The Use of Hand-held Electronic Data Collection in the Assessment of HIV Prevention Needs in Los Angeles County

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Square Miles: 4,086
Population\(^1\): 10.3 Million

- Latino/a: 47%
- White: 28.9%
- Asian/PI: 12.6%
- African-American: 9.0%
- Native American: 0.3%

Proportion of:
- California Population\(^2\): 29%
- California AIDS Cases\(^3\): 36%
- U.S. AIDS Cases\(^3\): 5%

Living with HIV/AIDS\(^3\):
- 60,000 (Estimated)

\(^1\)United Way, Los Angeles (2008)
\(^2\)U.S. Department of Commerce (2008)
\(^3\)Los Angeles County HIV Epidemiology Program (2008)
Data Collection Challenges

• HIV Assessment and Evaluation data collection processes
  ▪ Paper-based
  ▪ Required large amounts of staff resources
  ▪ Slow
  ▪ Inaccurate
  ▪ Inefficient
New Technology

• Hardware
  ▪ PDAs, smartphones, tablet PCs, netbooks

• Software
  ▪ Handheld-assisted Personal Interview (HAPI), Nova Research, Bethesda MD
  ▪ Use of existing web-based data collection systems
  ▪ Applications for iPhone
Hand-held Electronic Data Collection

- Allows data collection using various handheld computing devices
- Data transfer through USB sync, bluetooth, or mobile broadband connection
- Data can be instantly uploaded and exported to any type of database ready for analysis
Hand-held Electronic Data Collection Devices
Hand-held Electronic Data Collection Screen

When did you start to experience these symptoms?

Month / Day / Year

123 1 2 3 4 5 6 7 8 9 0 - =
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Los Angeles Coordinated Needs Assessment

- Annual needs assessment part of Community Services Assessment
- First survey using new hand-held technology in HIV Prevention in Los Angeles
- Conducted 2007 and 2008
- Over 2,600 surveys collected at 91 sites including
  - Medical clinics
  - Bars/clubs
  - Bathhouses
  - Street corners
Los Angeles Coordinated Needs Assessment

• Diverse target populations surveyed
  ▪ Gay and non-gay identified men
  ▪ Transgenders
  ▪ Day laborers
  ▪ Commercial sex workers
  ▪ Homeless
  ▪ Injection drug users

• 152 page survey and 1200 variables with complex skip patterns
LACHNA Recruitment Sites & Participants by SPA

LACHNA Recruitment Sites
- Bar/Club
- Clinic or CBO
- Commercial Sex Venue
- Day Labor Site
- Needle Exchange
- Non high-risk Venue
- Park or Beach
- Re-entry
- School/University
- Special Event
- Street
- Truck Stop

LACHNA Participants
TOTAL
- <= 23
- 24 - 153
- 154 - 239
- 240 - 266
- 267 - 521

Antelope Valley
San Fernando Valley
San Gabriel Valley
San Gabriel
East
South
South Bay
West
Metro
Comparison of Hand-held vs. Paper-based

LACHNA 2007-08 compared to previous needs assessments 2001-06

<table>
<thead>
<tr>
<th></th>
<th>Hand-held</th>
<th>Paper-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average paper consumption (reams)</td>
<td>0</td>
<td>350</td>
</tr>
<tr>
<td>Average data entry staff hours</td>
<td>0</td>
<td>800</td>
</tr>
<tr>
<td>Skip pattern errors</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Participation refusal</td>
<td>15%</td>
<td>&gt;25%</td>
</tr>
</tbody>
</table>
Advantages

- No data entry
- No need to maintain paper data collection instruments
- Faster Results
  - Able to analyze full data set after last survey completed
- Increased accuracy
  - Automated skip patterns
  - Cross checking and validation
Advantages (Cont.)

• Lower participation refusal rates
• Increased venue owner/manager cooperation
• Increase in types of venues where survey could be administered
  ▪ Bars/clubs
  ▪ Street corners
• Increased data security
  ▪ Devices password-protected
  ▪ Surveys encrypted and locked-down after completed
Advantages (Cont.)

• Project Cost
  ▪ Purchase of software and hardware equal to the cost of paper and toner
  ▪ Zero staff hours for data entry
  ▪ 45-50% cheaper than previous assessments

• Project Time
  ▪ Data entry savings cut overall project time in half from previous assessments
Lessons Learned

- Startup costs including hardware and software recovered in first year of project
- More work and cost at beginning of project
- Some technical expertise needed
- Devices
  - Durability and dependability varied by device type
  - Battery power always a challenge
    - Devices need to be charged nightly
  - Device/battery life limited (3-5 years)
The Los Angeles Coordinated HIV Needs Assessment was awarded a National Association of Counties (NACO) Achievement Award in 2009 for the use of innovative technology to promote efficiency and improve services.
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