# NORTH CAROLINA Health Wellness TRUST FUND

# "Extreme Makeover Evaluation Edition:" How Our Monitoring System Looks Different After Usability Testing

# THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

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## Background

- NC Tobacco-Free Colleges Initiative promotes tobacco-free policies, compliance and cessation across NC Campuses
- After 4 years, NC leads nation in voluntary tobacco-free policy adoption on college campuses[1]
- Web-based data collection system, CORES, for Initiative's Evaluation
- Goals:
    1. Decrease data entry frustration for evaluation staff and end users
    2. Increase data entry efficiency for end users

## Methods

- Structured phone interviews with grantees (n=6) to discuss how system is used (usability) and how questions are understood (cognition)
- Used publically available resource (usability.gov) to develop tasks and questions (Table 1)
- Provided interviewees with guide to see questions (cognition) and used existing CORES (usability)
- Qualitatively analyzed task responses and suggestions to identify themes and improvements needed

## Results

- Identified features appreciated by end users
- Identified ways to improve data entry and flow (Table 2)
- Implemented changes based on findings (Figure 1)

## Discussion

- Simple online resources (http://www.usability.gov) available to conduct usability testing
- Both cognition and usability are important
- Emphasize testing system not individual
- Usability testing requires reinforcement for subjects to think out loud

## Figure 1: Interface Changes Before and After "Makeover"



*1a-b*: Simplified pages to reduce visual clutter

*1c-d*: Changed reporting structure to report by type of activity instead of by content of activity (i.e., all media reported under one place)
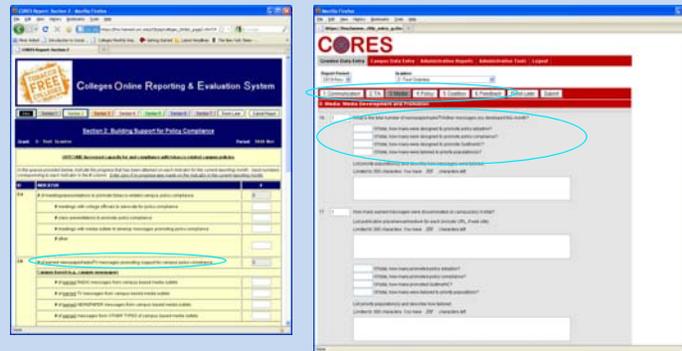
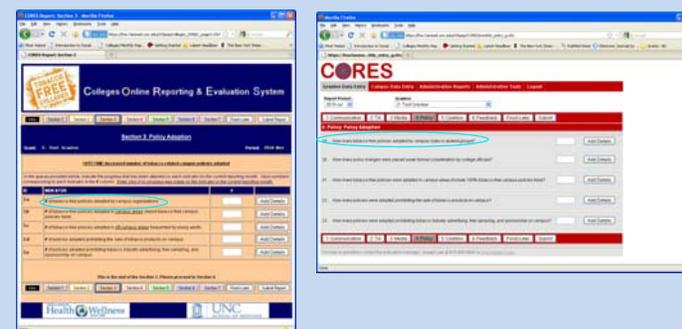*1e-f*: Converted indicators into questions and clarified language to improve understanding

## Table 1: Example Tasks for Interviewees

| Usability *How system is used* | Cognition *How questions are interpreted* |
|---|---|
| • General example: "Find the weather in College Station, TX. Tell me how you find this information." | • General example: "How many windows are in your home? Tell me how you would answer." |
| • Relevant example: "You've designed new stickers about a campus tobacco-free policy for doors on campus buildings. Unfortunately, for the last three months the campus office that needs to approve them hasn't made a decision. Report this in CORES."<br>• "Tell me each step you take." | • Relevant example: "Please read the question and tell me your thought process." Please list up to two challenges or problems you encountered during this month.<br>• "What types of things would you report here?"<br>• "How could this question be made easier to answer?" |

## Table 2: Suggestions for Improvement

| Before | After |
|---|---|
| System Layout: "Easy to work through" | Kept same structure |
| Time Efficient: "Much quicker reporting…more time doing implementation than reporting" | Worked to keep and improve |
| Cluttered with text (1a) | Reduced text and instructions (1b) |
| Under-reporting of media message themes (1c) | Changed reporting to give total number off actual messages (i.e., letter to editor = 1) and then breakout by content (e.g., covers policy adoption and promotes QuitlineNC) (1d) |
| Unclear language:"[The] wording could be more specific" (1e) | Revised language (1f): e.g., "college organizations" changed to "student clubs and groups" |
| Clicked on "auto-total" boxes that appear above questions | Moved to below questions |
| Barriers are selected from list. | Changed barriers to open text. |

## References

1. Joseph G L Lee, Adam O Goldstein, Kathryn D Kramer, Julea Steiner, Mary Mathew, Mark M Ezzel, Vandana Shah. Statewide diffusion of 100% tobacco-free college and university policies. Tob Control 2010;19:311-317.
2. Dillman DA, Smyth JD, Christian LM. Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method. (Hoboken, New Jersey) 2009; 151-233.