

# Integrated Analytical Platform for Healthcare

## Business Overview

Our client, a university physicians group (UPG), is a multi-specialty group of hundreds of physicians that combines academic, clinical, and research services. The UPG organizational structure requires the utilization of multiple independent information technology systems to manage all aspects of the business. These systems are both UPG specific and shared systems administered by the parent University.

## Business Challenge

UPG wanted to focus on reporting and with the goal of creating a “single source of truth” for cross-organizational reporting. UPG was seeking to improve physician, administrative and managerial visibility to billing, HR, salary, GL and other data by the creation of an integrated environment (Data Warehouse) and a Reporting & Analytics platform. Due to the fragmented decision-making environment, UPG also wanted to ensure that they had in place a Business Intelligence Governance policy as they marched down the road to build their reporting solution.

Each department within the provider and administrative areas had their own needs. For example,

- Faculty reporting statistics such as salary, earnings, RVU's, payments and charges, expenses were desired by the School of Medicine executives. The ability to view a complete faculty compensation picture, with faculty comparisons using both internal benchmarks (top performers and lowest performers, revenue to compensation comparison,...) and industry benchmarks (ASAMC, MGMA) were desired.
- Charges & Collections reporting by division, location, month, billing area, etc. was requested
- Each department wanted a consolidated income statement, reflecting not only the direct costs incurred by the department but allocations for all services used and provided, as well as top 10 CPT codes by work RVU, and patient visits and procedures by month (based on procedure codes, not scheduled visits)
- And on and on...the Internal Medicine Department wanted a Faculty Matrix, the Ob Gyn department a Provider level dashboard, etc.

And, of course, the reports and dashboards needed to be available as automatic “push” (through email) to interested parties or be able to be run on request for various time-frames. With the appropriate security and compliance with health care laws about the information disseminated.

As noted above, sourcing of data was needed not only across multiple systems (GL, HR, Payroll, Billing...), but across multiple independent entities (physicians group, university,...). The security model for each independent system added to the complexity of creating an integrated analytical solution. And, UPG did not want to invest in any operational reporting, since for each entity that was fine and didn't need to be replaced or replicated.

## Solution

LPA led UPG through a facilitated requirements gathering process, the goal of which was to define the requirements for the initial data warehouse and reporting solution to be built. Because of the scope of the work, this set of requirements was converted into a BI Roadmap and partitioned into manageable chunks of functionality that could be implemented in stages so immediate value could be achieved.

LPA designed the data warehouse, built the initial data sourcing logic (“ETL”), and worked with UPG to build the reports and dashboards. For a tool-set, we used the IBM Cognos 10 solution, as UPG had some of their environment using an old (Series 7) Cognos tool. Several data marts were designed and built (for billing, for payroll, for HR, for GL, for faculty statistics). Drill-down capabilities are available for departments.

LPA worked closely with UPG, doing knowledge transfer as we worked so there was a smooth handoff to UPG internal IT at the end of the initial phase. LPA also worked closely while writing a BI Governance document, bringing best practices to the discussion.

## Results

UPG now has an efficient Data Warehouse and robust Cognos 10 reporting system built on a foundation of IBM Best Practice methodologies. This provides UPG’s management with one version of the truth, thereby eliminating the frequent reporting inconsistencies contained in reports produced by individual departments.

Long, complex and error prone manual processes are eliminated as month-end reporting is streamlined and automated. This process empowers the staff at UPG to focus their efforts on analysis activities instead of manual processes and error correction activities.

The historical capabilities of the Data Warehouse provide UPG management and individual department’s access to validated, consistent information for time periods captured, organized and stored in a logical business structure.

Financial reporting from the Data Warehouse is automatically delivered across many levels of the organization in a secure environment. Sophisticated dashboards are used to deliver the information in powerful graphical representations, and all measures are available for download to Excel for further analysis and consumption.

The client’s training organization now has a customized set of training materials and tools, including best practice methods to be used in building reports. This will facilitate future training classes for the user population.