Workforce Academy Presents:
Healthcare Analytics

Westchester County Association's Healthcare Consortium members have consistently supported the development of skilled healthcare workers in this growing sector of our regional economy. Now more than ever, the need is particularly acute in terms of upgrading skill sets of the existing workforce in areas such as data analytics.

Upon completion of the course outlined below, the "Academy" will grant certificates of completion based on course materials that have been identified to focus on the expanding 'Big Data' resources of the industry, and the data management, data mining and predictive analytic skills necessary for managers in Healthcare. Participants who complete the course will also be eligible to sit for a nationally recognized credential through the NIH: **http://phrp.nihtraining.com/users/login.php**

The goals of this course are to give existing staff, managers and executives a better handle on how to deal with big data and the extensions into pandemic responses and population health initiatives.

COURSE DESCRIPTION

The reform and transformation of the American health care system requires that managers, at all levels, to become proficient in the broadly defined field of Analytics. Health Care Analytics will build on the disciplines of Information Systems technology, data sciences and the application of quantitative methods as applied to business decision making in operations management, planning and strategic initiatives such as Population Health and the consequences of a pandemic.

We will explore the rich clinical and business sources of 'Big Data' available in the health care industry and the difficulties in managing and building data environments, the use of value added classification systems, and the queries upon which decision support, epidemiology and research capabilities are built. The emphasis of this Academy course will be on helping business leaders and their existing staffs', who have little-to-no experience with analytics, learn how to use "BIG DATA" to make information based decisions, based on science and real world information.

COURSE OBJECTIVES

- Identify the scope and breath of data sources present in the US health care system and the evolution from a paper based environment to the use of computerized records and industry data repositories;
- Identify and discuss various difficulties and limitations of acquiring and managing large data resources and the ramifications of data quality in analytics.
- Evaluate the importance of classification methodologies, economic metrics and Risk Management in the transformation of the industry;
- Understand the importance of health information systems, security and other technologies in the coordination of services and ensuring quality in the delivery of health care services;
- Develop an appreciation for the decision support environment and the statistics needed to embrace economic risk in the health care system;
- Develop an understanding and observation of applications software using several Microsoft tools (SQL, Access, Excel & PowerPoint);

COURSE OUTLINE:

Period 1   **Introduction: A Changing Health Care Business**
Introduction to the course; objectives, scope delimitations and process
Health Care Data Evolution; medical/billing records, regulatory & commercial sources, Coding
and classification methods, research & disease registries
Ethics, Privacy & Security; Research Methods

Period 2   **Sources and Structure of 'Big' Health Care Data**
Broadest Sources & Types of Data: Silos, Enterprise, Regional & External
Systems architecture/infrastructure, communications and security (HIPAA)
Project Management and Data Science (descriptive, predictive & prescriptive)
Dealing with Data: Growth of Big Data, data quality, precision & accuracy
Demonstrations: SPARCS Data Resource and simple Visual Studio Query

Period 3   **Database Management and Data Mining Fundamentals**
Database environments & systems architecture (virtual, relational & silos), structured &
unstructured content, Coding/Classification Methods & the value in segmentation (ICD, CPT,
CCS, DRG, etc.; significance)
Data Enhancements recognizing processes of care, cost accounting & decision support & Data
Mining tools and expectations.

 Period 4   **Applications in Health Analytics:**
Operational, Regulatory, Business, Clinical Support and Financial Performance
Applying Science to the Art of Medicine; Outcomes of Care & Quality Metrics
Recommended Readings: Health Analytics, Burke: Chapters 8-10
Population Health; The Value Proposition, Risk Management & Integration
Transition from Episodes to Care to Longitudinal Records (Epidemiology)
The Social and Business Imperative; Quality, Safety & Transparency
Accountability and Responsibility for the Population (especially in a pandemic)
Recommended Readings: Health Analytics, Burke: Chapters 11-12

Period 5   **Data Science: Descriptive Models; Predictive Modeling & Forecasting**
Traditional Population Based models (epidemiology)
Data Quality, Statistics & Probability Distributions (Inference)
Time series forecasting, Pattern Recognition, GIS software/Visualization, and Simulation
Modeling techniques; Complimentary data sets;

Instructor: Paul Savage, MBA: CEO, HealthCare Intelligence, LLC (20 yrs.);

        Adjunct Professor, Hofstra University: Health Care Analytics

        Past Clinical Professor, Iona College; Health Care MBA Program Director & Director of the Center for Health Care Analytics

        Past Clinical Professor, New York Medical College; Health Care Analytics

        Guest Lecture: Mt. Sinai Medical School, Pace University, New York University

        Professional Experience: Mt. Sinai Medical Center, Columbia-Presbyterian MC, St. Vincent's Medical Center (Vice President of Strategic Planning) & Others

Start Date: This will be a virtual online program beginning Tuesday, September 22nd at 5:00 PM. The course will run for 5 consecutive Tuesdays ending October 20th.

Cost: $495 per participant