



Data Integrity Tool Tip Sheet

Below are tips on using the Data Integrity Tool (DIT). Additional information on using the DIT can be found in the DIT FAQ document and the DIT Instruction Session series. Please reach out to the CMS help desk for additional questions.

System Requirements (Microsoft Excel):

- Microsoft Excel has limitations on the number of rows and columns it will display, depending on the version.

Version	# Rows	# Columns
2003	65,536	256
2007	1,048,576	16,384
2010	1,048,576	16,384
2013	1,048,576	16,384

- The DIT will not perform on Microsoft Excel 2003. The system needs to be updated to run the DIT on a newer version of Excel.
- Microsoft Excel could generate unforeseen errors due to system memory limitations.
- There is a limit of 65,000 hyperlinks that Excel can support. When running a validation of the template data, no more than 65,000 hyperlinks will be shown in column J of the Validation_Errors tab.
- The DIT will work on any system that has a Windows Operating System. The DIT will not work using a MAC.

Preparation of Templates:

- Each template type must be stored in its own folder (e.g., Rates Table templates must be stored in a folder containing only Rates Table templates. You cannot have a Rate Tables template and a Service Area template in the same folder, as data would not be imported correctly). Users can import multiple templates from a single folder to import the data into the DIT, as long as all templates in that folder are of the same template type.
- The DIT imports folders, not files specifically. It only requires the location of the folder where the templates are stored. Folders can be assigned any name.
- Excel will not import from a folder location that exceeds 218 characters in length. The count of folder character length includes special characters such as /, :, _, etc.

Import:

- You may import a template multiple times. If you have imported a certain template, re-importing that template or a different version of the same template type will overwrite the original data.

- You can import all templates at once or you can import one at a time.
- You can import templates from multiple states as long as they are organized in separate folders for each template type.
- The DIT will only import QHP Application templates for the 2015 plan year.¹
- In order to accurately run the validation checks in the Rates Table template, you will need to first import a completed Plans and Benefits (P&B) template that includes the Plan IDs that you wish to validate in the Rates Table template. For each Plan ID, make sure that the following columns are populated: a) Coverage Type (QHP or SADP), Market (Individual or SHOP), and Child-Only Offering. Then run the Rates Table validation.
 - When P&B data are imported into the tool, the DIT “looks back” to the Plan IDs in the imported P&B tab to categorize each Plan ID by coverage type, market and child-only offering. The DIT will then be able to run the appropriate plan-specific checks for the Rates Table Template.
 - If there are no imported P&B data in the tool, the DIT defaults to running validation checks for individual market QHP plans that are not child-only offerings.
- Importing data could take several minutes depend on the size and number of plans. Please refer to **Figure 1**, which represents the time interval it may take to run data through the DIT based on the number of plans and issuers per state.

Figure 1: Time interval for import and validations by Issuer per State and # of Plans

Interval of time based on Issuer per State and # of Plans				
	Issuer per State	# of Plans	Import Time (seconds)	Validation Time (seconds)
High	33	494	49	805
Average	16	163	15-30	180-300
Low	7	36	< 5	< 5

Validate:

- You can validate a template one at a time or in groups. The DIT will perform either way.
- The DIT will only validate templates that have been imported.
- The Validation tab shows all Errors and Warnings about data within the imported template.
- You may validate a template multiple times based on the error report.
- The difference between an Error and Warning in column D is that an Error represents something that is wrong within the template which needs to be fixed whereas a Warning is a caution that there could be potential problems. Warnings in the Validation tab contain

¹ Issuers can access 2015 QHP Application templates at CMS Zone. States can access the templates at NAIC SERFF or SERVIS.

helpful information, but may not need to be corrected before submission to HIOS or SERFF.

- Using filters may help with distinguishing between Errors and Warnings.
- Column J contains a hyperlink to the actual location of the error for the imported data in the DIT. This reduces the amount of time it will take to locate an error.
- If you are going to re-validate a template, make sure to clear all data in the error report.

Cross-Validate:

- The cross validation will check each template and make sure key data elements within multiple templates are consistent.
- One change in an imported template may eliminate multiple errors or warnings from the validation/cross-validation report.
- You may cross-validate a template multiple times based on the error report.
- The crosswalk diagram represents the data elements that should be consistent across different templates.
- To perform these checks, you should ideally have each template loaded into the DIT and already validated before clicking the cross-validation button. You will need at least two imported templates to perform cross-validation. You do not need to have all templates imported.
- The difference between an Error and Warning in column B is that an Error represents something that is wrong within the template which needs to be fixed whereas a Warning is a caution that there could be potential problems.
- Using filters may help with distinguishing between Errors and Warnings
- If you are going to re-cross-validate a template, make sure to clear all data in the error report.

Additional Tips:

- You may notice small yellow boxes that appear on the menu screen during the import process. You can ignore them. They are caused by opening up the files in the background of the DIT.
- Filtering may be helpful when looking at the error reports (e.g., Error vs. Warning or focusing on one data element at a time).
- Remember to clear all validations before validating a template for a second time. Make sure you do not have the filters on when clearing the data (some elements may be hidden).
- DIT validation checks and warning messages will approximate but not replicate exactly those conducted in HIOS or SERFF. The DIT also includes checks not found in HIOS or SERFF, but are necessary for correct template submission.