The Paradigm Shift from Healthcare to Health: Data Mining, DNP Role in Public Health Informatics

Vision: The purpose of this project is to explore the Nursing Practice Doctorate Role in data utilization to support this nation's Public Health Agenda of "Improving health and achieving health equity through access to quality services, a skilled health workforce and innovative programs."

Background: The DNP has a remarkable opportunity to play a role in this nation's paradigm shift from healthcare to health. Health Resources and Services Administration (HRSA), is an agency of the U.S. Department of Health and Human Services whose mission is to improve health, achieve health equity through access to quality services, a skilled health workforce and innovative Federally funded programs. Technology plays a crucial role in supporting that mission by providing a safe and secure communication infrastructure between HRSA and its grantees nationwide. The Data Warehouse is the central repository, access and information exchange point or "switch board" for HRSA data. It contains a plethora of publicly available real world data that is expanding exponentially and could be overwhelming. There is a need for improved use, access, and understanding of this nationally available data, for leaders, policy makers, researchers, educators, healthcare providers and the public, not just for tracking and monitoring one's personal health and health care related resources, but also to be informed, empowered citizens, who will actively participate in this nation's journey toward achieving a better and sustainable health future that is spearheaded by the Futures Based Agile Thinking (FBAT) Initiative.

Purpose: The purpose of this study was to define the DNP role in data utilization and translation to support this nation's movement toward health by examining and exploring the HRSA Data Warehouse to:

1. To generate useful information, new knowledge and evidence.

2. Identify and prioritize public health and health care priorities.

3. To collaboratively develop evidence based strategies to address public health quality, cost, access and delivery.

4. Identify opportunities to participate in the development of HIT related policies to ensure quality of public health data and maintenance of data security.

5. Increase public awareness on the current state of health and health care.

Methodology: The Cross Industry Standard for Data Mining (CRISP-DM) is a cyclical process that starts with an understanding of the organizational vision, data understanding, data preparation, modeling, evaluation of the analysis tools and data outcomes and deployment or reporting of data.

Results: Mining from the HRSA warehouse generated national, state, city and district level information on the extent of the nation's funding of health and health related resources and programs that can be used for research, education, program development and public education. Data can be presented as reports, tables, and maps through the use of several interactive visual graphic tools. Data can be downloaded in Excel, comma separated value or graphics interchange format. The warehouse is able to interface with other databases to produce a more reliable and valid data pattern that will serve as the foundation of evidence based practice.

Conclusion: There are a multitude of federal and collaborating organization data warehouses. Data warehouses, when mined, analyzed and synthesized supports "Wisdom in Networks, " a step that is necessary in achieving the FBAT vision of creating healthy neighborhoods. The DNP possesses not only the competencies to use, analyze and translate existing data into effective clinical practice evidence but also advocate for policies that promote the safe and secure use of telemedicine in Public Health.