# Detailed Design – NSR# 20111103 – Pharmacy VistA Order to Display Date with a 4 Digit Year and Entry/Edit of Start & Stop Dates Logic Changes

## Software Detailed Design

### Conceptual Design

#### Product Perspective

Currently, the Start and Stop Date fields on some Inpatient medication forms do include the 4 digit year. This has caused errant dates to be missed. A date of March 3, 2411 displays as 03/03/11, which can (and has) lead to medication errors.

This portion of this NSR will be for the displaying of the 4 digit year on Inpatient medications related forms.

Next, as regards pharmacist/pharmacy technicians, the system to warn them when they enter a medication order start date greater than one week from the current date, so that patients begin receiving medications on the intended date. (This warning should NOT occur on Clinic Medication or Clinic Infusion orders.)

Also, the system will prevent them from entering stop dates more than 367 days in the future from the order’s start date, for Inpatient Medication orders.

##### Software Interfaces

##### FileMan v22.0

Health Summary v2.7

Order Entry/Results Reporting v3.0

National Drug File v4.0

Outpatient Pharmacy v7.0

Pharmacy Data Management v1.0

Registration v5.3

Kernel v8.0

#### Product Features

**Example of a form in the Inpatient Profile option with 4 digit year**

---------------------------------------------------------------------

Patient: BCMA,FIFTYSIX-PATIENT Status: DISCONTINUED

\*(1) Additives: Order number: 10 Type: ADMIXTURE

\*(2) Solutions:

AMINO ACIDS 10% 500 ML

Duration: \*(4) Start: 02/14/2017 10:15

\*(3) Infusion Rate: 4 ml/hr Renewed: 02/21/2017 10:18

\*(5) Med Route: IV \*(6) Stop: 02/22/2017 07:06

\*(7) Schedule: Last Fill: 02/21/2017 11:34

(8) Admin Times: Quantity: 3

\*(9) Provider: \*\*\*\*\*\*\*,\*\*\*\*\*\*\* [w] Cum. Doses: 3

(10) Other Print:

(11) Remarks :

IV Room: BCMA INSTRUCTOR

Entry By: \*\*\*\*\*\*\*,\*\*\*\*\*\*\*\*\* Entry Date: 02/14/17 10:17

Renewed By: \*\*\*\*\*\*\*,\*\*\*\*\*\*\*\*\*

Type <Enter> to continue or '^' to exit:

ACTIVITY LOG:

# DATE TIME REASON USER

===============================================================================

1 FEB 14,2017 10:17:43 VERIFY \*\*\*\*\*\*\*,\*\*\*\*\*\*\*\*\*

Comment: ORDER VERIFIED BY PHARMACIST

#### User Characteristics

The Stop Date is displayed on various forms, currently without the 4 digit year, this will be changed to a display 4 digit years.

The Start Date for Unit Dose & Infusion Inpatient Orders will be changed to allow entry of a Date greater than a week into the future from the current date, but will warn the user. Similarly, there is checking with the Stop Date to make certain that it does not allow entry of a date greater than 367 days from the Start Date.

#### Dependencies and Constraints

| **Package Name** | **Area Impacted** | **Key Challenges** |
| --- | --- | --- |
| Inpatient Medications | Order Entry Screen | Screen real estate |
| CPRS | Orders/Meds Tab Display | Screen real estate and clutter |

### Specific Requirements

#### Database Repository

N/A Displaying existing data in a different format.

#### System Features

* Ordering Providers the ability to manage the medication order schedule, so that patients receive medications in the intended time frame
* Full four digit years of medication order start and stop dates to be displayed on screens in the Electronic Health Record, so that clinical decision support is available when ordering and renewing medications.
* Without date validation logic in place to prevent invalid stop date entry, the potential exists for a patient to receive additional doses of a medication that could result in more serious consequences, including death.

#### Design Element Tables

##### Routines (Entry Points)

Table 14: Routines (Instructions)

Table 15 (Grouping): Routines

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGO | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJU PR – Patient Profile (Unit Dose) | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGOE41 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE, PSJU NE | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Allow entry of Start Date more than one week from current date. Allow entry of Stop Date more than 367 days from Start Date. |
| **Modified Logic** | Still allows entry of Start Date more than one week from current date, but warns user. Prevents entry of Stop Date more than 367 days from Start Date. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGOE81 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE, PSJU NE, PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Allow entry of Start Date more than one week from current date. Allow entry of Stop Date more than 367 days from Start Date. |
| **Modified Logic** | Still allows entry of Start Date more than one week from current date, but warns user. Prevents entry of Stop Date more than 367 days from Start Date.  Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGOE91 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE, PSJU NE, PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Allow entry of Start Date more than one week from current date. Allow entry of Stop Date more than 367 days from Start Date. |
| **Modified Logic** | Still allows entry of Start Date more than one week from current date, but warns user. Prevents entry of Stop Date more than 367 days from Start Date.  Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGOEF | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSGVW | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJU PR – Patient Profile (Unit Dose), PSJ EXTP -- Patient Profile (Extended) | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSIVEDT1 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE, PSJI ORDER | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Allow entry of Start Date more than one week from current date. Allow entry of Stop Date more than 367 days from Start Date. |
| **Modified Logic** | Still allows entry of Start Date more than one week from current date, but warns user. Prevents entry of Stop Date more than 367 days from Start Date. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSIVPRO | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSIVUTL | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ EXTP – Patient Profile (Extended), PSJ PR – Inpatient Profile | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLIUTL | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJI ORDER – Order Entry (IV), Patient Profile Report (IV) [PSJI PROFILE REPORT], PSJ EXTP -- Patient Profile (Extended), PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLIVFD | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | Patient Profile Report (IV) [PSJI PROFILE REPORT], PSJ EXTP -- Patient Profile (Extended) | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLIVMD | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLIMPRI | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLMPRU | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

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| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLMUDE | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJLMUT1 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJO | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ EXTP -- Patient Profile (Extended), PSJ PR – Inpatient Profile | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| Routines | Activities | | | |
| --- | --- | --- | --- | --- |
| **Routine Name** | PSJOE1 | | | |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **Current Logic** | | Display Start, Stop, Renew, and Last Fill dates with none or two character year | | | | |
| **Modified Logic** | | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. | | | | |
|  | |  | | | |
| Routines | | Activities | | | |
| **Routine Name** | | PSJLMGUD | | | |
| **Enhancement Category** | | New | Modify | Delete | No Change |
| **Related Options** | |  | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| **Routine Name** | PSGOEEW | | | |
| --- | --- | --- | --- | --- |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE – Inpatient Order Entry, PSJU NE – Order Entry, | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| **Routine Name** | PSGOEE | | | |
| --- | --- | --- | --- | --- |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJ OE – Inpatient Order Entry | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | Display Start, Stop, Renew, and Last Fill dates with none or two character year |
| **Modified Logic** | Display Start, Stop, Renew, and Last Fill dates with 4 digit year and adjust columns widths and postions. |

| **Routine Name** | PSIVACT | | | |
| --- | --- | --- | --- | --- |
| **Enhancement Category** | New | Modify | Delete | No Change |
| **Related Options** | PSJI PROFILE REPORT – Patient Profile Report (IV) | | | |

| Routines | Activities |
| --- | --- |
| **Data Dictionary (DD) References** | No updates to Data Dictionary. |
| **Related Protocols** | None |
| **Related Integration Control Registrations (ICRs)** |  |

|  |  |
| --- | --- |
| **Current Logic** | An error occurs with the ‘PSJI PROFILE REPORT – Patient Profile Report (IV)’ option. Variable PSGP is undefined. This variable is used to get the name of the patient’s clinic. |
| **Modified Logic** | Set the variable PSGP to the patient’s DFN. |