



WCA Hudson Valley Workforce Academy Healthcare Analytics

In discussions with the WCA Hudson Valley Healthcare Consortium members, a consistent theme that has permeated many of the discussions is the demand for skilled healthcare workers in this growing sector of our regional economy. The need is particularly acute in terms of the upgrading of skill sets of existing workforce including areas such as data analytics, communication, management skills, organizational skills, etc. The WCA has been asked to create a collaborative “Academy” or training center which will combine the strengths and experience of all of the participating academic institutions and “best practices” from industry.

The Hudson Valley Workforce Academy piloted its first course in healthcare analytics in February 2015. The goal of this course was to focus on the new data management and skills necessary to be a more productive employee and to give existing staff a better handle on how to deal with big data. The course was so successful that we have been asked to run it for the third time.

A certificate of completion will be granted at the end of the course.

COURSE DESCRIPTION

The reform and transformation of the American health care system requires that managers, at all levels, 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 they are applied to business decision making in operations management, planning and strategic initiatives.

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 pilot 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 a 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);

LOCATION

- Course will be held at the WCA location, 1133 Westchester Ave., White Plains, lobby level board room.

DATES

- April 24 – May 22, 2018 5 Tuesday sessions, 2 hours each session, 5-7 PM.

FEE

- \$595 per participant, payable at www.westchester.org

COURSE OUTLINE:

Recommended Homework before participating in this program:
<http://phrp.nihtraining.com/users/login.php> You should take the NIH on-line course 'Protecting Human Research Participants' which may take two hours to complete.

DATE	TOPIC
Period 1 4/24/18	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
Instructor:	Paul Savage, Program Director, Health Care Management, Iona College
Period 2 5/1/18	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

Instructor: Hillary Knepper, Ph.D., Assistant Professor, Masters of Public Administration, Pace University

Period 3
5/8/18

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 acct. & decision support & Data Mining tools and expectations.

Instructor: Paul Savage, Program Director, Health Care Management, Iona College

Period 4
5/15/18

Applications in Health Analytics:

Operational, Regulatory, Business, Clinical Support and Financial Performance
Applying Science to the Art of Medicine; Outcomes of Care & Quality Metrics
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

Instructor: Hillary Knepper, Ph.D., Assistant Professor, Masters of Public Administration, Pace University

Period 5
5/22/18

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; Complementary data sets;

Instructor: Paul Savage, Program Director, Health Care Management, Iona College