



Sample Data Migration Process

Review key questions and considerations through the data migration process



This sample process flow diagram depicts key steps in preparing for and executing the migration of data from one system to another, in this case from one IIS to another as part of an IIS platform migration. Key activities in the process include data migration planning, data mapping, extracting a sample of data, data validation to refine data migration specifications, and final loading and validation of the data as per the detailed specifications.

Consider the key questions and considerations presented within each step of the process and what project team members will need to be involved throughout the process to inform your data migration planning.

Instructions

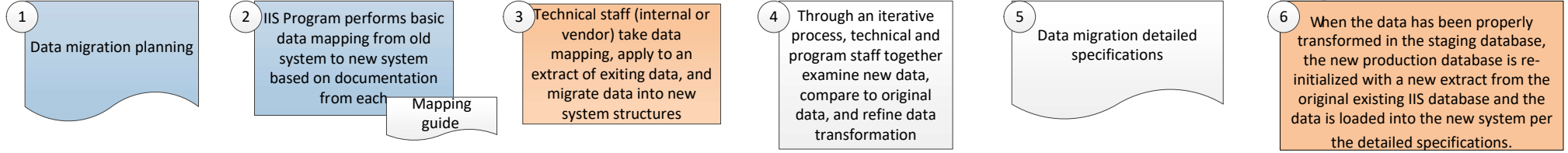
1. Review the key activities in the sample data migration process flow and the corresponding questions and considerations.
2. Document answers to the questions presented and additional considerations that may impact your data migration.
3. Develop a modified data migration process flow based on your needs. Document what individuals will need to be involved in each aspect of the data migration.
4. Work with your technical/vendor team to refine your data migration plan.

Helpful hints

- Also refer to the high-level data migration questions in the **Migration Planning Questionnaire**. Answering those high-level questions helps frame how you will want to proceed with your detailed data migration planning.
- As another input to help your data migration planning, consider the quality of specific data elements/fields in your IIS using the **IIS Data Elements Assessment**.
- Consider when and how to leverage address cleansing and validation services (e.g., SmartyStreets service through AIRA) in your data migration process.
- Note: the symbol with the wavy bottom line in the process diagram represents a document that is developed or referenced in the process. In this case, the symbol represents the development of a data migration plan, development of a data mapping guide, and development of data migration detailed specifications.
- **Bolded text** (as used above) indicates that the resource referenced is available elsewhere in the IIS Migration Toolkit.

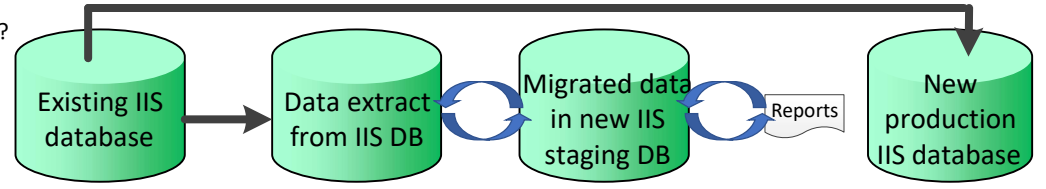
This resource was developed as part of the Immunization Information System (IIS) Migration Toolkit by PHII in partnership with AIRA and CDC and with financial support from CDC. Last updated October 25, 2019. Questions, comments and suggestions are welcomed at phii.org/iiscontact.

IIS Data Migration Process



Key questions

- Where do legacy data reside (database/system/applications)?
- Should other data elements that reside outside of the IIS be migrated?
- Are data requirements related to definition, appearance, consistency and content available?
- Migrate active and disabled sites?
- Migrate all users or only active users?
- Is single sign-on to other agency systems a consideration?
- Should patient data with no vaccine information be migrated?
- Should historical data from the current IIS be migrated?
- What is considered an active user?
- User roles in the new system?
- How to map current roles to the new system roles?
- Existing business rules and or data requirements that need to change (no longer needed and/or no longer relevant)?
- How often/how many extracts and loads are needed prior to the final load?
- What is the best schedule for conducting the extracts/loads to allow sufficient time for validation and modifications as needed?
- Does the data seem to look the same in the new system as it did in the original system? If not, can you explain the variances based on your data mapping decisions?
- Does the data validation approach test a sufficient quantity of data to ensure that a representative set of diversity of data is represented?
- Are the appropriate code values present and usable?
- Are system access and authentication following the documented specifications?
- Are erroneous or missing data managed as specified within the business rules/spreadsheet?
- How far in advance of the system “go live” date will the final data load be done (e.g., one day, one week, two weeks, etc.)?
- At what point in the process will you make the inventory frozen/static - with no further input, processing or changes being made?
- Is there a way to turn off inventory transactions for all sites in the IIS? If so, what will be the impact on user operations? How would this happen?
- Do providers have to reconcile inventories before migrating data to a new system?
- Do you migrate reconciliation histories? All histories, a specific timeframe or none?
- Will you migrate private inventories?
- If you do not migrate inventory data, how will the new inventory be populated? Do you have providers enter new inventories into the new IIS?
- At what point in the process will you stop providers from placing vaccine orders?
- Mandate HL7 interfaces v2.5 or support v2.3 and/or 2.4?
- When do you stop receiving HL7 data in the current system to migrate the data to the new system?
- Will you allow HL7 messages to continue to be submitted to the old IIS, and will the old IIS store/hold this information until the migration is complete and then process the information in the new IIS after migration?
- Do you have to onboard all the organizations which have existing interfaces to the new IIS before submission in the new system can occur?



Key considerations

- Might not be necessary to extract all data from the legacy platform.
- Data volumes, data complexity, availability of standard IIS data load programs, legacy data tables/fields, field attributes, and properties including data type and length need to be considered.
- Provider site information should be reviewed for data quality.
- Successful data migration requires significant effort and input from many sources who know and understand data structures, processes and usage.
- Data migration effort is time and labor intensive and requires commitment of resources for the duration of the activities.
- Identification numbers may be generated/stored in the old system that cannot be handled in the new system.
- User roles (e.g., admin, user, read/write, read only) may not be available and defined the same way in the old and new systems.
- Frequency and timing of extracts and loads must be planned to ensure sufficient resources and time to review the data content and structure within the new platform and make any modifications as needed.
- If possible, real data, rather than test data, should be used for validation to ensure that anomalies are not introduced into the validation process that may be a factor of the creation of a test data set only.
- Special attention should be given to the presence of required fields, as well as free form fields (e.g., comments/notes) to determine that they are handled properly within the new platform.
- Determine a date to stop updating the provider and site information before you migrate to a new system. A common issue is the merger of provider facilities with other medical facilities or with a health system.
- The most appropriate method of transferring data will depend on the volume and complexity of data to be migrated for each data object.
- If the volume of data to be migrated is relatively low or is of poor quality, the overhead of developing migration programs might not be justified.
- Advantages and disadvantages of manual versus automated data entry should be considered.
- The inventory should be frozen/static for the migration to the new IIS; should consider the estimated time that vaccine shipments arrive after an order is placed in VTrCKs.
- Organization hierarchy map from the current to the new IIS should consider the sender versus facility for a health system/EHR vendor that sends HL7 messages for several clinics.
- Program staff must be available/committed for the project duration to own data reconciliation and sign-off in a timely manner.
- Historical data should not be migrated unless certain conditions are considered/met.
- In the majority of cases, the source systems are shut down while the migration executes. To minimize impact, this is likely to occur over a weekend or public holiday

Key: ■ = Program Activity ■ = IT/Vendor Activity = Joint Activity