Applying Technology Solutions to Improve Federal Program Evaluation and Performance Monitoring

Brad Epley, ICF International

Fed CASIC – March 5th, 2015

Program Evaluation and Performance Monitoring

❑ **Evaluation and Monitoring Benefits**

- − Generate vital information on program performance and provide insights for program improvement and future planning

| Program effectiveness | → | Briefing Senior | → | Securing |
| Return on investment | | Management | | Continued Funding |

❑ **Key to Program Evaluation Success - High Quality Data**

- − The assurance of data quality increases data acceptance
- − Data acceptance is critical to buy-in from your stakeholders
  - • Stakeholders must trust the resulting data
  - • Without stakeholder acceptance you have little chance of implementing your findings

Challenges From an IT Perspective

❑ **Evaluation: It's Research not an IT Exercise**

- Data collection, management, and reporting are key activities informing evaluation studies
- Implementing the technology infrastructure is not always considered a core activity

❑ **With the Right Balance, IT Is a Critical Tool**

- #1 recommendation: Provide IT staff a seat at the table during evaluation design
- Not the driver but a part of the planning process
  - Evaluators and SMEs working closely with IT teams to identify DC/DM needs
  - Weigh up-front IT costs with savings and benefits during implementation

Evaluation Challenges That IT Can Help Solve

❑ **Data Quality**

- Integrate data quality procedures for data collection, management and monitoring

  - Front-end validations

  - Identify data inconsistencies across dataset

  - Automatically flag and marked for remediation

  - Monitor data submissions

  - Track against built in schedules (calendars, automate system reminders)

- Ensure credible and high-quality study results that are:

  - Accurate

  - Complete

  - Timely

Evaluation Challenges That IT Can Help Solve

❑ **Methodology Adaptations During Implementation**

- As evaluation designs are implemented, protocols must adapt to evolving needs

  • Collect additional data points

  • Increase response rates

  • Reach different and/or hard-to-reach respondents

  • Shrinking budgets

- Having a flexible IT system that allows changes to be implemented and rolled out without major re-development is critical

Components of Flexible Technology Solutions

❑ **Multi-Modal Data Collection**

   − Metadata driven applications that can support multiple modes of data collection

- Web-based
- Computer-Assisted (CAPI, CASI, A-CASI, CARI, CATI)
- Mobile (Native, Hybrid, Mobile Web)
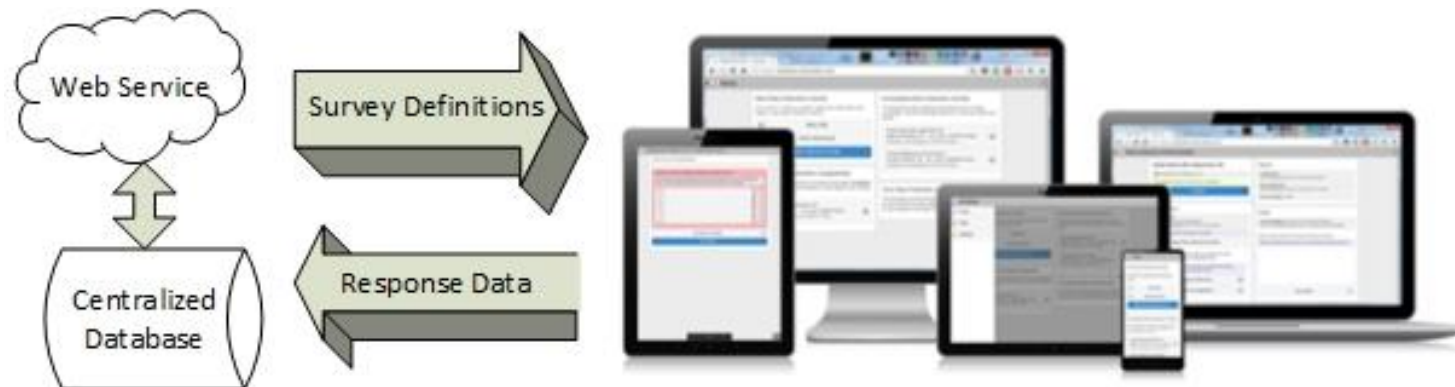
Components of Flexible Technology Solutions

❑ **Flexible Dissemination Features**
- Mixed reporting to fit all levels of stakeholders
  - Dashboards
  - Canned Reporting
  - OLAP
- Data export features for offline analysis in statistical packages (SAS, SPSS, etc.)
- Web APIs

❑ **Responsive Web Design (RWD)**
- "Mobile First" Web design and coding approach
- Supports optimal viewing and navigation across multiple devices
- Media queries automatically adjust the style based on the device
- Avoid scrolling and zooming on small devices

Components of Flexible Technology Solutions

☐ **Responsive Web Design Example #1**

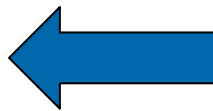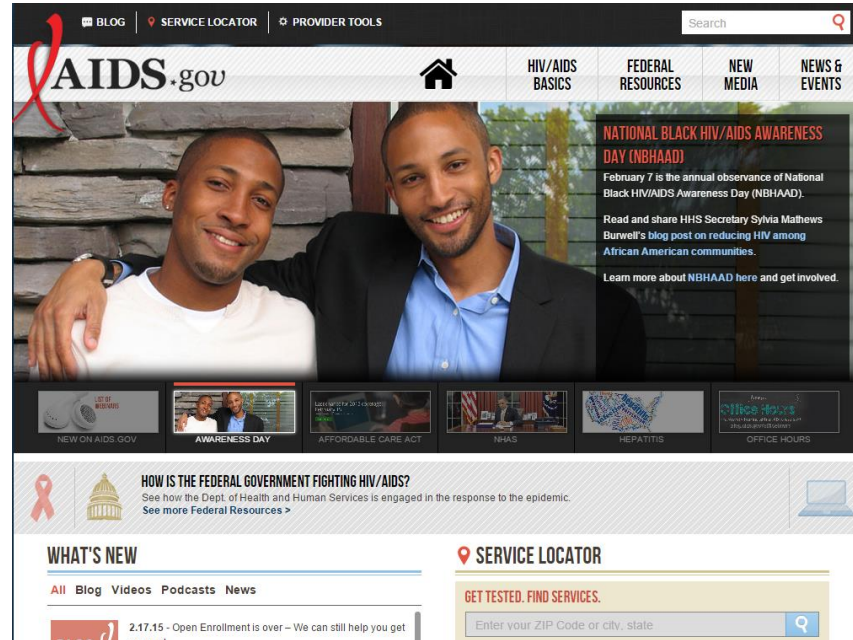- Likert Scale Survey Questions: Desktop view

- Smartphone view

Components of Flexible Technology Solutions

❑ **Responsive Web Design Example #2**

– Website Homepage

Desktop view

Smartphone view

Case Study

❑ **NCTSI Evaluation**

  – Challenges

  • Developing a solution that could replace four existing systems and support several data collection needs

  • Support multi-modal data collection

    – Evaluation data - Web-based, CAPI and A-CASI surveys

      » Increase comfort level of interviewees when disclosing sensitive behaviors
      » Maximize participation and reduce quit rate

    – Performance monitoring – Web-based forms and MIS uploads

    – Clinical Data – Web-based only (office setting)

      » Incorporate real-time data processing and reporting of clinical data for providers
      » Integrate data collection procedures into providers daily routines

Case Study

□ **NCTSI Evaluation**

- Developed a single system to support all data collection and reporting needs that provided:

  - "One-stop" shop for all NCTSI data

  - Consistent data quality procedures

  - Average annual system cost savings of up to 60% in out years

    - Maintaining single system architecture

  - Associated cost savings:

    - More in-depth analysis of program evaluation results

    - Implementation of program improvements

  - Granted providers instant access to reports that provided clinical benefits

Case Study

CBCL/1½-5 Syndrome Scale Scores

CBCL Problem Scale - T-Scores

Clinically Significant (T-Scores 70 and above)
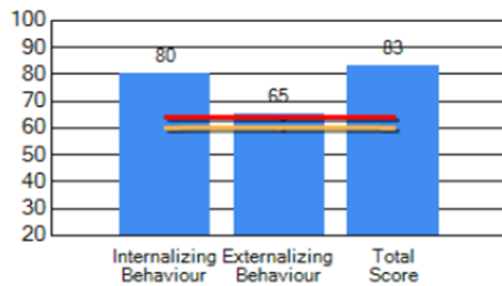Borderline Clinical (T-Scores 65-69)
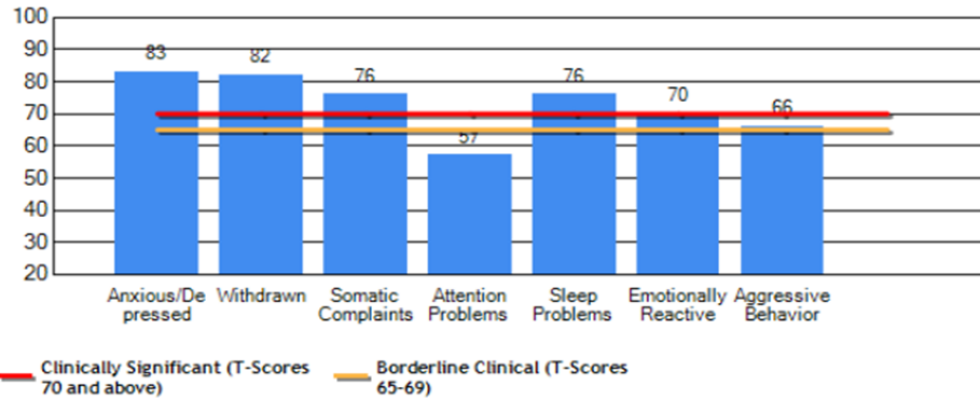
	Anxious Depressed	Withdrawn	Somatic Complaints	Attention Problems	Sleep Problems	Emotionaly Reactive	Aggressive Behavior
Total Score	12	10	10	4	10	9	22
T Score	83	82	76	57	76	70	66
Percentile	>97	>97	>97	76	>97	>97	95
Clinical Range	C	C	C		C	C	B

CBCL Problem Scale - T-Scores

	Internalizing Behaviour	Externalizing Behaviour	Total Score
Total Score	41	26	114
T Score	80	65	83
Percentile	>97	93	>97
Clinical Range	C	C	C

Clinically Significant (T-Scores 64 and above)
Borderline Clinical (T-Scores 60-63)

Case Study

CBCL All Visits

All visits T-Scores

Legend: IIIII 03/15/2010 ▬ 04/08/2010 ▨ 12/02/2011
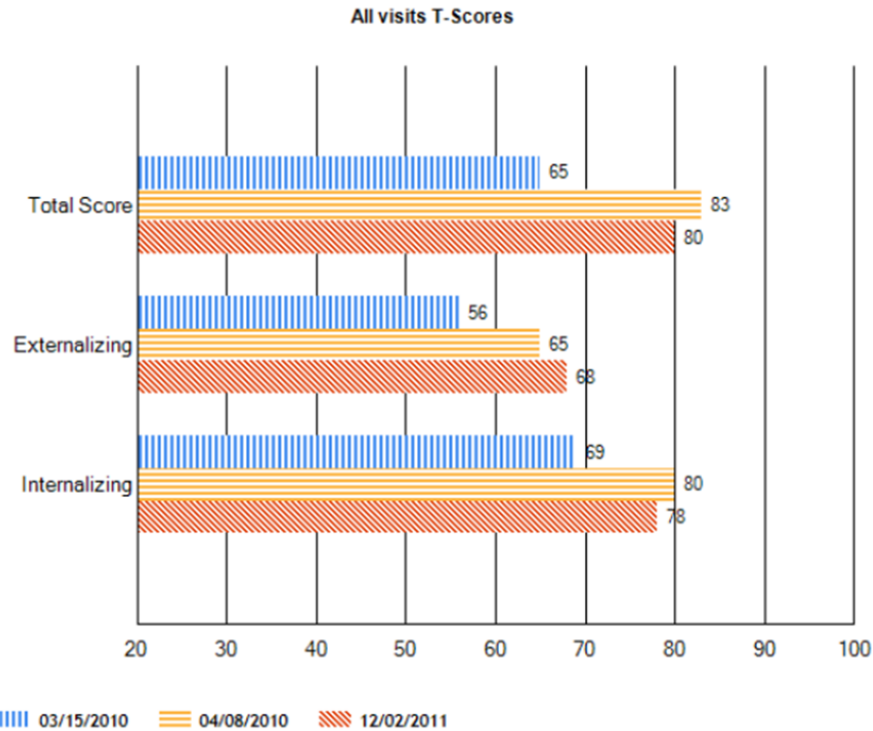
	03/15/2010	04/08/2010	12/02/2011
Internalizing Behaviour			
T Score	69	80	78
Clinical Range	Clinical	Clinical	Clinical
Externalizing Behavior			
T Score	56	65	68
Clinical Range	Normal	Clinical	Clinical
Total Score			
T Score	65	83	80
Clinical Range	Clinical	Clinical	Clinical

Final Thoughts

❑ Summary

- IT systems provide critical data for subsequent analysis by evaluators

- This subsequent analysis generates information that helps drive policy and funding decisions

- With proper planning, adaptable technology solutions that deliver high-quality data can provide a foundation upon which program evaluation and performance monitoring aims can be realized

Contact Info

❑ **Questions or Additional Discussion**

  − Brad Epley

  − Bradley.Epley@icfi.com