PMP NextGen

Functional Requirements

Functional Specification

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1   GENERAL INFORMATION

1.1 Statement of Purpose

The purpose of the PMP software is to provide states' PMPs with a quality, intuitive, comprehensive solution to their controlled substance prescription reporting needs in an economically sustainable model. The PMP software will be used by clients to securely receive required data and to provide reporting on that data to various users as needed. With the PMP software, NABP will be able to offer its clients a secure solution that substantially improves the administration and functionality of PMPs, aiding PMP personnel in the performance of their duties.

1.2 General Overview

The PMP software's primary function is to facilitate the required prescription drug tracking of state prescription monitoring program authorities. This is accomplished via secure communication capabilities to accept the required data, along with a secure Web Portal to allow the reporting, processing, and correction of various data submission errors. The Web Portal also allows designated client users to interact with the PMP software and report to various authorities in order to help curtail the prescription drug diversion and abuse problems so prevalent today.

1.3 User Groups

These are the Users or groups of Users who will be interested in the PMP software and Web Portal.

	Name	Role	Interest
1	Super Users	Authorized PMP and Appriss staff responsible for administering, supporting, and maintaining the PMP software.	Uses the Web Portal to configure and troubleshoot PMP software behavior.
2	PMP Administrators	PMP staff responsible for reporting on and administering the data contained in the PMP software.	Uses the Web Portal to perform day-to-day reporting and administrative work necessary in order to facilitate the running of a state's PMP. This includes full access to the data and functions the Requestors and Data Submitters use.
3	Requestors	Authorized staff responsible for requesting data from the PMP software.	Uses the Web Portal to request and view reports on data that has been processed by the PMP software.
4	Data Submitters	Dispenser staff or their representatives responsible for submitting prescription data to the PMP.	Uses the Web Portal to submit data, correct errors, and track the overall status of the pharmacy's PMP software reporting.
5	System Users	Specialized accounts used only by computer systems to communicate with the PMP software.	None. There are no human users for these accounts.

2 SYSTEM OVERVIEW

The PMP software is a comprehensive software solution for state PMPs. It provides for data collection, searching, reporting, and administration. Human interaction with the hosted PMP software takes place via a secure Web Portal. Automated interaction takes place via web services.

2.1 Executive Highlights

The PMP software will:
- Provide a comprehensive, intuitive Web Portal for all human interaction that is branded for each state and compatible with tablet computers
- Register users via streamlined online registration, including associating uploaded documents such as notarized forms and copies of identification
- Notify users via email when their attempted registration is still incomplete after a configurable amount of time has passed
- Notify users in advance via email when their passwords are about to expire
- Provide user group-sensitive dashboards containing information related to the work on which the user group tends to focus their time
- Include access to Appriss's first-class support structure
- Allow PMP Administrators full access to all of the information they need to do their jobs, including error details
- Provide the ability for PMPs to require users to verify their profile information at configurable intervals
- Issue alerts that PMP Administrators can initiate regarding urgent events
- Provide a manual process for consolidating records that the automatic consolidation process considers uncertain matches and to undo a previous consolidation
- Allow review and approval of search requests and responses when required for certain roles
- Provide audit, compliance, diversion prevention, and PMP software statistical reports to PMP Administrators
- Allow PMP Administrators to easily update what their users see in the Web Portal
- Allow PMP Administrators to email specific users, groups of users, or all users
- Give PMP Administrators control over their user administration
- Provide functionality to generate unsolicited reports
- Validate data according to each PMP's validation settings and report any errors in detail to Data Submitters via the Web Portal for correction
- Remind Data Submitters that they have outstanding error corrections periodically with a configurable automated email message
- Pre-validate data in a test file without submitting it to the PMP
- Receive and validate corrected data which the pharmacies submit via the Web Portal
- Report patient, prescriber, and dispenser data to authorized users
- Allow authorized searching of prescription drug data
- Authorize registered users to view reports through user groups and roles
- Audit user activity for security reporting
- Receive pharmacy data in a variety of methods and frequencies, including SFTP; real-time transmissions via web services; and manual file upload and UCF entry within Web Portal
- Accept all data sent in the accepted data standards (i.e. ASAP), including drugs of concern and all prescription data, not just controlled substances
- Encrypt data for secure processing of sensitive and protected data

- Import and maintain data such as NDC and DEA numbers, to be used in conjunction with the pharmacy's imported data
- Standardize data such as address for better quality and consistency
- Archive and remove older data for performance and privacy
- Consolidate person records automatically to combine similar records into a single person record based on proven methodology
- Base person reporting on the consolidated person records to ensure that a response contains complete information
- Be a flexible, evolving platform to meet future PMP needs

2.2 Web Portal

The PMP software has a Web Portal where users interact with the PMP software. The functions each user sees are dependent upon their user group but can include Data Collection and Processing for dispenser-submitted data; RxSearch for regular patient, prescriber, and dispenser history; PMP Insight for deeper reporting needs; and Settings and Administration for administering the PMP software. The PMP software Web Portal supports the two most recent versions of Internet Explorer, the current version of Firefox and Chrome browsers, Safari for iPad and Chrome for Android tablets, and follows standard web application conventions. We will also provide local branding of the Web Portal for each state. The following sections are included in the Web Portal (with a sample menu bar included before each section):

2.2.1 Home Dashboard

The Home screen is the default landing screen reached after the user has logged into the Web Portal for the first time. The preferred landing screen loaded upon log on can be configured within Settings. From the Home screen, the user can see a dashboard overview of the items that will be available to them and can click through to display corresponding details. The Home screen contains differing sections depending on the type of user who has logged in – Requestors, PMP Administrators, or Data Submitters. If a PMP Administrator has issued an alert, all users will see an alert screen superimposed on the dashboard immediately after they log in. They will be required to acknowledge the alert before continuing to the Home screen. Example Home screens that are shown below are for visualization purposes only and do not reflect the final application.

2.2.1.1 Data Submitters

Data submitters see their UCFs, alerts, and news.

2.2.1.2 Requestors

Requestors see their requests and responses; their delegates' requests and responses; unsolicited reports; and alerts and news.
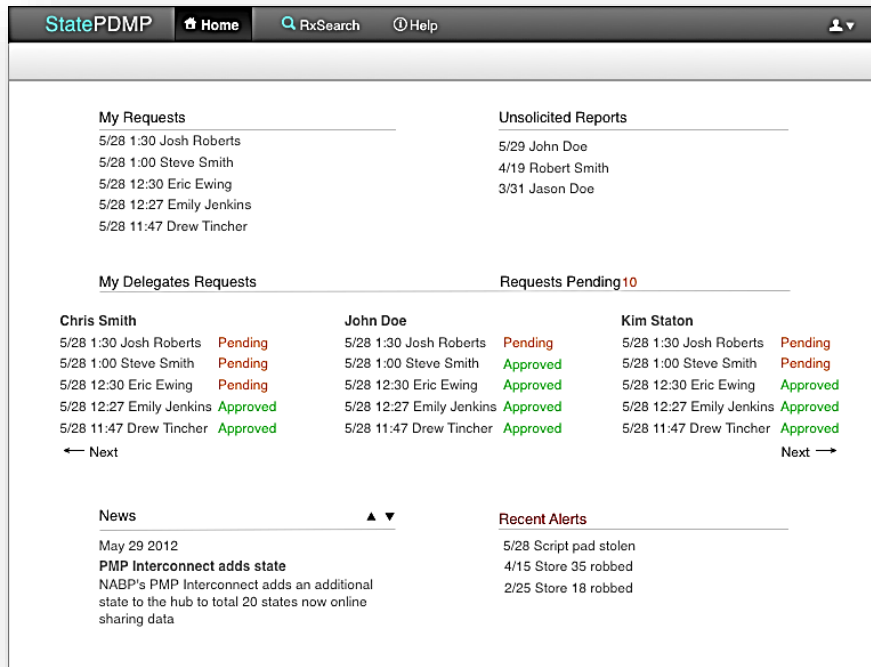
Below is an example of a requestor receiving an alert when logging in.
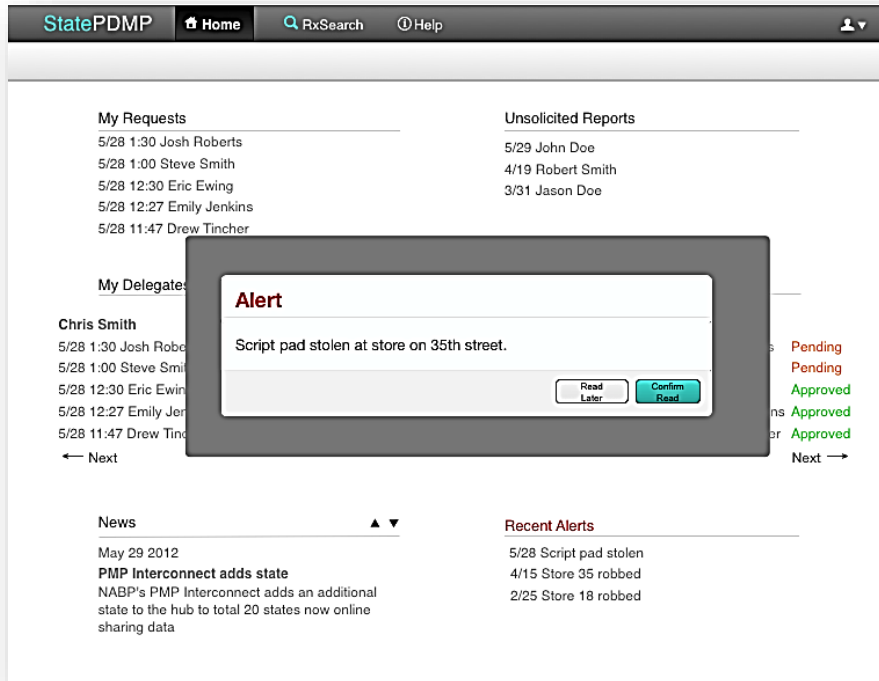
2.2.1.3 PMP Administrators

PMP Administrators see statistics; any registrations, requests, or responses awaiting approval; persons awaiting consolidation; dispenser reporting compliance and errors; and alerts and news.
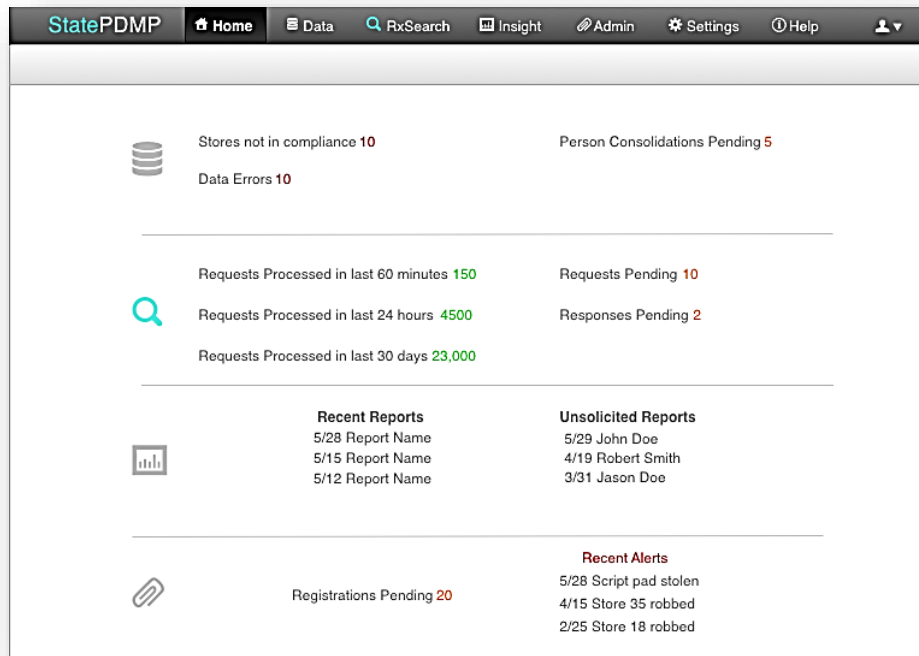
2.2.2 Rx Data Collection and Processing

The Data screen offers a consolidated location for data collection and processing. From this screen, the user can upload, view, correct, or process prescription data and file information. The Data screen contains different options depending on the type of user who has logged in – Data Submitters or PMP Administrators. Data Submitters will spend the majority of their time here while Requestors cannot view this screen at all.

2.2.2.1 Data Submitter

A Data Submitter has access to manually upload a file, enter prescription information, or enter a Zero Report. They also have access here to view their error reports and file statuses and to make and submit error corrections.

2.2.2.2 PMP Administrator

A PMP Administrator has access to manually consolidate person records or review and approve submitted data if necessary. They also have access here to view error reports and file statuses. All the information they need to help resolve data submission issues is located here, including the same error details that Data Submitters can access.

2.2.3 RxSearch

The RxSearch screen is where patient, prescriber, and dispenser history data is available to search. From this screen, the user can submit a request, view the response, view their request history and that of their delegates, or process any requests and responses that require approval. The RxSearch screen contains different options depending on the type of user who has logged in – Requestors or PMP Administrators. Requestors will spend the majority of their time here while Data Submitters cannot view this screen at all.

2.2.3.1 Requestor

A Requestor has access to make requests, view responses, and view their request history and that of their delegates. If approval of delegates' requests is required, that approval is done here. When a requestor performs a multi-state search through PMPI, the request will prepopulate a limited number of state selections according to the Requestors settings.

2.2.3.2 PMP Administrator

A PMP Administrator has access to view Requestors' requests and responses and to process any requests or responses that require manual processing. A PMP Administrator has access to perform any of the tasks that a Requestor can perform, as well.

2.2.4 PMP Insight

The Insight screen is where information about the PMP software and its data is available for mining. From this screen, the user can run reports on patient, prescriber, dispenser, and user activity. These reports include audit, request history, threshold, compliance, patient, and PMP performance reports. The user can either wait and view the report on their screen or queue the report to view at a later time. While viewing a report, the user may download that report in pdf or Excel format. Some reports can be sent to groups of users within the PMP software. Here, the user can also lookup any outside data that has been imported such as DEA, NDC, or NCPDP information.

2.2.4.1 PMP Administrator

The PMP Administrators are the only users who have access to this screen. The following report types are included:

> **2.2.4.1–1. Audit**
> This includes reports on every user that logs into the system and their activity while logged in, including their reporting and search history. These reports can be statistical or log reports.
>
> **2.2.4.1–2. Compliance**
> This includes delinquent dispenser reports, errant records reports, zero reports, submission history, and pharmacy closures.
>
> **2.2.4.1–3. Diversion Prevention**
> This includes person of interest reports, top prescriber reports, top drug reports, top patient reports, threshold reports, and unsolicited reports.
>
> **2.2.4.1–4. PMP software Statistics**
> This includes number of users, grant-mandated reports, government metrics, usage reports, upload reports, request reports, and performance metrics.

StatePDMP   ♦ Home   ≣ Data   Q RxSearch   ▥ Insight   **⏚Admin**   ✿ Settings   ① Help   ▲▾

2.2.5 Web Portal Administration

The Admin screen is where the configuration options reside which allow customization of the user's interaction with the PMP software. These settings only include user settings. System settings can be changed in the Settings screen. The Admin screen contains sections for administering the Web Portal Pages and Users.

2.2.5.1 PMP Administrator

The PMP Administrators are the only users who have access to this screen. The following sections are included:

> **2.2.5.1–1. Web Portal Administration**
> This includes editing FAQs and other documents; sending news and alerts; and sending individual or group email messages.
>
> **2.2.5.1–2. User Administration**
> This includes registration processing, user deactivation, user role assignment, role maintenance, document tracking, timeout settings, exempt data submitter maintenance, and required password change timeframe.

StatePDMP   ♦ Home   ≣ Data   Q RxSearch   ▥ Insight   ⏚ Admin   **✿ Settings**   ① Help   ▲▾

2.2.6 System Settings

The Settings screen is where the configuration options reside which allow customization of the PMP software's behavior. These settings only include system settings. User settings can be changed in the Administration screen. The Settings screen contains different options depending

on the type of user who has logged in – Data Submitted, Requestor, or PMP Administrator. The preferred landing screen loaded upon logging in can be configured here.

2.2.6.1 *Data Submitter*

A Data Submitter has access to settings that control how they communicate to the PMP software and vice versa. This includes settings such as contact names and email addresses. The user can also view their organization's submission configuration here.

2.2.6.2 *Requestor*

A Requestor has access to settings that control how they communicate to the PMP software and vice versa, delegate information, and PMPI default search states.

2.2.6.3 *PMP Administrator*

A PMP Administrator has access to settings that control the PMP software's data collection and sharing. This includes acceptable data collection methods, submission frequencies and deadlines, incoming data formats, required drug schedules, zero reporting requirements, data validations, file acceptance thresholds and the settings necessary to support interoperability between PMPs through PMPInterconnect.

2.2.7 Help

The Help screen is where users find help using the system. This can include training materials, FAQs, helpful links, system documentation, and support contact information.
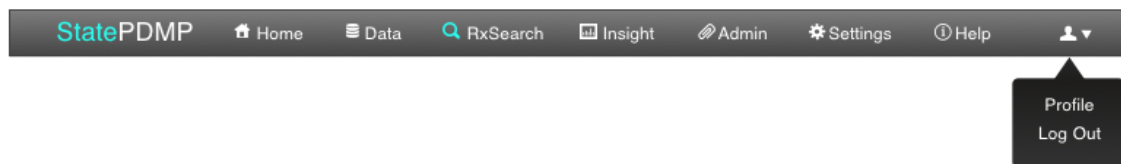
2.2.8 User Profile

The User Profile screen is where any given user maintains his or her own information. Here, the user can change a password or update the profile information they gave at the time of registration. If the state PMP so chooses, the user will be required to verify this profile information periodically.

2.2.9 Logon/Registration Screen

The Logon/Registration screen is outside of the secure area of the system and allows the user to log onto the application or register for an account. This could be integrated into the PMP's existing public web page.

2.2.9.1 Logon

For logon functions, there is an area to input the Username and password, a button to log into the application, and a link to initiate a password reset. If the user initiates a password reset, an email will be sent to their registered email address containing a link that will take them to a screen where they can reset their password.

2.2.9.2 Registration

For registration functions, the screen displays a form for the user to submit in accordance with PMP software settings. The system captures and validates the users email address during the registration process. When a user registers in those states requiring a notarized form, the form will be available for the user to complete and submit. The form can be printed for signature and notarization then scanned and electronically attached to the registration. Once the user has completed all required steps in the registration process, and the PMP Administrator has approved the registration (if required), the user will receive an email with a link allowing them to set their password and log on. This process will mimic the password reset process above. If a configurable amount of time has passed without the user's completing the registration process by populating all of the required fields and providing all of the necessary documents, the PMP software sends an email reminder including registration directions for the user to follow.

2.3 System Services

In order for the Web Portal to perform the above functions, the PMP software has many services behind the scenes. The general architecture of these services is explained in the system architecture section of this document, but their functionality is detailed below.

2.3.1 Authentication

The PMP software contains protected health information (PHI) and provides protection against improper access. Authentication via username and HIPAA-compliant password is required in order to access the Web Portal.

2.3.2 Password Expiration Notification

Rather than waiting until a user tries to log in to the Web Portal with an expired password, they are proactively notified when their password is nearing expiration.

2.3.3 Authorization

Each account, whether a system account or a user account, is assigned a role. Access to each business function is determined by the role of the system or user account.

2.3.4 Auditing

All user activity is audited and available for reporting should a PMP Administrator need to do so.

2.3.5 Data Collection

Data is collected and processed from dispensers and from standard outside data sources.

2.3.5.1 Receive Prescription Data

Data is received from dispensers via SFTP, Web Service, manual upload or manual entry.

2.3.5.2 External Application Support Data

External data such as NCPDP, DEA, and NDC data is uploaded and utilized by the system to validate and report on prescription data.

2.3.5.3 Data Cleansing

Certain pieces of data, like addresses, are cleansed and standardized for efficiency and usefulness.

2.3.5.4 Data Validation

Data elements are validated against appropriate data standards for both structure and content. These validations are configurable by the PMP Administrators. Any abnormalities are reported to the Data Submitter.

2.3.5.5 Error Reporting

Any abnormalities or errors found in the Data Validation process are reported to the Data Submitter for correction. In the cases where the owner of the submitted data is different than the Data Submitter, the errors are also reported to the owner of the data. The PMP Administrator also has access to view the submitted data and the error reports.

2.3.5.6 Process Error Corrections

Corrected data is accepted, validated, and incorporated into the other submitted data.

2.3.5.7 Test Files

Data Submitters have access to a service that allows them to submit their data in order to test the data file for errors prior to submitting data to the PMP.

2.3.6 Person Consolidation

Persons can give different data to dispensers at different times. A PMP wants to report on all of a given person's activity without manually combining different reports. The PMP software uses methodologies proven in our national JusticeXchange and NPLEx programs for consolidating different presentations of a single person record to facilitate this reporting. For the cases where ambiguity exists, the users are able to manually consolidate records and to undo a previous consolidation.

2.3.7 Cryptography Service

This service intakes clear text and outputs encrypted data and vice versa for use by other programs such as PMPI.

2.3.8 Reporting Engine

All reports are run in and reported by the Reporting Engine to the Web Portal in an efficient and timely manner. The completed reports are returned in pdf or csv formats. The returned report format is configurable by the PMP Administrator based on user rules.

2.3.9 Archive and Data Removal

Data is archived and removed as appropriate for both performance and privacy reasons.

2.3.10 Backup and Recovery

In order to provide robust and reliable PMP software, data is backed up daily and available for recovery if needed.

2.3.11 HIE Integration

The PMP software is designed to provide interoperability with HIEs.

2.3.12 PMPInterconnect Service

The PMP software is designed to provide interoperability with other PMPs through PMPInterconnect.

3 SYSTEM ARCHITECTURE

We at Appriss understand the importance of confidentiality, privacy, and security of an individual's Protected Health Information (PHI). Appriss will implement appropriate policies and procedures to ensure that PHI is transmitted, stored, and managed in an effective and safe manner. Each PMP's data store is separate and designed to be responsive, maintainable, and expandable. All information, including system settings, user information, and logs, is stored in encrypted databases. All external system interfacing with the PMP software is managed through web services. A Web Portal is available to provide our PMP software users the ability to access functions using an SSL 128-bit encrypted web browser. Users of the Web Portal are authenticated using a complex username and password. Once authenticated, users are limited to the functions and data they have been authorized to use via their assigned role. For recovery purposes, data is backed up daily and stored securely in redundant offsite DR locations.

4 SUPPORT

Appriss has many years' experience providing excellent support in a variety of ways. In addition to the help section detailed in the Web Portal above, the PMP software includes prepared training and documentation in addition to live help from our personnel.

4.1.1 Training and Documentation

Appropriate training and documentation are provided to the PMP personnel and the end users. Among the documentation are user guides which include the following:
- Dispenser's Implementation Guide
- User's Reporting Guide
- PMP Administrator's Guide

4.1.2 Ongoing Support

Appriss will provide 24 hour help desk support for the PMP software community through the Customer First Center (CFC), our technical and user support center. The CFC is staffed 24 x 7 x 365 by trained Appriss employees who provide tier one support for all application and core components.

In addition to our CFC support staff, Appriss also has tier two and tier three technical support staff available for calls that require more advanced technical support. For the PMP software, Appriss will establish a number of dedicated toll free numbers that will ensure efficient, effective support capabilities for each participating state.

5 FUTURE ENHANCEMENTS

In order to provide in a timely fashion the basic services that a PMP needs in order to function well, development of the features mentioned above will happen first and will be included in the basic PMP software. Recognizing that there are some PMPs whose needs go beyond the basic level, the following enhancements are planned for the future.

5.1 Web Portal

5.1.1 User-submitted Alerts

The user is able to initiate an alert by submitting it for editing and approval to the PMP Administrator.

5.1.2 Compliance Fine Report

The PMP Administrator has access to a report detailing the compliance fines due from each Data Submitter. This will be based on configurable settings controlled by the PMP Administrator.

5.1.3 Flex Report

This is a flexible report that allows the PMP Administrator a powerful way to gain insight into potential abuses of the prescription drugs they are monitoring. The user is able to fill in combinations of patient, prescriber, dispenser, drug, and other information to produce a report on the prescription activity they are investigating.

5.1.4 Wholesale Reports

The PMP software will report on wholesale data in a manner similar to the current reports available to the users

5.2 System Services

5.2.1 Translation Service

Data that is reported in one data format can be translated into a different data format. Translations could be used with the different ASAP formats, NCPDP, or proprietary data formats. Translations could also be used with translation requests such as HL7 to NIEM.

5.2.2 Batch RxSearch

The PMP software provides prescribers the ability to upload a list of patients to query the PMP software in a batch in advance of future appointments.

5.2.3 NARxCheck

The PMP software is integrated with NARxCheck services to provide a composite measurement of prescription drug use and risk.

5.2.4 Person Notes

Practitioners are able to attach notes to a patient. These might be used to denote cancer patients who have a legitimate reason for seeing many doctors. Given the nature of the data, PMP Administrators can choose to require approval of the content of the notes before they can be attached and choose to restrict access to the notes based on role.

5.2.5 3rd Party Authentication

PMPs have a number of third parties that might consume their services. The PMP software provides for the authentication of these third parties with both a trusted authentication model and a federated authentication model available for use, as desired by the PMP.

5.2.6 Advanced Data Analytics

We will be exploring the details of this further in the next 30 days.

5.2.7 Wholesale Data Collection

We will collect wholesale data from the appropriate parties. The data will be processed in a manner similar to the current data import process.

5.2.8 Export De-Identified Data

The PMP software provides an export method for data to be de-identified for external reporting

5.2.9 Death Master Comparison

The PMP software will compare submitted data to the Death Master list and report on anomalies identified.

5.3 Support

5.3.1 Data Submission Compliance

Appriss staff monitors data submission compliance and errors in data from pharmacies. Appriss staff follows up with chains and pharmacies to ensure that needed corrections are made and that all data is submitted within required timeframes. Appriss staff also handles all error questions.

5.3.2 Registration Administration

Appriss staff verifies registration documentation and approves or declines the requesting user per state requirements. Appriss staff also answers questions regarding registration.