COMMUNITY CATALYST WEBINAR SERIES OVERVIEW

COMMUNITY LEARNING THROUGH DATA DRIVEN DISCOVERY
OCTOBER 7, 2020
featuring
Dr. Sallie Keller &
Dr. Mike Lambur

TEAM SCIENCE & WORKING VIRTUALLY AS A TEAM
OCTOBER 21, 2020
featuring
Rachael Voas

BUILDING A DATA-READY CULTURE
NOVEMBER 4, 2020
featuring
Dr. Shawn Dorius

THE PROCESS ● THE COMMUNITY ● THE TEAM ● THE DISCOVERY ● THE CULTURE ● THE ACTION PLAN ●

COMMUNITY CAPITALS ECONOMIC MOBILITY FRAMEWORK
OCTOBER 14, 2020
featuring
Dr. Cassandra Dorius
Dr. Teja Pristavec

DATA DISCOVERY PROCESS
OCTOBER 28, 2020
featuring
Dr. Cassandra Dorius

FINDING INSIGHTS IN DATA
NOVEMBER 18, 2020
featuring
Dr. Vicki Lancaster

MADE POSSIBLE BY:

IOWA STATE UNIVERSITY
Oregon State University
University of Virginia
Virginia Cooperative Extension

BILL & MELINDA GATES FOUNDATION
TODAY WE WILL EXPLORE THE DATA DISCOVERY PROCESS:

1. HOW DOES IT WORK?
2. WHAT IS THE COMMUNITY’S CRITICAL QUESTION?
3. WHAT DATA ARE AVAILABLE?
4. WHY SHOULD YOU TRUST THE DATA?
5. WHAT ARE THE ETHICAL CONSIDERATIONS?
Our goal is to **empower** Cooperative Extension to **engage** with local stakeholders on **data-driven** approaches to economic mobility challenges **unique** to their communities.
Our **guiding process** is Community Learning through Data-Driven Discovery.
GUIDING PROCESS

Community Learning through Data Driven Discovery (CLD3)

- **Outer wheel**: continuous interaction and communication across stakeholders
- **Middle wheel**: data-driven learning process
- **Frontier** between these two wheels: active collaboration between all partners
- **Inner circle**: rigorous research framework to guide the data science
COMMUNITY LEARNING THROUGH DATA DRIVEN DISCOVERY

EXAMPLES
COMMUNITY LEARNING THROUGH DATA DRIVEN DISCOVERY

GILES COUNTY, VA
BACKGROUND

POPULATION: 16,837
SIZE: 360 SQ. MILES
UNEMPLOYMENT RATE: 4.7%
ANNUAL BUDGET: $53 MILLION
RACE: 95% WHITE*

*WHITE ALONE, NOT HISPANIC OR LATINO
GILES COUNTY, VIRGINIA

ISSUE
• In 2015, Giles County officials realized reactive services make up 61% of the county's operating budget

DATA DISCOVERY: WHICH REACTIVE SERVICES ARE BEING UTILIZED?
• General District Court, Circuit Court, Jail
• Community Service, Day Report
• 911 Calls – Animal Control, Assaults, B&E, Civil Disturbance, Domestic Problem, Drunk in Public, EMS, Fire, Fight, Larceny, Mental Subject
• Department of Social Services – Child Protection, Emergency Removals, Foster Care Placements, Investigations, Relative Placements, Service Cases

TEAM
• Local government, Cooperative Extension professionals, community stakeholders
LINKING SERVICE REQUESTS TO LOCATION

FINDINGS

- 1% of the locations utilized 25% of the services
- 5% of the locations utilized 55% of the funding
- 10% of the locations utilized 71% of funding

GIS locations of the 5,279 reactive service requests in 2014 across the county. Color indicates the service and bar height indicates number of services at that location.
CONSIDERING OPPORTUNITIES: TAKING ACTION

• The map identified clusters where positive change could occur through more efficient delivery of reactive services

• Cooperative Extension is helping replicate approach in another county in SW Virginia
GILES COUNTY F.O.C.U.S. PROGRAM
“FOCUS ON FAMILIES UTILIZING SERVICES”
GEOGRAPHIC DATA-DRIVEN SERVICE INTERVENTIONS

COUNTY DAY REPORTER
CENTER AS AN ALTERNATIVE TO INCARCERATION
• 31% reduction of recidivism rate

INMATE WORK PROGRAM
• Annual increase of 15,000 hours of community service

TANF WORK PROGRAM
• 44% reduction in families on TANF

SUMMER YOUTH WORK PROGRAM
• 50 students and Over 90 local businesses are involved

ENHANCED PRE-KINDERGARTEN EDUCATION
• County continues to add new slots to accommodate more children

ACCESS TO COMMUNITY COLLEGE EDUCATION
• 81 new students enrolled

TWO YEARS LATER: THE RESULTS
DATA DRIVEN DISCOVERY PROCESS

Adopted from materials provided by Dr. Sallie Keller and team at The Social Decision Analytics Division, Biocomplexity Institute, University of Virginia
DATA DISCOVERY

PROCESS & DEFINITIONS

• **DATA DISCOVERY** is the open-ended and continuous process by which potential datasets are identified.

• **DATA INVENTORY** refers to the broadest, most far-reaching ‘wish list’ of information pertaining to your ‘big’ question.

• **DATA SCREENING** is an evaluative process by which eligible datasets are sifted from the larger pool of candidate datasets.

• **DATA ACQUISITION** is the method of physically acquiring the data, which can involve cooperative or purchase agreements, web-scraping, and file-transfer protocols.
DATA INVENTORY

CONSIDER ALL RELEVANT DATA SOURCES: LOCAL, STATE, FEDERAL

DESIGNED DATA
- CENSUS SURVEYS
- CDC SURVEYS
- BRFSS SURVEYS

ADMINISTRATIVE DATA
- BIRTH RECORDS
- ER VISIT RECORDS
- WASTE MANAGEMENT

OPPORTUNITY DATA
- GPS
- SOCIAL MEDIA

PROCEDURAL DATA
- BILLS
- SUPREME COURT RULINGS
- LEGAL BRIEFS
BEFORE YOU BEGIN

• Clearly identify the problem BEFORE you begin
• Meet stakeholders where they are at.
• Now take it a step further with the DD process.
• Share back what worked and what didn’t so we can provide better support in the future
Lee County Community Needs Assessment

• According to the Iowa Department of Human Services (DHS), Lee County ranks 99 of 99 counties in child neglect, and 79 of 99 for child abuse. The overall county risk ranking is 91 out of 99 with a risk assessment score of 9.49.

• The 2019 County Health Rankings and Roadmaps for Lee County data reveals Lee County’s Social and Economic Factors ranks the bottom 99 of 99 counties, including lower high school graduation, higher unemployment, disconnected youth, children eligible for free and reduced price lunch, children in single parent households, injury deaths, and violent crimes.

• Health factors - Lee is ranked 99 out of 99 for health behaviors such as excessive drinking, alcohol impaired deaths, drug overdose deaths, and food insecurity.
What environmental factors are influencing child maltreatment as well as the family risk factors continuously leading to maladaptive family behaviors and norms over time?
How can Lee County better **identify, monitor,** and **support** strong and resilient families?
DATA DISCOVERY
LET'S TRY IT FOR OUR PROBLEM!

ISSUE
How can Lee County better identify, monitor, and support strong and resilient families?

STEP ONE: DATA INVENTORY
Team will brainstorm dataset ‘wish list’ related to identifying and monitoring strong & resilient families in Lee County

STEP TWO: DATA SCREENING
Teams will brainstorm screening criteria used to assess data
What information and data would be useful to help Lee County better identify, monitor, and support strong and resilient families?
**DATA ENVIRONMENT:** Strong & Resilient Families

**What themes emerge from problem elaboration?**
- Child neglect
- Child abuse
- Teen births
- Poverty
- Social and economic concerns
- Poor health outcomes
- ADD RESILIENCE

**Who is engaged in or impacted by this work?**
- City governments
- Community leaders
- Community agencies/programs
- State agencies/programs
- Families
- ADD 10 sectors
- Children, families, adults
- Employers
- Medical professionals
- Criminal justice system
- Agency partners
- Community members
- School districts
- Everybody!

**What internal or external factors affect this space?**
- Laws and regulations
- Programs and formal supports
- Informal supports
- State or community resources
- Stakeholder preferences
- Individual and family characteristics

**What is the desired outcome of this process?**

Are any patterns emerging? Do these suggest the type of data domains you should be considering?
IF YOU HAD ACCESS TO A DATABASE ON STRONG & RESILIENT FAMILIES, HOW MIGHT YOU USE IT TO IMPROVE DECISION MAKING AND PROGRAMMING?

GO TO www.menti.com
ENTER CODE 88 44 37 1
**DATA MAP: Strong & Resilient Families**

What are your levels of analysis? What are the relationships or connections between each domain?

**Domain: Substance Use and Health**
- Use of opioids, methamphetamines, marijuana, alcohol, cigarettes/e-cigarettes
- Drug related mortality
- Drug related crime
- Drug distribution
- Mental health
- Physical health
- Risk taking
- Deaths of despair

**Domain: Social Isolation**
- Community characteristics
- Church & religious involvement
- Individual & community social capital
- Community & political engagement

**Domain: Trauma and Coping**
- Adverse Childhood Experiences (ACES)
- Incarceration, probation, juvenile detention
- Mortality
- Crime

**Domain: Family & Individual Characteristics**
- Family characteristics
- Child/teenager characteristics
- Household characteristics
- Births and fertility
- Sexual Orientation and gender
- Immigration status
- Language

**Domain: Economic Vulnerability**
- Occupation
- Income
- Housing
- Employment
- Community resources
- Economic system
- General economic wellbeing
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Domain: Economic Vulnerability
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- Economic system
- General economic wellbeing
WHAT TYPES OF INFORMATION SHOULD WE CONSIDER TO HELP US BETTER UNDERSTAND AND SUPPORT STRONG AND RESILIENT FAMILIES IN LEE COUNTY?

GO TO www.menti.com
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WHAT DATA DO YOU KNOW OF THAT WOULD HELP US IDENTIFY, MONITOR, AND SUPPORT STRONG AND RESILIENT FAMILIES IN LEE COUNTY?

GO TO www.menti.com
ENTER CODE 88 44 37 1
DATA SCREENING: DEVELOP PROJECT SPECIFIC CRITERIA

WHAT INFORMATION ABOUT THE DATASETS WILL HELP YOU DETERMINE THEIR FIT?

- HOW FINE GRAINED A GEOGRAPHY IS NEEDED?
- HOW FREQUENTLY ARE THE DATA COLLECTED?
- WHAT IS THE DATA QUALITY? ARE THERE GAPS OR OTHER CONCERNS?
- HOW DIFFICULT ARE THE DATA TO ACCESS? ARE LEGAL AGREEMENTS REQUIRED? IS THERE A FEE FOR USE?
What information about the data will help determine their fit?

Go to www.menti.com
Enter code 88 44 37 1
WHAT ETHICAL CONSIDERATIONS SHOULD WE KEEP IN MIND RELATED TO THIS PROJECT?

GO TO www.menti.com
ENTER CODE 88 44 37 1
THANK YOU FOR JOINING US!

WRAPPING UP
QUESTIONS?

WE ARE HERE TO HELP!

https://datascienceforthepublicgood.com/
economic-mobility

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