Connecting the Dots…
Using Big Data to Improve Educational & Well-Being Outcomes for Children in Silicon Valley

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2013 NSF Grant Awarded to UC Santa Cruz
“Building Community Capacity for Data-Intensive Research in Education”

Regional Scan
All 58 agencies contacted positively responded and requested help with:
- Technical Infrastructure
- Building trust among partners
- Model data-sharing agreements
- Defining research and analytic needs
Regional Context by the Numbers

- Student Population 412,486
- 39% Free/Reduced meals
- 44% gap between ethnic groups meeting UC/CSU requirements
- Only 33% of Hispanic youth score Proficient or Advanced in ELA on the state test compared to 73% of White students.

VISION
Silicon Valley Regional Data Trust

The SVRDT is a university, agency, and community collaborative focused on the integration and application of data to inform programs and policies for children and their families.

Building Institutional Trust

Establish & Maintain
- Data Security
- Data Privacy
- Confidentiality

3 Levels of Protection
- Technical
- Legal
- Governance

Trust

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Exercise

Jonathan's Story

2012 SCCOE Initiatives

- Began building the DataZone data warehouse
- Developed FosterVision collaboratively with DFCS & JPD

SCCOE DataZone Vision

- Low-cost data warehousing
- Dashboards for decision making
- Secure partitions
- Support LCAP goals
- Aggregate multiple data sources (SIS, Assessments, HR, Finance)
- Improved data quality
How DataZone Works

Data for Instructional Coherence

SCCOE DataZone
FosterVision 2015

Converging Vision

Silicon Valley Regional Data Trust
MOU Established 2015

Santa Clara County Office of Education
DataZone & FosterVision

UCSC NSF Grant

Silicon Valley Regional Data Trust

Governance

SCOE Delineation

Educational Technology Solutions

University of California Santa Cruz

Secure Information Sharing Environment

Ensures data security, privacy & confidentiality
Supporst data intensive research
Provides school & agency programs, policies and practices

Santa Clara COE - 31 Districts
Santa Cruz COE - 11 Districts
San Mateo COE - 24 Districts

Educational Technology Solutions

Santa Clara County Office of Education

SCCOE

Santa Clara COE

DataZone

UCSC NSF Grant

Silicon Valley Regional Data Trust

2/26/16
Why SVRDT?

- Eliminate the lag time in providing and coordinating critical services
- Allow service providers to be “on the same page”
- Identify the most critical factors impacting student outcomes
- Identify the most at-risk children and families
- Determine best practice interventions
- Solutions are a community wide responsibility

SVRDT Theory of Change

- Data will be of sufficient scale, diversity, and complexity that it requires new architecture, techniques, algorithms, and analytics to manage it and extract valuable (and sometimes hidden) knowledge
- UCSC’s Data Science team is among the best in the world
Building Blocks of the SVRDT

- **Innovative Analytics** to produce timely and relevant information
- **Innovative Data Visualization** to synthesize data across multiple sources, make actionable connections and identify solutions.
- **Build Partnerships** among researchers, community and family members working directly with children and families across the Valley.
- **Continuous Development** to integrate new tools, new data and better methods as we grow.

A Sister Lighthouse

Department of Health Services, Pittsburgh, PA

- Built a comprehensive data warehouse with data sharing among Probation, Housing Authority, Welfare, Pittsburgh Public Schools & Carnegie Mellon University.
- Predicting which children are most likely to be chronically absent
  - Most predictive variable is within school-year move
- Understanding which schools have the highest concentrations of chronically absent students who are on probation and receiving public benefits.
- Working with school districts to determine most effective interventions
- Using predictive analytics to prevent child abuse
- Data and GIS mapping help determine placement of treatment centers

Creating a Learning Community

We can create **collective impact** by:

- Facilitating cross agency data sharing
- Connecting practitioners and researchers
- Informing practice and local and regional efforts
- Providing economies of scale
There is a regional support for this collaboration.

Interagency networks & cross-sector coalitions are possible.

Applied research & predictive analysis from UCSC.

Students & families benefit through alignment of community resources.

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Questions & Answers