

**[Front Cover]**

**[NDW Logo Graphic]**

**[Headline:] Superior Data Quality – Improved Outcomes Now and for the Future**

[Body:]

The challenge is to collect, store and deliver the information required to ensure funding, accreditation and high-quality patient care for all American Indians and Alaska Natives. The tool is the National Data Warehouse (NDW), a state-of-the-art system for gathering, storing and transforming huge volumes of data into information. The NDW Database offers the power, flexibility, granularity and scalability to meet the increasing, ever-shifting demands for accurate information from IHS, Tribal, and Urban end users nationwide.

**[Inside Spread]**

**[NDW Logo Graphic]**

**[Headline:] Improved Outcomes Through Superior Data Quality Available Now**

**[Subhead:] The National Data Warehouse Overview**

[Body:]

The Indian Health National Data Warehouse (NDW) gathers, stores, reports and allows easy access to accurate historical data. It is custom designed to meet the administrative and clinical needs of Indian health end users nationwide. NDW includes a national enterprise-level database, where complete, accurate and detailed information is stored. It also accommodates individual DataMarts: highly focused databases where end users can quickly and efficiently access targeted information, often via a Web interface. DataMarts meet individual program search and reporting needs that the complete NDW Database is too large to efficiently support. Also, information in the NDW Database remains the same, while DataMart Databases are created by importing only the data required to fulfill the custom requirements of specific end users. More importantly, DataMarts can be purged and the data re-imported from the NDW Database whenever necessary.

Compared to the existing ORYX and NPIRS databases, NDW data quality and reporting improvements include:

- A single, more-complete, verified and well-maintained data source
- Reports that are less likely to count the same patient more than once
- More accurate user-population and patient-outcomes reports
- Reduced reporting burden on local sites

To create the NDW Database, Information Technology Service Center (ITSC) personnel are working with key Area staff to import data from Resource and Patient Management System (RPMS) and other sources. Data import and testing is ongoing. Initially NDW will run in parallel with the ORYX and NPIRS databases to avoid disruption in data processing and production capability. Once the data import is complete and the NDW system is deemed ready to meet national requirements, it will be used as the primary source of patient and encounter data.

**[Subhead:] A Single Historical Data Resource: The NDW Database**

[Body:]

A comprehensive, accurate national-level database is critical to our mission success. The NDW Database will contain all data from the present back to October 1, 2000, and will continue to be the source from which we gather information that allows us to meet our administrative, accreditation and patient-care needs. NDW funds are being used to build and maintain the infrastructure required to collect, store and make available data at the national level so that we can advocate for all our budgets, as well as for critical programs such as Diabetes. It will also support information needs to meet ORYX requirements, help us allocate resources better and more fairly, plan and advocate for additional facilities, and more cost-effectively provide information needed to successfully manage programs.

However, data and information are two different things: data are the building blocks for information, and are not stored in the database in a way that is useful for individual end users except in an historical, statistical context. For example, because the NDW Database contains data about all patients and their encounters, and tracks in detail the changes made in those data over time, the sheer amount of information is overwhelming and impractical for individual searching. NDW data become valuable to most end users only when it can be extracted from the database and turned into information that is meaningful to them. This is accomplished by the next key element of the NDW project, the DataMart.

**[Subhead:] Information You Can Use Now: NDW DataMarts**

[Body:]

A DataMart is a collection of data tailored to the processing and informational needs of an individual department or program. It can often be shared by multiple groups or organizations. In short, DataMarts turn a multitude of raw data into meaningful information for specific disciplines, programs and organizational units. Think of it as a mini-database, a customized sub-set of data pulled from the NDW Database. It eliminates confusing or extraneous detail, while ensuring data quality and accuracy because few data enter a DataMart that has not first existed in the NDW Database.

NDW DataMart benefits include

- Able to Meet Most Clinical and Administrative Reporting Needs

- Tailored Information Content
- Easy Searching and Retrieval
- Streamlined Reporting
- Performance Measurement Support
- Assured Integrity of Data
- Timeliness of Data
- Valuable Tool for Retrospective Analysis

**[Subhead:] DataMarts Support Superior Outcomes**

[Body:]

The initial NDW will include several DataMarts with highly-focused information such as

- Workload/User Pops
- Data Tracking/Quality
- Outcomes Measurements
- Record Counts
- Historical trends

In addition, the most recent clinical and administrative information will be readily available from a general DataMart, via a Web interface, without special software requirements or waiting for a third party to supply it.

Individual programs can work closely with the NDW team to develop more program-specific DataMarts, such as

- Diabetes
- Cancer
- Health Education
- Public Health Nursing
- Dental
- Pharmacy
- Area and Urban
- Epidemiology

**[Subhead:] DataMart Assists Cancer Ascertainment**

[Body:]

A successful example of how a DataMart can be put to productive use is illustrated in the way the NDW team and the National Epidemiology Program are working together to develop a DataMart to validate reported cases of cancer. Using a combination of specific diagnoses and CPT codes, the NDW team has developed a DataMart to screen incoming data, each night, for ICD9 diagnosis codes indicating cancer. The DataMart is then used in conjunction with the National Cancer and Control Program, IHS and various state tumor registries to validate or ascertain cancer diagnoses results in a verified new cancer case. The DataMart Database is updated or “refreshed” nightly to ensure that appropriate staff will have access to the most current cancer-related data.

**[Subhead:] Discover What a DataMart Can Do for You**

[Body:]

Usable data is waiting to be tapped. Every organization wants streamlined information access, customized information that is immediately usable and accurate. An NDW DataMart is tailor-made to achieve all these benefits and more. For more information, visit the NDW website: [www.ihs.ndw.gov](http://www.ihs.ndw.gov)

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**[Headline:] Frequently Asked Questions**

[Body:]

Q: What is the difference between the National Data Warehouse Database and a DataMart?

A: The National Data Warehouse (NDW) Database is an all-inclusive, comprehensive database that carefully tracks historical changes in the data so that it can re-create an accurate and exact version of all of the data at any point in time in the past. The focus of a DataMart is much more current and immediate, focusing on the specific patients, programs, encounters, outcomes and other data needed by the group(s) or organization(s) that has commissioned the DataMart. It can be continuously updated so that it only has the most current data.

Q: Why not build the DataMarts and provide all of the information to us with current resources?

A: DataMarts are typically developed to meet specific program needs. Although the NDW team will build several DataMarts to meet many clinical and administrative needs, it is impossible for the NDW team to anticipate all the requirements that Diabetes, Behavioral Health, Epidemiology and other programs may require. Therefore, individual programs can work closely with the NDW team to design, develop and implement more specific DataMarts to meet their more detailed program requirements. These NDW activities will require program resources to support staff time, programming, testing and implementation.

Q: How will this system be different from the current NPIRS process? Why is this system any more trustworthy than NPIRS' current system?

A: In short, the NDW environment will contain more complete data and the integrity of those data will be carefully and continually monitored. Historically, NPIRS data has been used to primarily support "administrative" activities such as workload and user population reporting. With its receipt of additional clinical information, the NDW environment will better be able to support both administrative and clinical applications. The NDW environment will also provide a single data source for both administrative and clinical applications – "a single version of the truth."

Q: Why are we re-exporting data? Why can't you just load the NDW with data that are already in NPIRS?

A: The NDW environment is a newly designed process to improve agency reporting requirements. Because many new requirements were not in existence when the NPIRS database was created, the NDW project cannot simply reuse existing data. Additionally, NDW will receive improved (cleaner) data from the local RPMS sources, such as a unique patient registration identifier, to improve accuracy in how it counts individuals.

Q: What happens when we "fix" the problems in our local data, add information to a record, etc.? How will NDW know?

A: Each encounter record will contain a unique encounter identifier. When NDW receives an encounter containing an encounter identifier already in the NDW, it knows the encounter received is modified. The new modified encounter will then be stored in the NDW containing the most current information. Also, the NDW-RPMS export will automatically send modified encounters from the local RPMS site. This is a new process implemented to support accuracy in the new NDW environment.

Q: Why are some NDW improvements being deferred?

A: Everything cannot be done at once, and we cannot further delay the benefits of this new NDW environment. The detailed NDW design for the first version is now complete, including the NDW export, HL7 mapping requirements, staging and target tables and the programs required to load them. Adding new requirements, or attempting to make all improvements at once, would require redesigning processes already in place and additional testing, all of which would create delays. By cataloging new requirements for future versions of NDW we can ensure these new, additional requirements will be a part of future versions.

Q: How will I get reports from the NDW DataMart?

A: The most recent clinical and administrative information is readily available from a general DataMart, via a Web interface, without special software requirements or waiting for a third party to supply it. Authorized NDW users can access data directly via a secure Internet connection and then apply a wide range of tools to analyze and use it. We will

also provide users with information about the data itself, including descriptions of the data elements, standard codes, etc., so they can best use these data.

For more information, visit the NDW Website: [www.ndw.ihs.gov](http://www.ndw.ihs.gov)

**[Indian Health Service logo]**

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