Data Science Education, Training, and Workforce Development

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Vision

- To have a diverse and sustainable biomedical workforce with the right mix of data science knowledge and skills
  - To manipulate and analyze digital data
  - To build tools to manipulate and analyze digital data
  - To draw inferences and make decisions based on the inherent uncertainty in Big Data
  - To make research advances in basic or applied science that ultimately improve human health
- The workforce consists of
  - specialists in data science, who are valued for their skills and are supported through appropriate research career paths, and
  - specialists in other areas, who understand the importance of data science issues and ideas.

Goals

1) To create a framework of data science knowledge and skills
2) To create learning opportunities across the data science spectrum, at a variety of depths, and delivered using online and traditional modalities
3) To support the training of biomedical data scientists
4) To promote an understanding of the role of data science in discovery and translation of biomedical advances

Implementation

	Goal	How to Achieve the Goal
1	Framework	Data Science Workforce Development Center
2	Learning Opportunities	Open Educational Resources (R25) Courses (BD2K-funded R25s and others)
3	Supporting Individuals	Institutional training grants (T32/T15) Career Development Awards (K01)
4	General Education	TEDx Talks Social Media Wikipedia In-house training

Workshop Outcomes

- Recommendations (additions or alternatives)
  - Vision
  - Implementation
- Priorities – which goals and activities have high priority
- Identify a group for ongoing input regarding implementation
  - How we know we've reached the right mix of skills
  - How these activities fit in with others outside of NIH (e.g. Moore & Sloan Foundation initiatives)
  - What courses/resources should be built upon