **True** |
| 4 | FALSE | FALSE | **True** |
| 5 | FALSE | FALSE | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Number on list\* expected** | **Number on list received** | **Test passed?** |
| 1 | 160 | 160 | **True** |
| 2 | 157 | 157 | **True** |
| 3 | 169 | 169 | **True** |
| 4 | 1 | 1 | **True** |
| 5 | 2 | 2 | **True** |

\*Number on list: the higher number on list the higher the deblistering priority\*\* is.

\*\*Deblistering priority is based on the following formula: total number of pills in pots and canisters divided by 1-day usage. If the result is equal for more than one drug, then they are sorted by 1-day usage (the higher the 1-day usage, the higher will be the priority of the drug).

As per above tables, the program has successfully passed 5 tests for the Deblistering Jobs 1-day usage report. No issues have been noticed at this stage.

# Deblistering spreadsheet – 7-day usage tests

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Drug name expected** | **Drug name received** | **Test passed?** |
| 1 | Pregabalin 300mg capsules (Accord Healthcare Ltd) | Pregabalin 300mg capsules (Accord Healthcare Ltd) | **True** |
| 2 | Lamotrigine 50mg tablets (Milpharm Ltd) | Lamotrigine 50mg tablets (Milpharm Ltd) | **True** |
| 3 | Brilique 90mg tablets (AstraZeneca UK Ltd) | Brilique 90mg tablets (AstraZeneca UK Ltd) | **True** |
| 4 | Risperidone 1mg tablets (Bristol Laboratories Ltd) | Risperidone 1mg tablets (Bristol Laboratories Ltd) | **True** |
| 5 | Co-beneldopa 12.5mg/50mg capsules (Teva UK Ltd) | Co-beneldopa 12.5mg/50mg capsules (Teva UK Ltd) | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in pots expected** | **Pills in pots received** | **Test passed?** |
| 1 | 672 | 672 | **True** |
| 2 | 392 | 392 | **True** |
| 3 | 224 | 224 | **True** |
| 4 | 86 | 86 | **True** |
| 5 | 100 | 100 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in canisters expected** | **Pills in canisters received** | **Test passed?** |
| 1 | 486 | 486 | **True** |
| 2 | 719 | 719 | **True** |
| 3 | 428 | 428 | **True** |
| 4 | 0 | 0 | **True** |
| 5 | 405 | 405 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Total pills expected** | **Total pills received** | **Test passed?** |
| 1 | 1158 | 1158 | **True** |
| 2 | 1111 | 1111 | **True** |
| 3 | 652 | 652 | **True** |
| 4 | 86 | 86 | **True** |
| 5 | 505 | 505 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **1 day usage expected** | **1 day usage received** | **Test passed?** |
| 1 | 193.0357 | 193.0357 | **True** |
| 2 | 120.2857 | 120.2857 | **True** |
| 3 | 33 | 33 | **True** |
| 4 | 58.46429 | 58.46429 | **True** |
| 5 | 58.32143 | 58.32143 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **56-day usage expected** | **56-day usage received** | **Test passed?** |
| 1 | 10810 | 10810 | **True** |
| 2 | 6736 | 6736 | **True** |
| 3 | 1848 | 1848 | **True** |
| 4 | 3274 | 3274 | **True** |
| 5 | 3266 | 3266 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Quantity to deblister expected** | **Quantity to deblister received** | **Test passed?** |
| 1 | 5405 | 5405 | **True** |
| 2 | 3368 | 3368 | **True** |
| 3 | 924 | 924 | **True** |
| 4 | 1637 | 1637 | **True** |
| 5 | 1633 | 1633 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Has canister? expected** | **Has canister? received** | **Test passed?** |
| 1 | TRUE | TRUE | **True** |
| 2 | TRUE | TRUE | **True** |
| 3 | TRUE | TRUE | **True** |
| 4 | FALSE | FALSE | **True** |
| 5 | TRUE | TRUE | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Number on list\* expected** | **Number on list received** | **Test passed?** |
| 1 | 7 | 7 | **True** |
| 2 | 10 | 10 | **True** |
| 3 | 18 | 18 | **True** |
| 4 | 1 | 1 | **True** |
| 5 | 9 | 9 | **True** |

\*Number on list: the higher number on list the higher the deblistering priority\*\* is.

\*\*Deblistering priority is based on the following formula: total number of pills in pots and canisters divided by 1-day usage. If the result is equal for more than one drug, then they are sorted by 1-day usage (the higher the 1-day usage, the higher will be the priority of the drug).

As per above tables, the program has successfully passed 5 tests for the Deblistering Jobs 7-day usage report. No issues have been noticed at this stage.

# Deblistering spreadsheet – 14-day usage tests

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Drug name expected** | **Drug name received** | **Test passed?** |
| 1 | Venlafaxine 37.5mg tablets (Teva UK Ltd) | Venlafaxine 37.5mg tablets (Teva UK Ltd) | **True** |
| 2 | Lamotrigine 100mg tablets (Milpharm Ltd) | Lamotrigine 100mg tablets (Milpharm Ltd) | **True** |
| 3 | Atorvastatin 20mg tablets (Teva UK Ltd) | Atorvastatin 20mg tablets (Teva UK Ltd) | **True** |
| 4 | Aspirin 75mg dispersible tablets (Accord Healthcare Ltd) | Aspirin 75mg dispersible tablets (Accord Healthcare Ltd) | **True** |
| 5 | Donepezil 10mg tablets (Milpharm Ltd) | Donepezil 10mg tablets (Milpharm Ltd) | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in pots expected** | **Pills in pots received** | **Test passed?** |
| 1 | 0 | 0 | **True** |
| 2 | 1960 | 1960 | **True** |
| 3 | 16800 | 16800 | **True** |
| 4 | 10800 | 10800 | **True** |
| 5 | 1120 | 1120 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Pills in canisters expected** | **Pills in canisters received** | **Test passed?** |
| 1 | 306 | 306 | **True** |
| 2 | 426 | 426 | **True** |
| 3 | 1910 | 1910 | **True** |
| 4 | 3006 | 3006 | **True** |
| 5 | 243 | 243 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Total pills expected** | **Total pills received** | **Test passed?** |
| 1 | 306 | 306 | **True** |
| 2 | 2386 | 2386 | **True** |
| 3 | 18710 | 18710 | **True** |
| 4 | 13806 | 13806 | **True** |
| 5 | 1363 | 1363 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **1 day usage expected** | **1 day usage received** | **Test passed?** |
| 1 | 50.03571 | 50.03571 | **True** |
| 2 | 176.6071 | 176.6071 | **True** |
| 3 | 1326.893 | 1326.893 | **True** |
| 4 | 917.1071 | 917.1071 | **True** |
| 5 | 86.125 | 86.125 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **56-day usage expected** | **56-day usage received** | **Test passed?** |
| 1 | 2802 | 2802 | **True** |
| 2 | 9890 | 9890 | **True** |
| 3 | 74306 | 74306 | **True** |
| 4 | 51358 | 51358 | **True** |
| 5 | 4823 | 4823 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Quantity to deblister expected** | **Quantity to deblister received** | **Test passed?** |
| 1 | 1401 | 1401 | **True** |
| 2 | 4945 | 4945 | **True** |
| 3 | 37153 | 37153 | **True** |
| 4 | 25679 | 25679 | **True** |
| 5 | 2411 | 2411 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Has canister? expected** | **Has canister? received** | **Test passed?** |
| 1 | TRUE | TRUE | **True** |
| 2 | TRUE | TRUE | **True** |
| 3 | TRUE | TRUE | **True** |
| 4 | TRUE | TRUE | **True** |
| 5 | TRUE | TRUE | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Number on list\* expected** | **Number on list received** | **Test passed?** |
| 1 | 1 | 1 | **True** |
| 2 | 19 | 19 | **True** |
| 3 | 24 | 24 | **True** |
| 4 | 29 | 29 | **True** |
| 5 | 34 | 34 | **True** |

\*Number on list: the higher number on list the higher the deblistering priority\*\* is.

\*\*Deblistering priority is based on the following formula: total number of pills in pots and canisters divided by 1-day usage. If the result is equal for more than one drug, then they are sorted by 1-day usage (the higher the 1-day usage, the higher will be the priority of the drug).

As per above tables, the program has successfully passed 5 tests for the Deblistering Jobs 14-day usage report. No issues have been noticed at this stage.

# Robots stock summary spreadsheet tests

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Drug name expected** | **Drug name received** | **Test passed?** |
| 1 | Levothyroxine sodium 25microgram tablets (Advanz Pharma) | Levothyroxine sodium 25microgram tablets (Advanz Pharma) | **True** |
| 2 | Pregabalin 300mg capsules (Accord Healthcare Ltd) | Pregabalin 300mg capsules (Accord Healthcare Ltd) | **True** |
| 3 | Venlafaxine 37.5mg tablets (Teva UK Ltd) | Venlafaxine 37.5mg tablets (Teva UK Ltd) | **True** |
| 4 | Lamotrigine 100mg tablets (Milpharm Ltd) | Lamotrigine 100mg tablets (Milpharm Ltd) | **True** |
| 5 | Atorvastatin 20mg tablets (Teva UK Ltd) | Atorvastatin 20mg tablets (Teva UK Ltd) | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Is drug on 1-7-14 list?** | **Is drug on Robots stock summary list?** | **Test passed?** |
| 1 | Yes | Yes | **True** |
| 2 | Yes | Yes | **True** |
| 3 | Yes | Yes | **True** |
| 4 | Yes | Yes | **True** |
| 5 | Yes | Yes | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter expected** | **Dispensing counter received** | **Test passed?** |
| 1 | 815 | 815 | **True** |
| 2 | 195 | 195 | **True** |
| 3 | 48 | 48 | **True** |
| 4 | 146 | 146 | **True** |
| 5 | 2203 | 2203 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter 0-1 days expected** | **Dispensing counter 0-1 days expected** | **Test passed?** |
| 1 | 0 | 0 | **True** |
| 2 | 0 | 0 | **True** |
| 3 | 0 | 0 | **True** |
| 4 | 0 | 0 | **True** |
| 5 | 0 | 0 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter 1-7 days expected** | **Dispensing counter 1-7 days received** | **Test passed?** |
| 1 | 44 | 44 | **True** |
| 2 | 15 | 15 | **True** |
| 3 | 6 | 6 | **True** |
| 4 | 16 | 16 | **True** |
| 5 | 136 | 136 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter 7-14 days expected** | **Dispensing counter 7-14 days received** | **Test passed?** |
| 1 | 98 | 98 | **True** |
| 2 | 25 | 25 | **True** |
| 3 | 6 | 6 | **True** |
| 4 | 21 | 21 | **True** |
| 5 | 285 | 285 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter 14-28 days expected** | **Dispensing counter 14-28 days received** | **Test passed?** |
| 1 | 209 | 209 | **True** |
| 2 | 43 | 43 | **True** |
| 3 | 12 | 12 | **True** |
| 4 | 34 | 34 | **True** |
| 5 | 539 | 539 | **True** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug number** | **Dispensing counter 28-56 days expected** | **Dispensing counter 28-56 days received** | **Test passed?** |
| 1 | 419 | 419 | **True** |
| 2 | 95 | 95 | **True** |
| 3 | 23 | 23 | **True** |
| 4 | 74 | 74 | **True** |
| 5 | 1118 | 1118 | **True** |

As per above tables, the program has successfully passed 5 tests for the Robot stock summary report. No issues have been noticed at this stage.