Vermont Oxford Network – eNICQ 6 Documentation

Moving the eNICQ 6 Database

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Vermont Oxford NETWORK

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Introduction

The eNICQ 6 Infant Data Entry System is software created by Vermont Oxford Network to assist members with data collection and submission. The software consists of a Windows® client application based on the Microsoft® .NET framework, which writes to a SQL Server® database. Data is de-identified for submission to Vermont Oxford Network. Because the data received by Vermont Oxford Network has been de-identified, **it is not possible for Vermont Oxford Network to provide your center with a copy of your data that will assist with data recovery, so it is important to back up your center's data securely.**

This document provides instructions for two methods of moving the eNICQ 6 database. In most cases, moving the eNICQ 6 database will need to be completed by an IT representative. The option to move the database using a SQL Server® backup requires the assistance of a SQL Server® Database Administrator. The person moving the database will need administrative rights to both the SQL Server® that the database is being moved from and the SQL Server® that the database is being moved to.

The option to move the database using an XML or JSON file ("text file") requires an administrative login to eNICQ 6 and requires administrative rights to the new location of the eNICQ 6 database.

For more information about Vermont Oxford Network, please visit our website: https://public.vtoxford.org/.

For questions about eNICQ 6, please visit the eNICQ 6 Home on our website at https://public.vtoxford.org/enicq-6/ or contact our Technical Support team at support@vtoxford.org.

Specifications for the eNICQ 6 Database

NOTE: eNICQ 6 is designed to work with a SINGLE instance of the eNICQ database. Vermont Oxford Network cannot support multiple instances of the eNICQ 6 database in a production environment.

The eNICQ 6 database can be hosted using SQL Server® 2014 or newer. It can also be installed using the SQL Server® Express included in the eNICQ 6 installer. An existing database can be moved from one SQL Server® to another, from one installation of SQL Server® Express to another, from SQL Server® Express to SQL Server®, or from SQL Server® to SQL Server® Express.

The database is not expected to grow beyond 1GB of disk space throughout its use. Complete system requirements for eNICQ 6 are available here: https://vtoxford.zendesk.com/hc/en-us/articles/115015413368-What-are-the-eNICQ-6-System-Requirements-

To prevent accidental creation of multiple databases, each center's database is registered with the Vermont Oxford Network during the initial installation process. Because each database is registered, moving the eNICQ 6 database must be done correctly to prevent database registration errors.

Before You Begin

Before beginning the process of moving the eNICQ 6 database, please read all the instructions. Contact our Technical Support team with any questions.

Determine Which Option to Use for Moving Your Database

As noted in the Introduction (above), there are two options for moving the eNICQ database. Review the steps involved with your center's IT team before beginning either process. If the new location for your center's eNICQ 6 database will be on a SQL Server® 2008 or greater, the assistance of a SQL Server® Database Administrator at your center is required. Otherwise, consider the advantages and disadvantages of each option with your center's IT team before deciding.

Moving the eNICQ 6 database by backing up and restoring the SQL database (Recommended)

- Requires a SQL Server Database Administrator
- Moves all components of the database, including infant records, center data, Active Directory group names, and access logs

Moving the eNICQ 6 database by text file

- Does not require a SQL Server® Database Administrator
- Moves infant records, but does not copy your center data, user accounts, or access logs. Access logs may be exported from eNICQ 6 for archive purposes

Planning to Move the Database

Both options for moving the eNICQ 6 database should involve planning in advance of beginning the move.

Identify the location of your existing database. This information can be found within the eNICQ 6 application by clicking on the gear icon in the top right of eNICQ 6 to open the **Advanced Menu Options** and selecting **About eNICQ**, or by running the eNICQ 6 Connection File Editor.

Check the version of your existing copy of eNICQ 6. Version information can be found within the eNICQ 6 application by clicking on the gear icon in the top right of eNICQ 6 to open the **Advanced Menu Options** and selecting **About eNICQ**, or within the database in tblAppConfig (requires SQL Server® Database Administrator access). Compare the version information with the version available at https://public.vtoxford.org/enicq-6/. If your center is not running the most current version of eNICQ 6, it is recommended that you upgrade to the current version before beginning the process of moving your database.

Notify application users. If the database will be moved during a time when application users will be working, communicate with application users, as they will not be able to work on data entry while the database is being moved. Once all users have stopped data entry all users should log out of eNICQ 6.

Maintain the working copy of eNICQ 6 (and hardware needed to operate it) until the move is confirmed successful. It is important to preserve the working copy of eNICQ 6 so users can resume working with it in the event of a problem with executing the database move. Retain the working copy until users have confirmed that they have been able to successfully submit data from the new database location.

Option 1: Moving the Database Using SQL Backup and Restore (Recommended)

This process should be completed only by a SQL Server Database Administrator at your center. The eNICQ 6 database contains Protected Health Information (PHI), and the data contained in the database should be handled appropriately based on your center's HIPAA policies.

Please confirm the collation selected for the database matches the collation selected for the new SQL Server. If they do not match the database will be unusable on that SQL Server.

Prepare your Server

To reduce the down-time experienced by your users, the new location where the database will be stored should be ready before you begin the moving process. If you are moving the eNICQ 6 database to an existing SQL Server®, verify that your server meets the minimum system requirements. If you are moving the eNICQ 6 database to a copy of SQL Server® Express, install SQL Server® Express and SQL Server® Management Studio Express at the new location.

- **SQL Server Express 2019** can be downloaded at https://www.microsoft.com/en-us/download/details.aspx?id=101064.
- **SQL Server Management Studio** can be downloaded at https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver16.
- The **eNICQ 6 installer** is available for download at https://public.vtoxford.org/enicq-6/

Create a Database Backup

Once you have confirmed that all users have exited eNICQ 6, you are ready to create the database backup.

1. To create a backup first run **SQL Server® Management Studio** as an administrator.

2. In the **Object Explorer** area on the left, expand the Databases folder, right-click on the eNICQ 6 database (named “eNICQ6db” by default – your database may have been assigned a custom name), select Tasks, and then select Backup.

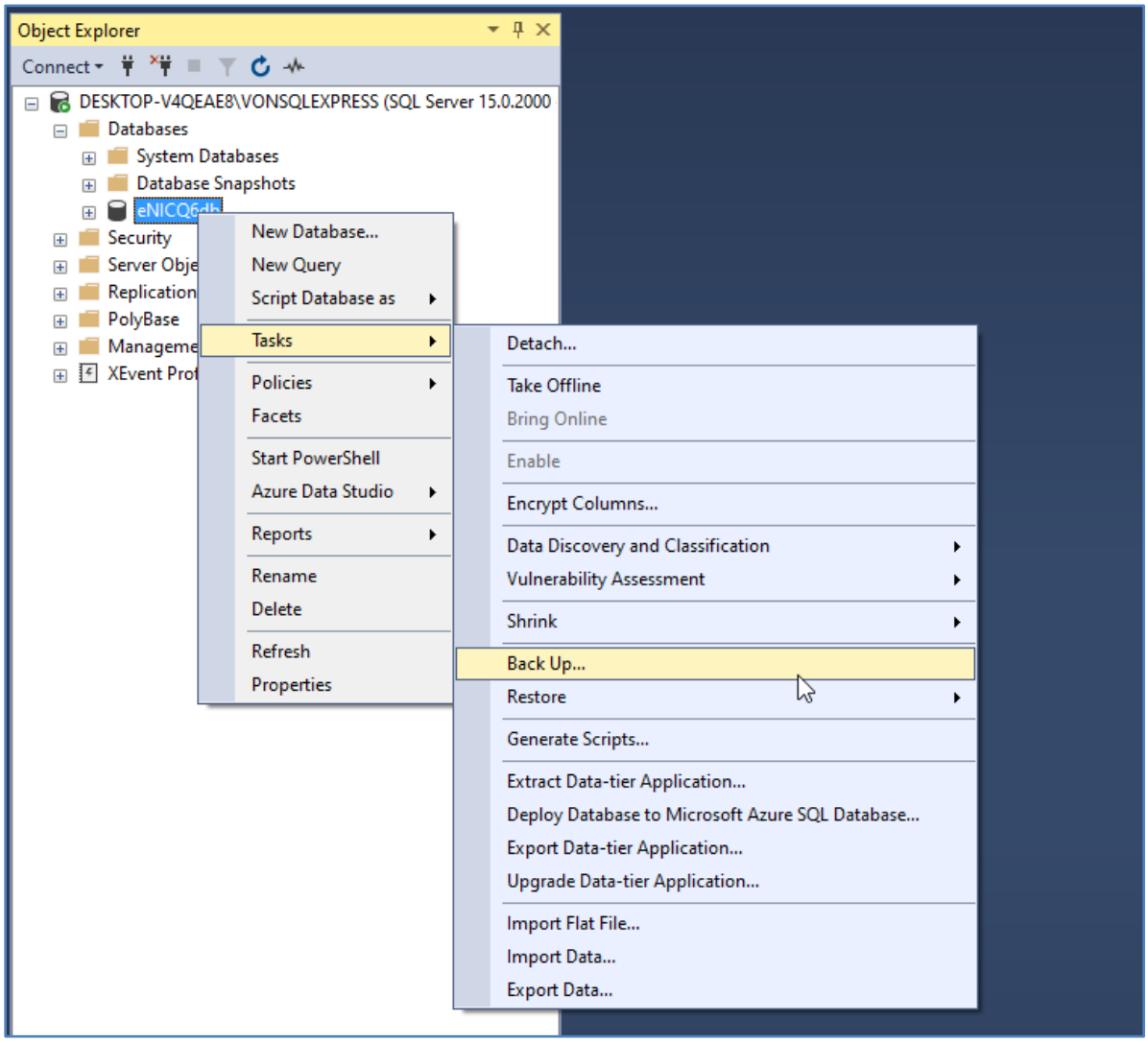

Figure 1 – Creating a backup

3. Configure the General page as shown below. **Backup type should be set to "Full."** Remove any existing entries in the "Destination" box to prevent overwriting an existing backup file. Click **Add…** to select where to save the backup and what to name the file when saved.

   Including the date in the filename will help to ensure that the correct backup is restored at the new location. **Use the ".bak" extension** to ensure that the file created will be identified as a database backup file. The location where the backup file is stored will need to be accessible from the new SQL Server®, or the backup file will need to be moved so it can be accessed from the new SQL Server®.

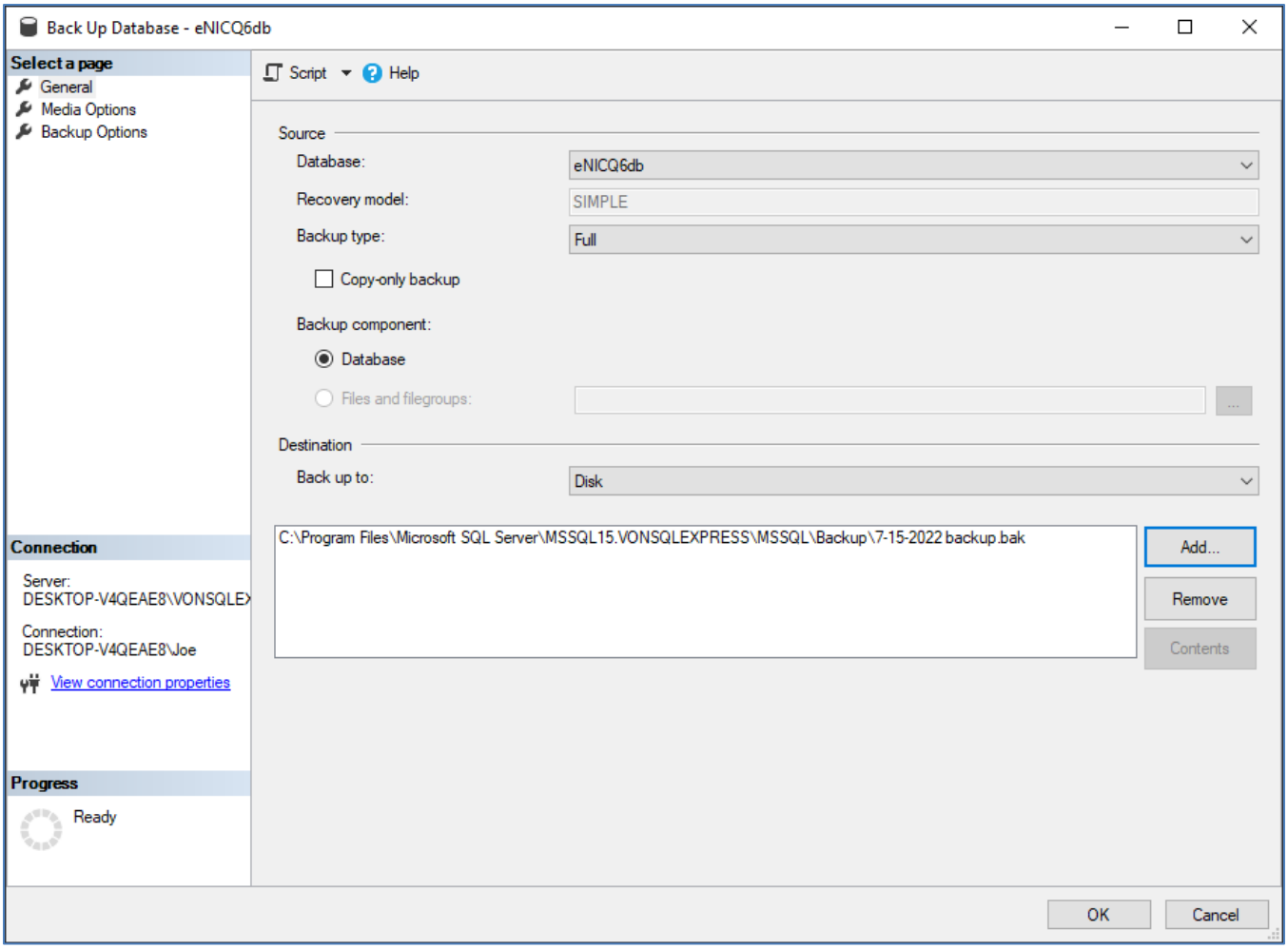

Figure 2 – Confirm the eNICQ 6 database is the source, the type is "Full", and select a Destination to save the backup

4. Click **Media Options** from the Select a Page section in the top left and configure as shown below. Under the **Reliability** section, select, “Verify backup when finished.” There are other options you can select on the **Backup Options** screen as well (e.g., set an expiration date for the backup, or encrypt the backup). Once you have selected the options you want with the backup click OK to create the database backup.

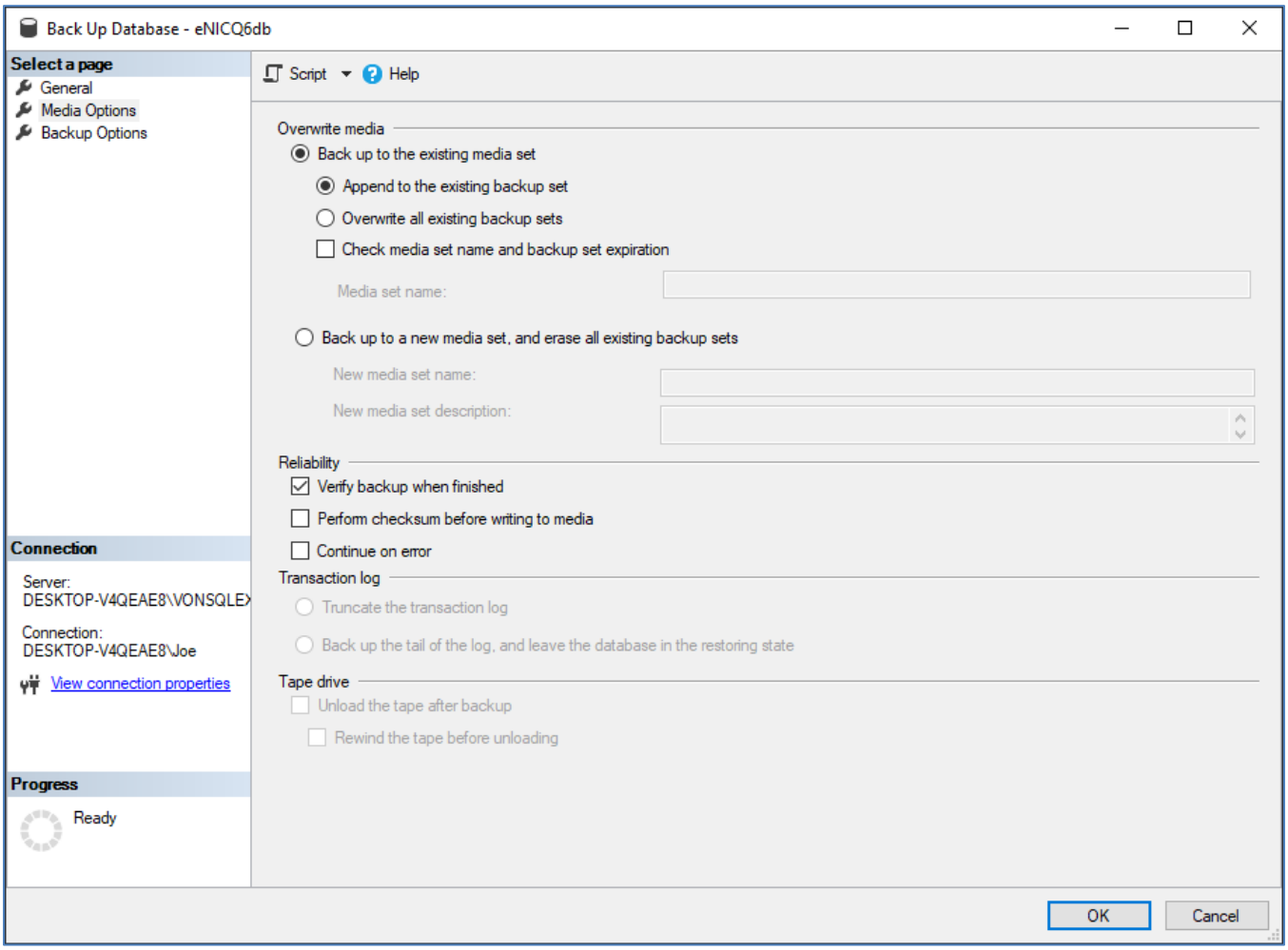

Figure 3 - Media Options

Once the backup has been successfully created, right-click on the eNICQ 6 database, select **Tasks**, and then select **Detach** to open the Detach Database dialog. Click OK. If any users are connected to the database, you will receive a notification listing any active connections.

If users were working on data entry, repeat the database backup process again to ensure none of the data entered is lost. All connections to the database will need to be closed before the database can be detached.

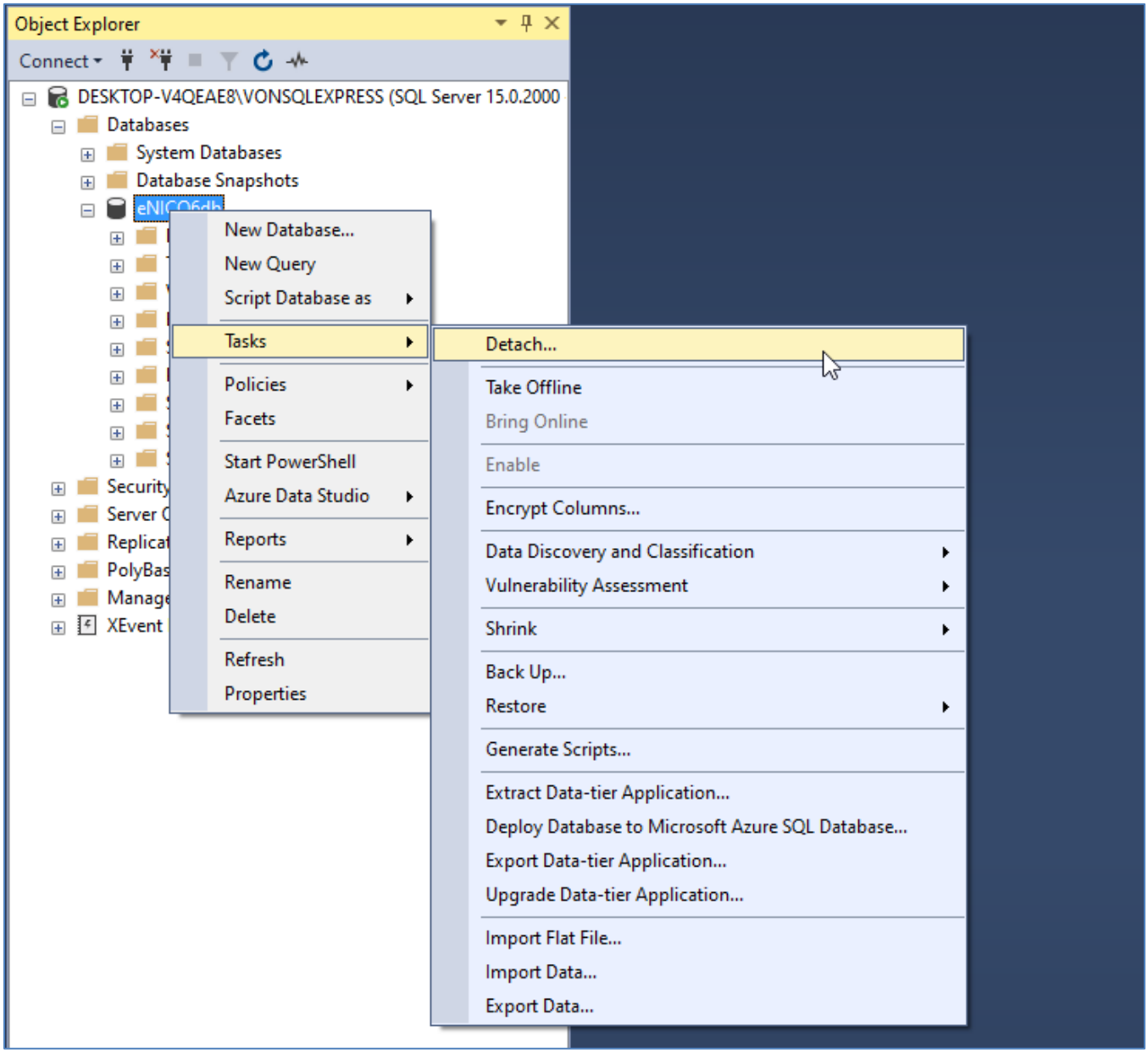

Figure 4 - Detach the old database

Restore the Database Backup

Once the backup has been created it will need to be restored at its new location.

1. Run SQL Server® Management Studio as an administrator and connect to the server where you will be restoring the database. In the Object Explorer, right-click Databases, then select Restore Database.

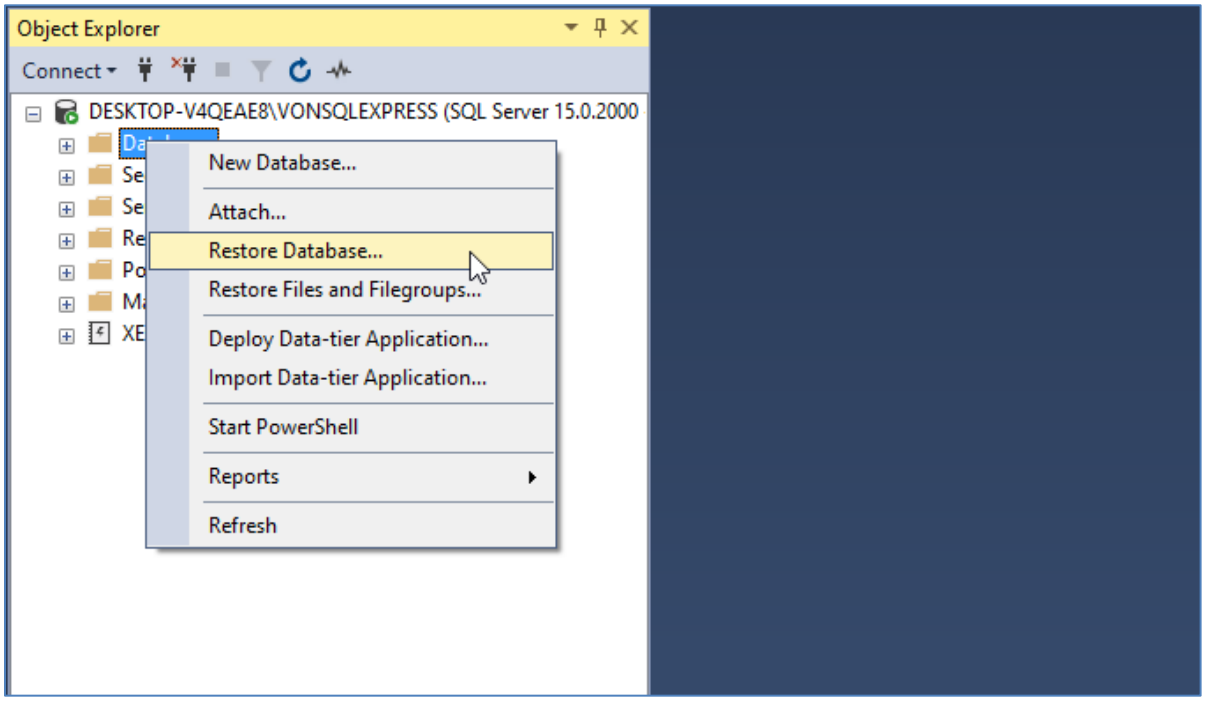

Figure 5 – Select Retore Database after right clicking on the Databases folder in SSMS

2. To browse to the location of the backup select **Device** and then click the "…" button.

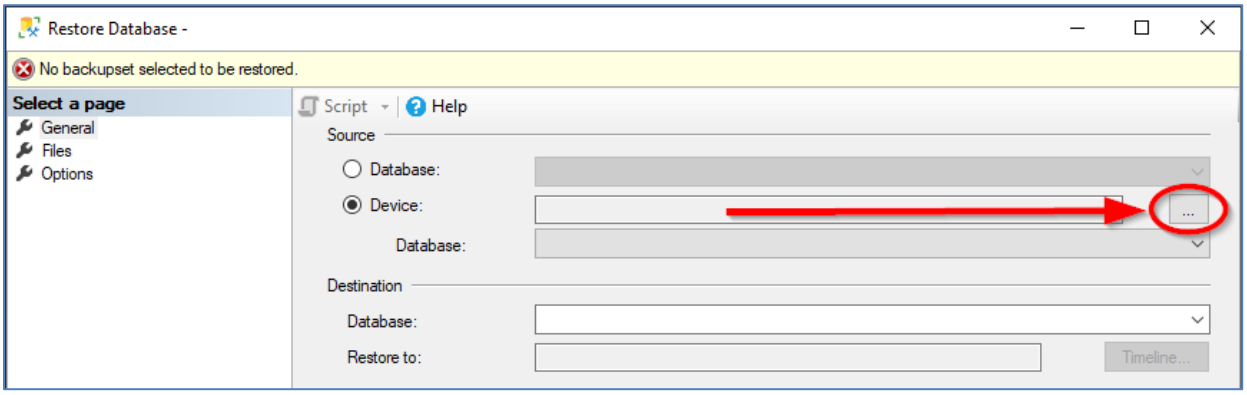

Figure 6 – Click the "…" button and browse for the backup

3. On the **Select backup devices** screen click the **Add** button

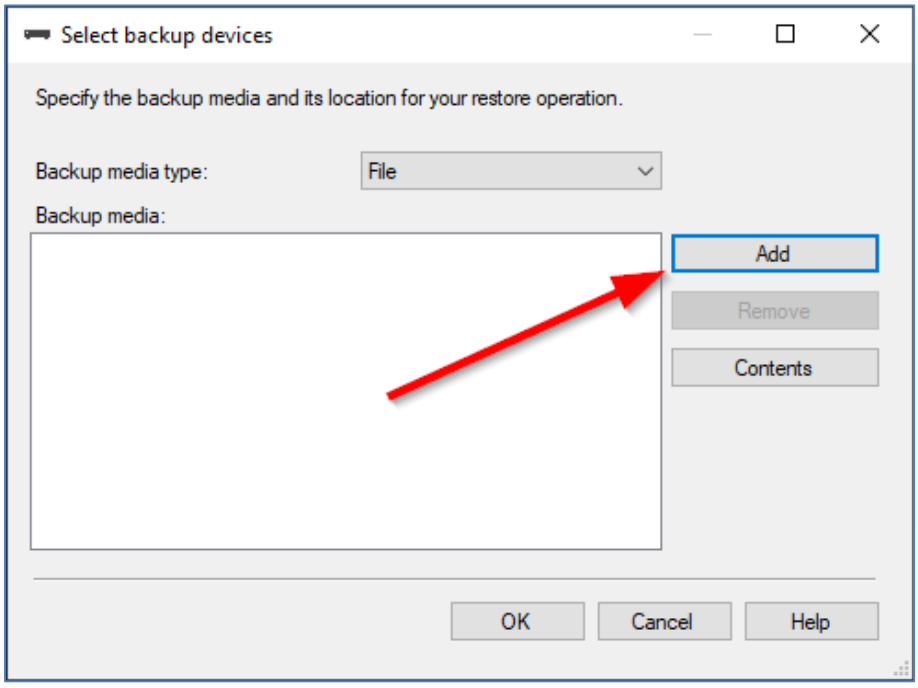

Figure 7 – Click "Add"

4. Locate the backup and click on it to select it. It will appear in the **File name** field. Click **OK.**

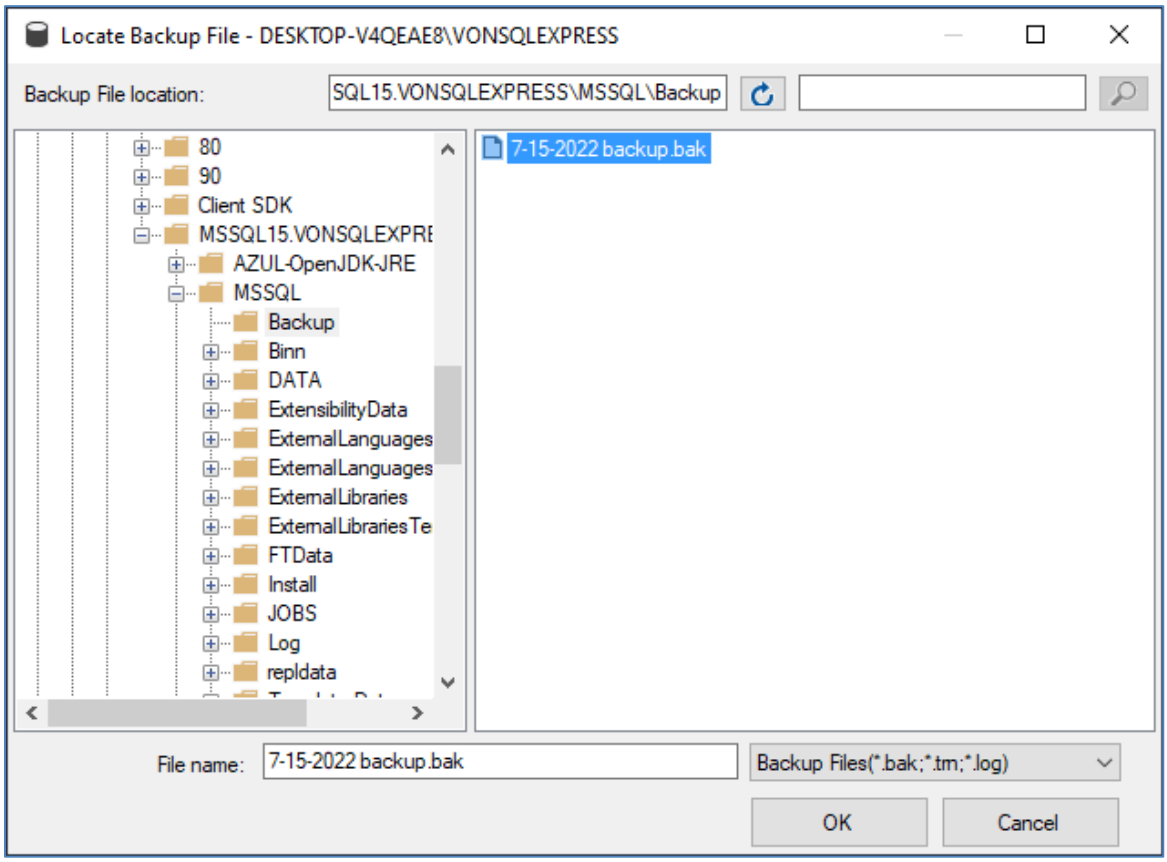

Figure 8 – Locate the backup, click on it, and then click OK

5. You will return to the Select backup devices window with the backup displaying in the Backup media section. Click **OK**.

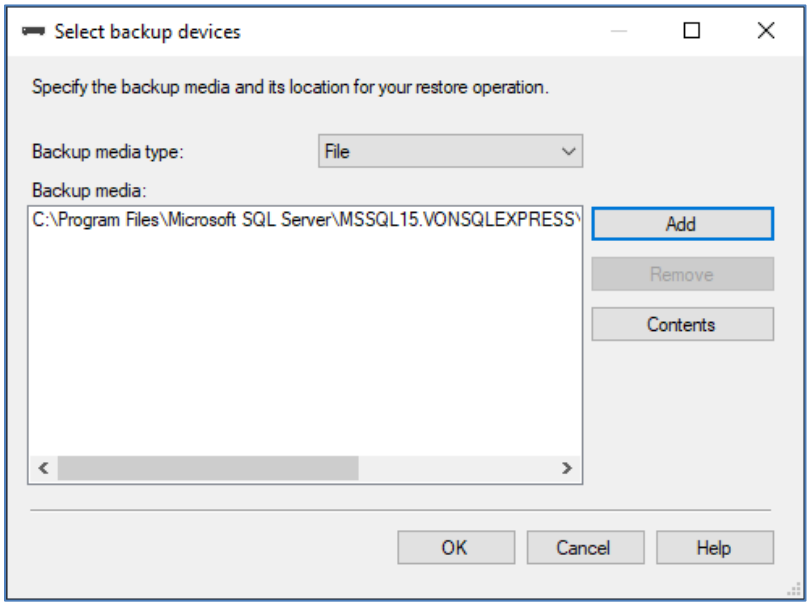

Figure 9 - Backup selected

6. **You will then be returned to the** Restore Database window. The Destination section will be populated with the Database and Restore to information. Make sure Restore is selected for the backup under Backup sets to restore and click **OK**.

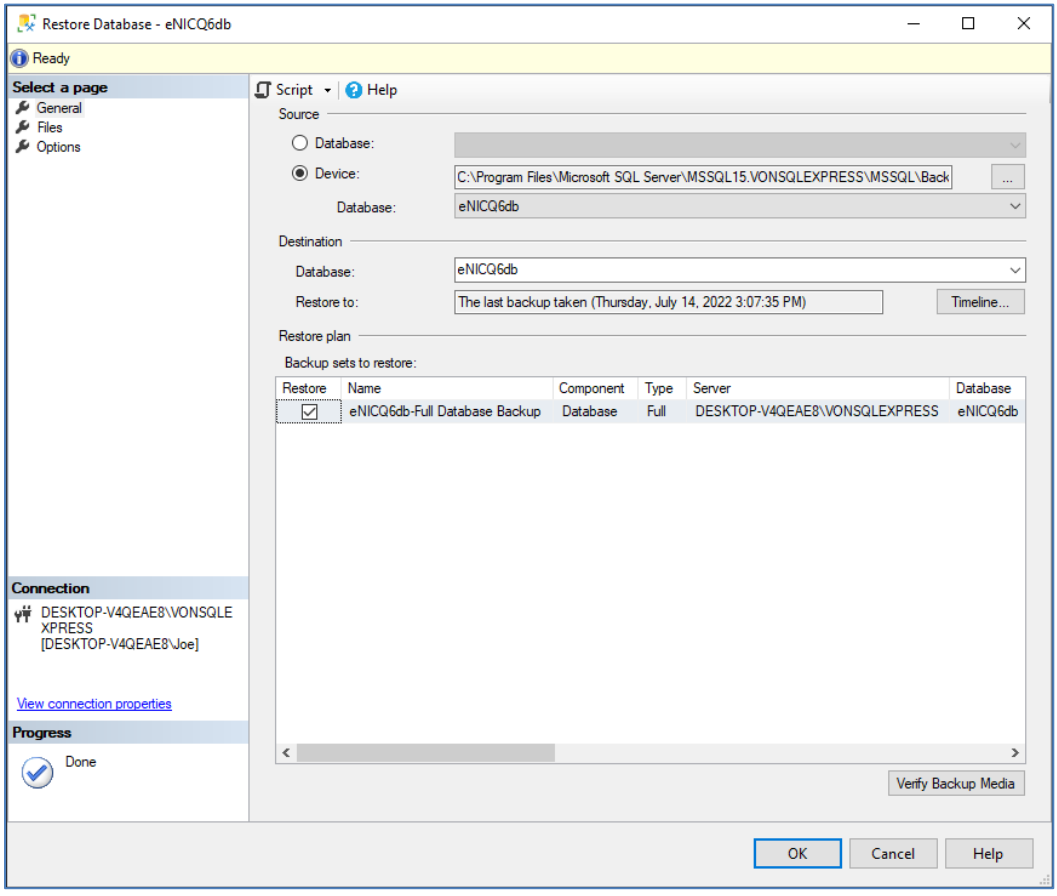

Figure 10 - Restore Database screen with backup selected to restore

7. If successful you will receive the following message:

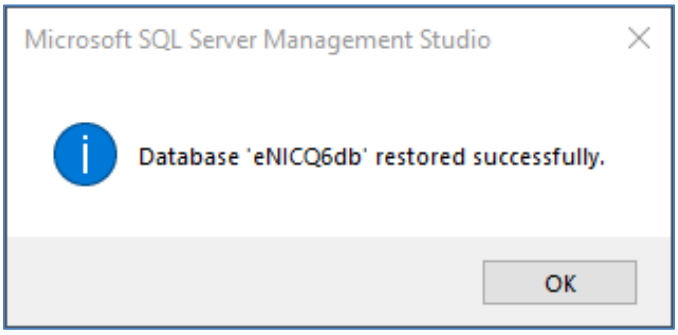

Figure 11 - Database successfully restored

Change the Database Owner

SQL Server® Management Studio will automatically assign the role of Database Owner (DBO) to the person who created the eNICQ 6 database at the new location. If you need to change the DBO, use the following command (replacing *useracount* with the user name for the user you are designating as the DBO, and replacing *enicqdb* with the database name if it has been changed)":

```
USE eNICQ6db
EXEC sp_changedbowner 'useraccount'
```

Recreate Database Authentication Settings

Once the database has been restored at the new location, any server-level authentication settings will need to be reconfigured. The Vermont Oxford Network recommends using Windows® Authentication to identify which users have permission to access the eNICQ 6 database. Details on configuring access to the eNICQ 6 database for Windows® Authentication are located in the installation guide, and in a knowledge base article located at https://vtoxford.zendesk.com/hc/en-us/articles/7879614616211. Any database-level settings will remain in place when the database is moved.

Update Connection Information

The eNICQ 6 client locates the database by reading an encrypted connection file within its program directory (C:\ProgramData\VON). Moving the database requires that the connection file be changed so the eNICQ 6 client knows where to find the database at its new location. The connection information can be updated by downloading the eNICQ 6 Connection File Editor from https://vtoxford.zendesk.com/hc/en-us/articles/115015973927-Using-the-eNICQ-6-Connection-File-Editor and running it on each computer where the eNICQ 6 client is installed or by running it on one workstation, copying the Connection.enicq file and replacing the existing connection files on the other workstations with the copy of the edited version.

Delete or Archive Database Files

Once the database is operational at its new location, determine whether the database at the old location should be archived or deleted. The database (and any backup files) contains protected health information and should be handled based on your organization's protocols for files containing patient data. Though the database was detached from the SQL Server® at the old location, the database itself remains on the server until you remove it. If the original location was an installation of SQL Server® Express, you may want to uninstall SQL Server® Express and its components altogether. Since it is possible that other applications may have installed their own instances of SQL Server® Express, be sure to delete the appropriate instance if more than one installation exists on the machine.

Option 2: Moving the Database by Text File (XML or JSON)

This process involves using the eNICQ 6 client application to save your center's infant data to either an XML or JSON file and importing the data to a different copy of eNICQ. The process requires the eNICQ 6 Administrator role and may require an IT representative with administrative rights to the computer(s) or file server(s) involved but does not require a SQL Server Database Administrator.

This method will move only the infant data. It is important to understand that none of the activity logging tracked within the eNICQ 6 database will be moved, although it can be extracted and archived. Using this method will require coordination with Vermont Oxford Network Technical Support to deactivate the current database registration to allow a new instance of your center's database.

Because this option is not a complete transport of the entire database, we recommend using a SQL Server database backup restore (Option 1) whenever possible. There are some circumstances, however, where this option is the only way to move the center data. These include:

- Merging data from multiple centers into a common database.
- Splitting data from a single center out of a common database.
- Lack of database administrator (DBA) support for the application.

If none of the above situations apply, we strongly recommend using the backup restore functionality of SQL Server that is detailed in Option 1.

Note: if the date/time format of the computer or server where you are moving the eNICQ 6 database to does not match the computer or server you are moving the database from you will not be able to import the XML or JSON file.

Export Infant Records to an XML or JSON File

1. Log in to eNICQ 6 using an account with a security setting of "Administrator." Open the **Advanced Menu Options** (the gear icon in the top right of the Patient Log) and select **Export Infant Records**.

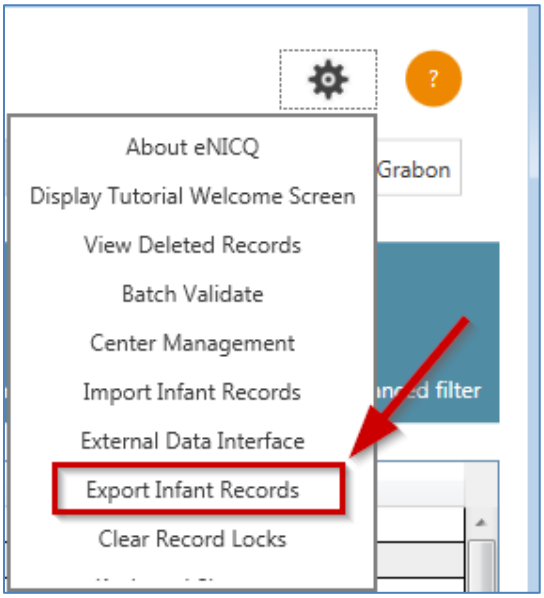

Figure 12 - Select "Export Infant Records" from the Advanced Menu Options

2. Select All records and the file format, then click Export.

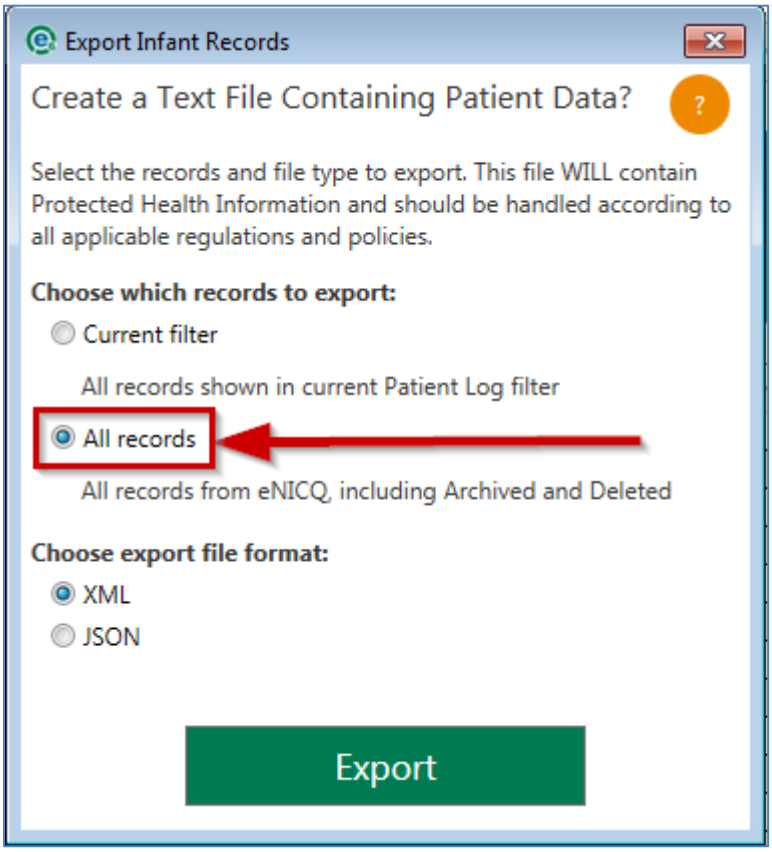

Figure 13 – Select "All records" and XML or JSON for the format. VON recommends making one of each format

3. Select the location to save the file, the file name, and the file type. If possible, save the files in a folder that will be accessible from the location of your new eNICQ 6 database. Because the data files contain Protected Health Information (PHI), consult with your center's HIPAA Officer about accepted methods for moving files containing PHI. Save both an XML and a JSON version of the data file. **NOTE: If you have multiple centers, create data files for each center.**

Save the Audit Log to Text File (Optional)

After you've saved both an XML and JSON file containing all your infant data it is advised to save the Audit Log. There is a SQL script that can be run against the database in SQL Server Management Studio that will give the audit log which can be copied and saved in a spreadsheet. The script to run against the database is:

```
SELECT [EventID]
      ,[EventDateTime]
      ,tblEvents.UserID
    ,tblUser.FirstName
    ,tblUser.LastName
      ,[CenterID]
      ,[VonInfantID]
      ,[EventLogType]
      ,[Memo] from tblEvents left join tblUser on tblEvents.UserID = tblUser.UserID
   Order by EventDateTime desc
```

With version 6.2 there is a stored procedure in the database called **prcGetEventLog** which will also provide an audit log when executed. It is found in the Programmability folder.

Contact Vermont Oxford Network to Deactivate the Database Registration

After the CSV and ML files have been created (and moved to the new location, if necessary) contact Vermont Oxford Network's Technical Support Department at (802) 865-4814 ext. 240 to request the existing database registration be deactivated. Because the eNICQ 6 database is registered to prevent accidental creation of duplicate databases, you will not be able to create a new eNICQ 6 installation without working with the Technical Support team to deactivate the existing database registration.

Prepare the New Database Location

Determine where the database will be hosted and follow the appropriate instructions in the Installation Guide:

https://vtoxford.zendesk.com/hc/en-us/articles/360059328433-eNICQ-6-Installation-Guides

To set up a new locally hosted client and database, please follow chapter 1 of the Installation Guide.

To set up hosting on a dedicated database server (recommended), please follow chapter 3 of the Installation Guide.

Depending on your situation, you may need to re-establish database connectivity for any new or existing eNICQ clients.

Import your Center's Data

After eNICQ 6 has been installed with the database in the new location on of the users would need to perform the following steps:

1. Log into eNICQ 6, open the Advanced Menu Options (the gear icon in the top right of the Patient Log) and select **Import Infant Records:**

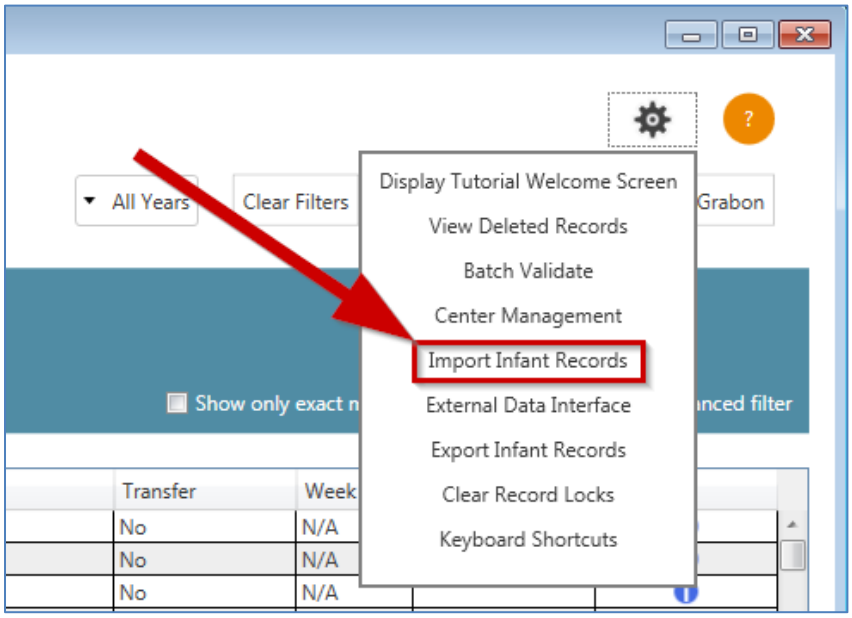

Figure 14 – Open the Advanced Menu Options and select Import Infant Records

2. Click **Browse…**

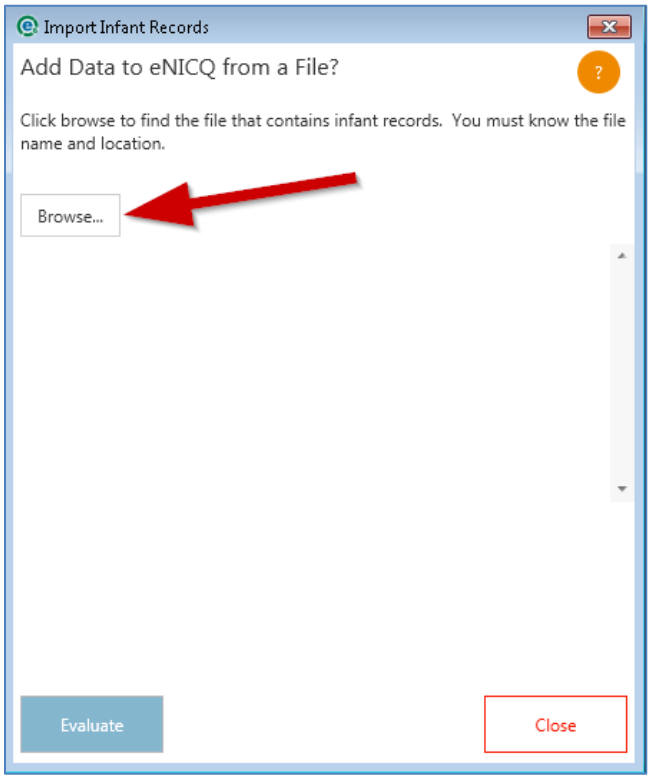

Figure 15 - Click Browse...

3. Browse to the location of the saved XML or JSON file. You can use the dropdown in the bottom right to show only the file type of the one you are trying to import:

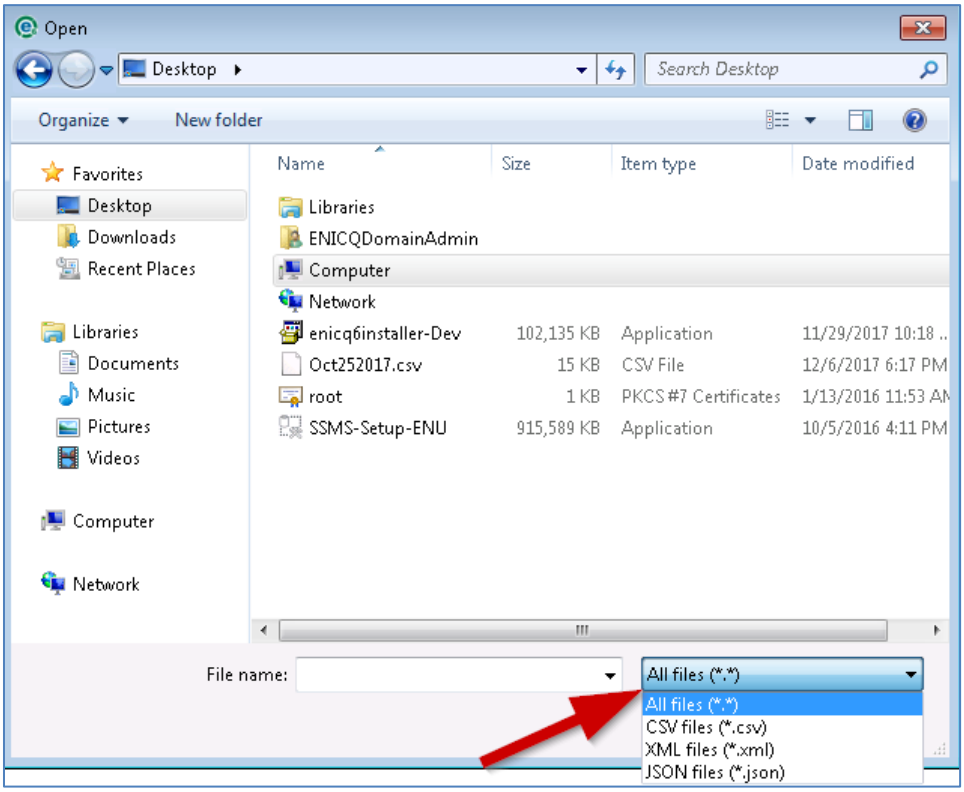

Figure 16 – Browse to the location of the XML or JSON file. You can narrow down your search by selecting the file type in the dropdown

4. Select the file, click **Open**, and then click **Evaluate:**

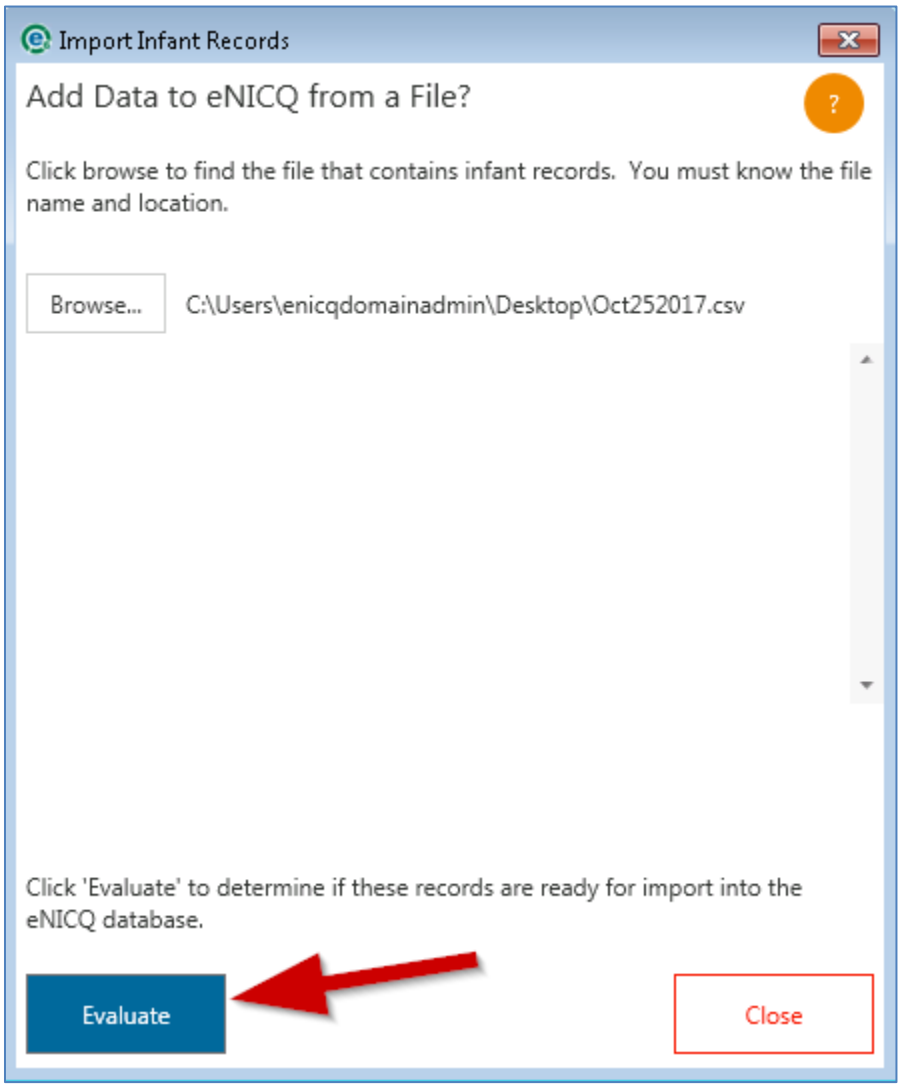

Figure 17 - After file has been selected click Evaluate

5. The results of the evaluation will appear. If a record is missing the Hospital Number, Patient ID, Date of Birth, Died in Deliver, or Location of Birth it will not be imported. Records from archived birth years (a birth year is archived after four years) and deleted records will also not be imported. If you are getting errors, you can click on the **View Import Log** for more details. If everything looks good click **Import:**

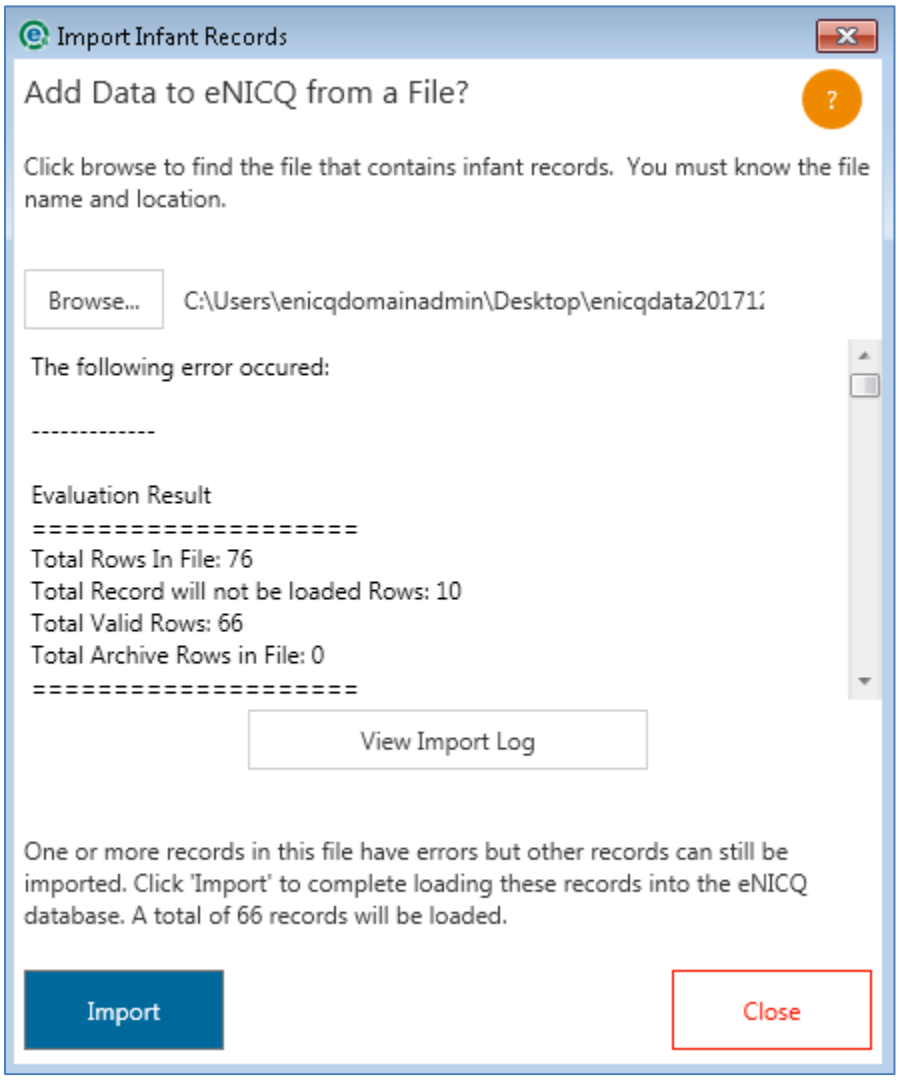

Figure 18 - The evaluation results will appear. If everything looks good click the Import button

NOTE: If you have multiple centers sharing one database you will need to add the other centers (see https://vtoxford.zendesk.com/hc/en-us/articles/360000097927-Adding-a-center-to-eNICQ-6) and then repeat the steps above to import the XML or JSON file of their data.

Handling Data Import Problems

If you receive an error message, click the View Import Log and it will give you the path to the Import Details Log (C:\ProgramData\Von) as well as the file name for that log.

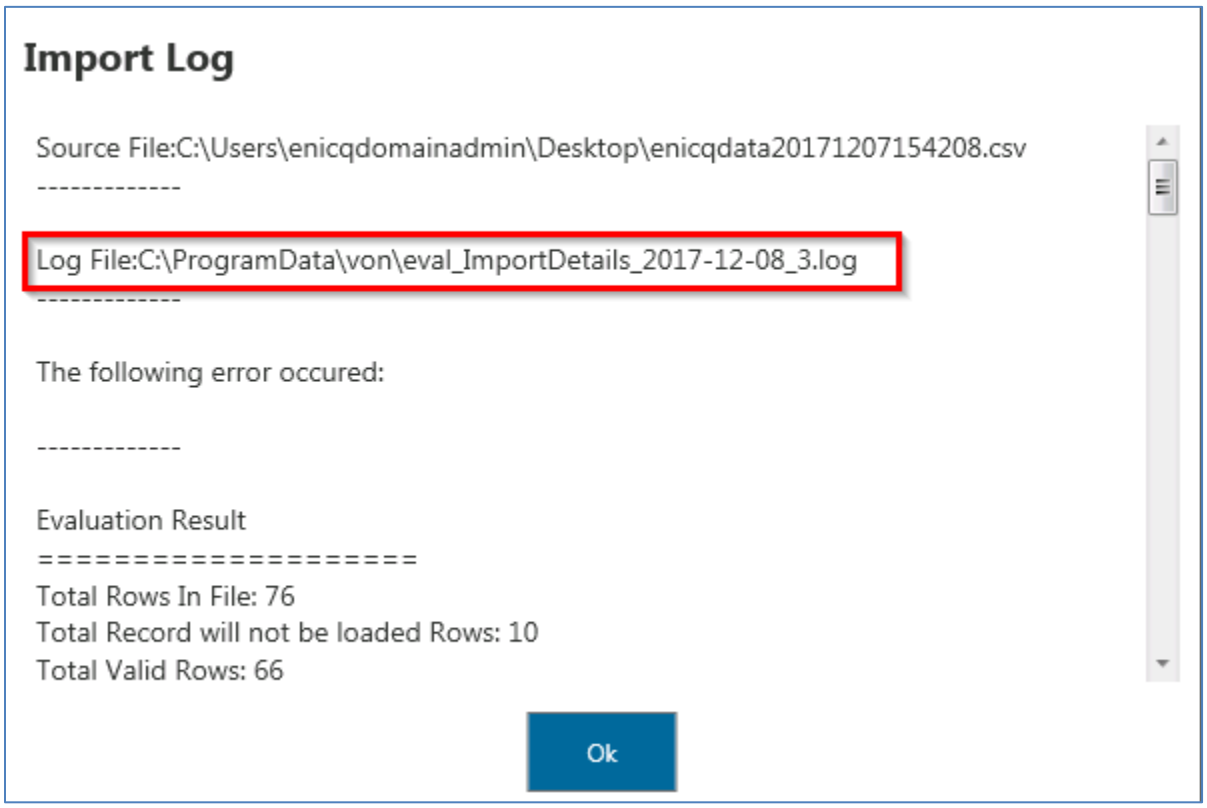

Figure 19 - Import Log showing the location of the log file

The log will tell you specifically why a record was not imported or why the file was rejected. Feel free to contact Vermont Oxford Network Technical Support at (802) 865-4814 ext. 240 or at support@vtoxford.org for help with any questions or problems importing data.

IMPORTANT: Please note that data files and screenshots of import errors will almost always contain protected health information (PHI). DO NOT submit files or images containing PHI to Vermont Oxford Network.