PRIMA HEALTH ANALYTICS

**END-STAGE RENAL DISEASE (ESRD) PROVIDER DATA WAREHOUSE**

OVERVIEW

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**The PHA ESRD Provider Data Warehouse**

Prima Health Analytics is building a Data Warehouse of publically-available ESRD provider data and associated population statistics that brings together a wide range of currently disjointed ESRD-related data sets in an organized and streamlined database environment. The Warehouse serves as the collection point for consolidating data from disparate data sources and across time. With our integrated Data Warehouse approach to data development, all sources of ESRD data are processed, stored, and updated in a Database Management (DBM) environment to meet the objectives of inter-operability between data sets, timeliness of updates and improved accuracy through automated quarterly update and QC processes. This platform in turn supports faster ad hoc development efforts by streamlining the process of accessing the source data needed for a specific project, report, or data set.

**What Data are in the Warehouse?**

The Data Warehouse contains data about ESRD providers, their patients, and the community in which the provider is located. We have longitudinal data sets on the following categories of ESRD-related statistics and measures (with examples under each category):

* ESRD Provider Costs, Revenues, and Service Volume, e.g. -
  + Medicare Cost to Payment Ratios
  + FTEs by staff type
  + ESA costs and units
  + Dialysis Treatments by modality
* Patient Demographics And Characteristics, e.g. -
  + Age, Race, Insurance Status
  + Dialysis Modality
  + Hemoglobin levels
  + Vascular Access Type
  + Average Number of Comorbidities
* Clinical and Process Outcomes, e.g. –
  + Mortality, Hospitalization and Transplant Ratios
  + Dialysis Adequacy (URR)
  + Vaccinations
  + Pre-ESRD treatment
* Facility Characteristics, e.g. –
  + Firm/Chain Affiliation
  + Urban vs Rural location
  + Profit Status
  + Size (Stations, Patients)
  + Industry Segment (Hospital-based, LDO, Independent, etc.)
* Population Demographics of Surrounding Community, e.g. –
  + Racial composition
  + Income, Poverty Ratio
  + Minority composition
  + Educational Attainment
  + Age distribution

The Data Warehouse is also spatially-enabled, which means that GIS applications are easily supported via geographic “shapefiles” and spatial coordinates, from the census tract level up to national regions.

**Where Do The Data Come From?**

The primary data sources collected in the Warehouse at this time are:

* Medicare Hospital and Renal Cost Reports 2004-2012\*
* CMS Dialysis Facility Reports: full statistics set for 2006-2010\*\*
* CMS Dialysis Facility Compare Datasets for 2001-2013
* US Census Bureau 2011 American Community Survey 5-Year Estimates, by tract, county, etc.
* US Census Bureau 2010 Census Demographic Profile 1 Shapefiles (for GIS support)
* LDO/MDO facility listings from the company websites, as of March 2013
* Various proprietary mapping tables

\* 2011-12 currently for hospitals only

\*\* 2011 data expected in April 2013

**How Can This Support My Business?**

The integration of all of these data into a single repository, with the associated industry knowledge- driven business rules that we apply to linking the data allows for a greatly expanded scope of applications that would not otherwise be feasible. Some examples of actual business problems that we have recently helped to solve with data from this Warehouse include:

**Market Research**

* *A national industry service client needed to segment the dialysis market and identify potential customers, based on up-to-date firm affiliations*
* *A drug maker wanted to understand the facility and patient characteristics of dialysis units that were buying a competitor’s drug.*

**Operational Analysis and Benchmarking**

* *A small dialysis organization in the Northeast wanted to compare their clinical staffing mix and ratios to state and national averages for similar-sized organizations.*
* *A small dialysis chain wanted to identify a list of non-LDO facilities in California with better staffing ratios and better clinical outcomes than its own.*
* *A client with an industry-wide focus wanted to understand how cost savings of switching to less frequently dosed ESAs would affect overall dialysis center efficiency.*

**Policy and Advocacy**

* *A national advocacy group wants to understand how the design of the new ESRD Seamless Care Organizations may preclude some dialysis organizations from participating, due to geographic definitions and patient minimum census rules.*
* *A client with a national customer base wanted to analyze the potential effects on patient access to care if dialysis facilities closed due to financial stress.*

**Trend Tracking**

* *A national association needed to understand industry trends, by segment, in ESA utilization over the past 5 years.*
* *A client wanted to understand how many dialysis facilities had closed between 2007 and 2010, and what were the characteristics of these closed facilities.*

**Clinical Research**

* *A researcher studying time to catheter replacement for patients in New York hospital-based dialysis clinics wanted to understand clinical and demographic characteristics of the facilities being studied.*
* *Recruiters for a large national study of small dialysis organizations wanted to compare recruited facilities to all similar-sized facilities at time of recruitment and at present.*
* *Researchers studying anemia management trends in a national sample of hospital-based centers wanted to compare patient characteristics at the study hospitals to all U.S. dialysis patients routinely treated at hospitals.*

**How Do I Learn More?**

Questions? We would be happy to talk directly with you about how the PHA ESRD Data Warehouse can be leveraged to support your business goals. Please see our contact information on the next page.

**About Prima Health Analytics**

Prima Health Analytics, Boston MA, is a small results-oriented healthcare consulting firm providing research and analysis, economic and financial modeling, project design and direction, database development and academic writing support in the health care field. Since 2009, we have conducted a number of research and data development projects related to chronic diseases, with a primary focus on End-Stage Renal Disease.

Areas of Expertise:

* + Database and Report Development
  + Health Economics Outcomes Research (HEOR) and Model Development
  + Dialysis Industry Analysis
  + Academic Research in ESRD

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