DPNCheck®

Reporter IT Guide: PHI Summary

Application Version 2.3

Overview

This document describes how Personal Health Information (PHI) and Personal Identifiable Information (PII) are stored in the DPNCheck Reporter Application, and outlines customizations that are available for controlling PHI/PII exposure with use of the application.

Applicable Versions

This document is applicable to the DPNCheck Reporter Application version 2.3.

Types of PHI/PII Incorporated into Reporter

Reporter contains the following PHI/PII:

1. **Patient ID**
   Patient ID is a required field for identification of a DPNCheck study/test. Typically, the Medical Record Number is used for Patient ID.
2. **Patient First Name**
   This is an optional field, but if entered, is then included in the Report and Export (artifacts may be created for incorporation into the patient medical record).
3. **Patient Last Name**
   This is an optional field, but if entered, is then included in the Report and Export (artifacts may be created for incorporation into the patient medical record).
4. **Patient Birth Date**
   This is entered for calculation of Normal Limits of the DPNCheck test result.
5. **Patient Height**
   This is entered for calculation of Normal Limits of the DPNCheck test result.
6. **Patient Gender**
   The selections are male, female, and unspecified (selected by default).
7. **DPNCheck Test Results**
   This includes the Amplitude, Conduction Velocity, and Waveform from the DPNCheck sural nerve conduction test.
8. **DPNCheck Test Interpretation**
   These are optional fields and include a selected Interpretation category and entered Notes.

Storage of PHI/PII

The following table summarizes details related to how PHI/PII is stored in DPNCheck Reporter files.

Artifact	Format/Location	PHI/PII Stored
Study File	Saved to Datastore Private Folder when user imports test from DPNCheck device. .nmx format, AES256 encryption	(1) **Patient ID**: Saved within file and as part of filename (2) **First Name**: Saved within file (3) **Last Name**: Saved within file (4) **Birth Date**: Saved within file (5) **Height**: Saved within file (6) **Gender**: Saved within file (7) **Test Results**: Saved within file (8) **Interpretation**: Saved within file
Report file	Saved to Datastore Private Folder* when user selects "Report" or "Export", embedded into Export file with Base64 encoding. PDF format	(1) **Patient ID:** Saved within file and as part of filename (2) **First Name:** Saved within file (3) **Last Name:** Saved within file (4) **Birth Date:** Saved within file (6) **Gender:** Saved within file (7) **Test Results:** Saved within file (8) **Interpretation:** Saved within file
Export file	Saved to Datastore Private Folder* when user selects "Export". .HL7 format, base64 encoded. Contains embedded PDF Report, base64 encoded.	(1) **Patient ID:** Saved within file and as part of filename (2) **First Name:** Saved within file (3) **Last Name:** Saved within file (4) **Birth Date:** Saved within file (6) **Gender:** Saved within file (8) **Test Results:** Amplitude and Conduction Velocity saved within file, Waveform saved within file and in embedded PDF Report (8) **Interpretation:** Saved within file and in embedded PDF Report
Logfile	Saved to C:\DPNCheck and set to write to Microsoft Eventlog, created automatically during installation. The following log is created by default: Support Log: DPNCheckSafe Logfile.txt, PHI redacted. .txt format	None; where log refers to specific study, study is identified by timestamp of upload from the device, ID in filename obscured with "@" symbol(s).
	If configured, a second log may be created, saved to C:\DPNCheck that contains the PHI described in the next column: DPNCheckLogfile.txt .txt format	(1) **Patient ID:** Saved within the file, used as a study identifier for logs related to study actions, e.g., test import, study edit, report and export generation. Contained in logs that reference filename of the study.

*If Datastore Share Folder has been specified in Datastore settings and share settings set to "Yes" for Report and/or Export, files are saved to the Share Folder instead of the Private Folder.

Configuration Options

This section describes the available options for configuring Reporter to control exposure of PHI/PII.

Datastore Folder Configuration

The Datastore Private Folder (and Share Folder, if used) may be set to a network location or a UNC path. The Datastore folders are set through the Reporter Datastore settings. The Datastore settings may be locked to changes by the end user when using the Remote Install process.

Use of Export to EHR

By default, the Export Destination is set to "Export to File" (in EHR Settings), where, upon Export action by the user, PDF Report and HL7 Export files are saved to the Private Folder specified in Datastore settings (or to Share Folder if specified and Share settings set to Yes). If, instead, the Export Destination setting "Export to EHR" is selected, no file artifacts are saved in the Datastore folder; instead, upon Export action by the user, an exported HL7 message is sent directly to the IP address specified in Settings.

Logging

DPNCheck Reporter writes log messages for various events that occur during use. The log messages are intended to provide an audit trail for the use of Reporter to show who is accessing, editing, and performing actions related to the DPNCheck test results and patient data, as well as in error reporting (e.g., network loss) for assistance in troubleshooting. This section describes the default logging with Reporter and the customization options available with logging to best suit your organization's needs.

Two types of logs may be generated, one Internal Log, which contains PHI/PII as described above, and a Support Log which has PHI/PII redacted. Internal and Support logs contain the same types of log events, but for the Support log, redaction of PHI/PII is performed by either substituting the Patient ID with a timestamp of the study, or by obscuring the PII (Patient ID) with "@" symbols.

The log writing and destination are controlled via the NLog.config file, located in the Program Files folder. Modifying this configuration file offers flexibility in configuring your logging.

- **Log Text file Artifacts**: By default, only the Support (DPNCheckSafeLogfile.txt) log text file is written with redacted PHI/PII. The NLog.config file may be configured to write to the Internal (DPNCheckLogfile.txt) log text file. The NLog.config file may be configured to write to both log text files, or to neither.
- **Logfile Location:** By default, the log text file is saved to C:\DPNCheck. The NLog.config file may be configured so that one or both log text files are saved in a different location, such as a secure location within your network.
- **Integrate with Microsoft Eventlog:** By default, the logs written to the Support log text file (DPNChecSafeLogfile.txt) are also set to write to the Microsoft Eventlog (note: DPNCheck Reporter must be registered as a Microsoft Eventlog source in order for those logs to be viewed). The NLog.config file may be modified so that one or both types of logs may be written to Microsoft Eventlog, in addition to the text file logs, or instead of.

Upon request, NeuroMetrix can provide examples of modifications to the NLog.config file showing how to perform these configurations, including a batch file to enable Microsoft Eventlog DPNCheck Reporter as a Microsoft event logging source, and Powershell scripts for removing DPNCheck Reporter as a Microsoft Event source and for listing all Microsoft Event sources.