

Program Summary

The **vision** of our program is to create a Cyberinfrastructure (CI)- trained healthcare workforce to meet the 21st Century's Grand Challenge in healthcare, the hallmark of the health reform bill that has been signed into law by President Obama on March 23rd, 2010. This reform requires that the healthcare workforce uses Health Information Technology, including implementing Electronic Health Record by 2014. However, a majority of the workforce are not familiar with the vast resources available under cyberinfrastructure that has the potential of improving healthcare services. Our **mission** is to develop a scalable and sustainable CI-TEAM program, *Cyberinfrastructure for Health Professionals (CHP)*, for deployment nationwide and beyond. This program has two interdependent **goals**: the first goal is to develop effective CI collaborations within the existing healthcare workforce that will use and advance the CI through hands-on training and education, the second goal is to leverage research data, context and experience for training the future workforce using a case-based health informatics course to broaden participation.

Recent developments of advanced computer and biomedical tools have made it possible to generate data at the individual level and analyze it for optimal delivery of personalized medicine and wellness. However, the present healthcare workforce lacks the knowledge of **integrating** heterogeneous data for clinical decision-making. This author (AKD; arundatta.info) is involved in educating the present workforce through class discussion, panel discussion in national/international meetings, organizing workshops, and through collaborative research & teaching activities. However, the **intellectual merit** of this proposal is the development of appropriate courses for the present and future healthcare workforce so that they can **learn** the practical application of CI principles through obesity case-based **research** study, without the burden of studying the technical details of the principles and theories of the multiple disciplines involved. Recommendation of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) and DO-IT at the University of Washington will be considered while developing these courses at the K10-18 levels.

These educational & training activities are conducted on-site, online and in a 3D-game-like learning space through National University (NUCRI), in partnership with various community-based organizations. National University (NU) is one of the top 10 WASC-accredited institutions offering Master's degrees to African Americans, Hispanics and women, and serves an economically diverse population of students through its 31 campuses located mostly in California. NU also ranks number one in California for offering Teaching Credentials to High-school teachers. Through partnerships with community-based organizations, our objective is to **broaden the participation** of minority, under-represented, and underprivileged communities. Particular efforts are made to engage underprivileged women and minorities pursuing better opportunities in their careers. Our program is also expected to **broadly impact** the healthcare industry by improving the delivery of services using electronic health records (EHR) and communication with the potential for reducing healthcare costs. Further, this ongoing effort will be adapted for **dissemination** nationwide and even at an international level. AKD's active involvement with ARTCA (artcaonline.org) and PRAGMA (pragma-grid.net) should facilitate this process.

Nevertheless, formative and summative **evaluations and assessment** are an intrinsic part of this educational & training program to ensure national standard. The evaluation process are guided by the suggested methodologies described in two publications issued by the National Science Foundation, the "User-Friendly Handbook for Project Evaluation: Science, Mathematics, Engineering and Technology Education" and the "User-Friendly Guide to Mixed Method Evaluations".