ASPPH Presents Webinar Series

Community Assessment for Public Health Emergency Response (CASPER) and the Development of Collect SMART: Survey Management and Response Tools for Assessing the Health of Your Community

Tuesday, July 28, 2015
3:00-4:00 pm Eastern
Method for Submitting Questions

Join the Conversation...

• You can ask questions in writing anytime during the webinar.

• Simply type them in the “Questions” field on the right side of your screen.
Today’s Presenters

Matthew Simon, MA
University of North Carolina
Gillings School of Global Public Health, Preparedness and Emergency Response Learning Center (UNC PERLC)

David Zane, MS
Health Emergency Preparedness and Response Section, Division for Regional & Local Health Services, Texas Department of State Health Services

Michael Zelek, MPH
Chatham County Public Health Department, North Carolina
Community Assessment for Public Health Emergency Response (CASPER) and the development of Collect SMART:

Survey Management and Response Tools for assessing the health of your community

Matt Simon, MA, GISP
North Carolina Institute for Public Health

David Zane, MS
Texas Department of State Health Services

Michael Zelek, MPH
Chatham County, NC Health Department

July 28, 2015
North Carolina Institute for Public Health (NCIPH)

- Service arm of the Gillings School of Global Public Health at UNC-Chapel Hill
- Since 1999 has served as a bridge between academia and partners in community organizations and government agencies

Deliver training, conduct research and provide technical assistance to transform the practice of public health for all
Learning Objectives

- Describe the purpose of Community Assessment for Public Health Emergency Response (CASPER)
- Provide examples of how CASPER has been used for post-disaster assessments and routine community health needs assessments
- Discuss the Collect SMART mobile app and project management dashboard designed to expand local capacities to collect community health data
Statement of Need

Validated community sampling methods are needed to collect accurate, high quality primary data that don’t require extensive expertise in population sampling, geographic information systems and costly software and computer equipment for mapping, data collection and statistical analysis.
What is CASPER?

Community
Assessment for
Public Health
Emergency
Response

“A specific set of tools designed to provide quick, inexpensive, accurate, and reliable household-based public health information about communities affected by natural or man-made disasters.”

CDC, 2012
The purpose of CASPER is to determine the health status and basic needs of an affected community.
Why Use CASPER Sampling Method?

• Validated for rapid assessments and estimation of population-level public health needs\(^1,2\)
  – Produces valid and precise estimates (+/- 10\%)\(^3\)

• Alternative to simple random and convenience sampling
  – Reduces travel time and costs
  – Just the right number of surveys

  • SRS < Cluster < Convenience

Why Door-to-Door?
Why not online, mail, telephone, convenience?

• More representative and generalizable
  – Accessible to everyone

• Data quality
  – Higher quality, more complete data
  – Higher response rates
  – Ability to provide clarification on questions or wording

• Visibility
  – “Boots on the ground”
How CASPER Has Been Used

• Disaster assessments
  – Health status and basic needs following a disaster
  – Community preparedness

• Routine data collection
  – Community health needs assessments
  – Other surveys that gauge community opinion on a variety of topics
    • Potassium iodide (KI) distribution
    • Teen pregnancy
Post-Disaster Assessments

• Determine the number of people affected
• Assess physical damage to homes
• Determine whether people have access to:
  – Electricity
  – Clean water
  – Food
  – Communication
  – Health services
Bastrop County, TX Wildfires

- Texas in midst of extreme drought
- High winds pushed trees into power lines and started a fire (Sep 2011)
- Fire was in Bastrop County, ~30 miles east of Austin, TX
- Wildfire destroyed 1,660 homes and caused 2 deaths
- It was declared a federal disaster

Image Source: FEMA/Patsy Lynch, 2011
Household Survey

- Health Status
- Access to Utilities
- Access to Health Care
- Mental Health
- Evacuation Behaviors
- Messaging
Results

- Report shared with local officials
- Data used in grant applications for long term recovery (mental health and building roads)
- Results guided interventions on health communication and messaging

CASPER Team, Bastrop County, TX, 2011
Community Health Needs Assessments

CASPER can be used to:

• Determine community health priorities
• Estimate population health status and access to health care services
• Assess community emergency preparedness
• Identify services needing improvement
Chatham County CHNA

- Staff received training from NCIPH via webinar on:
  - Project management
  - Interview techniques and team safety
- Using NCIPH tablets and Collect SMART, completed 190 interviews with 25 teams over 6 days
Results

• This resource enabled us to:
  – Quickly train and field teams with mixed levels of community survey experience
  – Randomly select houses and easily find them
  – Coordinate data collection across county
  – Conduct and upload surveys electronically
  – Analyze data and generate results (after data cleaning)
Barriers to Implementing CASPER

- Sampling expertise and software
  - Automated cluster sampling online

- Statistical and mapping software
  - Epi Info™ + Collect SMART dashboard

- Data collection software and hardware
  - Free mobile app deployable to tablets and smartphones
Development and Pilots

• Concept: Summer 2013
• Pilot testing: 2013-2015
  – 9 surveys, ~1700 interviews
  – Iterative process
• Project manager feedback (TX)
• Training Materials
  – User manual
  – Online modules
  – Still developing....
CollectSMART
Survey Management and Response Tools

Survey Management System

Sample Selection and data management

Project Dashboard

Mobile App

Survey Collection and Coordination Tools

ASPPH
ASSOCIATION OF SCHOOLS & PROGRAMS
OF PUBLIC HEALTH

T H E N O R T H C A R O L I N A
Institute for Public Health
Mobile App

• Integrated with mobile Epi Info™
  – Create questionnaires and analyze results

• Compatible with most Android tablets and phones

• Navigation to preselected survey sites

• Offline mode
  – Functionality in the absence of cell coverage
Project Management Tools

- Web-based
- GIS-enabled site selection (U.S. Census data)
- Real-time frequency analysis of results
- Real-time mapping to track and locate survey teams
- Cloud-based database for survey responses for added data security
Create a New Project

Automated cluster sampling nationwide*

OR

Supply your own spatial data

*block groups
Site Selection Tool

Create New Project

Use this page to generate a random sample of clusters in a sampling frame specified by one of more counties or zipcodes.

Please Enter New Project Name: (up to 64 characters)
- Durham County CHOS 2015

Please Enter Survey Date: 2015-08-17

Please select sites for survey from the following options:

<table>
<thead>
<tr>
<th>SELECT REGION (STATE/COUNTY OR ZIPCODE)</th>
<th>GENERATE CLUSTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>State: North Carolina</td>
<td></td>
</tr>
<tr>
<td>Select County/Counties:</td>
<td></td>
</tr>
<tr>
<td>Dare County</td>
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<td>Davidson County</td>
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<td>Duplin County</td>
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<tr>
<td>Durham County</td>
<td></td>
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<tr>
<td>Edgecombe County</td>
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</tr>
</tbody>
</table>

Selected:
- Region: Durham County
- Population: 267587
- HUs: 120217

Enter the Number of Clusters you wish to generate (default 30):
- 30

- Require minimum of 7 Housing Units per cluster
- Use Block Groups

To select multiple options:
- Hold down the control (ctrl) button and click (For Mac: Hold down the command button and click)

Click Here to Generate Clusters
Project Dashboard
Collect SMART not limited to CASPER

• Any data collection opportunities – limitless possibilities!
  – Convenience sampling
  – Simple random samples
  – Well-inspections
  – Animal services
  – Outbreak investigation – contact tracing
Still Beta...Next Steps

Potential additional development ideas

- Turn-by-turn navigation
- Export image option for easier field maps
- Second-stage sample selection
- Block sampling nationwide (NC, TX only)
- Analysis reporting and summaries (reports)
- Push notifications for safety warnings
- Cross-platform compatibility (iOS)
How to Get Involved

- Limited public release
  - We need more feedback from project managers
  - Let us know what your project or need is:
    [http://tinyurl.com/CollectSMARTinfo](http://tinyurl.com/CollectSMARTinfo)
  - What you need to use the tools
    - Epi Info desktop
    - Collect SMART app
    - A user account on the Collect SMART website
Learn more

• CDC Community Assessment for Public Health Emergency Response (CASPER) Toolkit
  [http://tinyurl.com/CASPERToolkit](http://tinyurl.com/CASPERToolkit)
  – Details on CASPER methods
  – Sample forms and question bank

• Collect SMART page:
  [http://sph.unc.edu/nciph/collectsmart](http://sph.unc.edu/nciph/collectsmart)
Thank You

For additional questions, contact Matt Simon at: mattsimon@unc.edu

David Zane at: David.Zane@dshs.state.tx.us

Mike Zelek at: Michael.Zelek@chathamnc.org
Questions and Comments?

Join the Conversation...

[Image of a web page with a question input field saying 'Enter a question for staff']
Thank you!

See the webinar event page on the ASPPH website for a link to the **archived webinar**:

Coming Attractions...

ASPPH Presents WEBINAR

Using Exercises to Measure Preparedness

August 6, 2015
11:00 AM – 12:00 PM Eastern

For more information and registration link:
http://www.aspph.org/event/aspph-presents-using-exercises-to-measure-preparedness/
References


FAQs

• When can I start using Collect SMART?
  – Go live planned for mid-August

• How many people does it take to do a survey?
  – Plan for 20 people per day for 3-4 days
  – Thursday, Friday and Saturday

• Have you found it’s feasible for LHDs to have enough people to carry these out?
  – See notes
FAQs

• What devices can I use with the Collect SMART system? Can I use my iPhone?
  – Android only currently
  – Exploring possibility of iOS conversion

• Compatibility with other form designers?
  – Unknown currently. Must use EpiInfo for now, which is fairly easy to use and free!
FAQs

• What type of Census data is the tool using?
  – In NC and Texas, 2010 Block data
  – Nationwide, block group data is 2013 American Community Survey population and housing unit estimates

• How do I learn more?
  – Email mattsimon@unc.edu