Building Analytic Capacity through Sharing Analytic Information: One example

Dental, Oral, and Craniofacial Data Resource Center:

Code Library

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The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.
This talk is not just for the geeks!

- Dental directors and program managers
  - Some of the resources are very accessible to the non-geek
  - Refer your favorite data geeks to these resources
  - Consider developing similar information resources internal to program
Overview

- How information sharing can support development and maintenance of analytic capacity for oral health

- An example of publicly available analytic information sharing from the NIDCR/CDC Data Resource Center
Analytic capacity – more than Epi

- Program evaluation
- Economic analyses
- Epidemiology and surveillance

- Others
  - Workforce
  - Administrative data
  - ...
Analytic capacity-building tasks

- Orient a new, non-oral health analyst to oral health data sources and indices
- Orient an oral health analyst to key data sources or indices
- **Shorten the learning curve** for students and residents in oral health
- Facilitate replication of results and productive discussion by **documenting key analyses**
- Create **continuity** – the person who does the analysis today may not be the one who will do the next survey or analysis in 3, 5 or 10 years
Common questions from analysts

- When did BRFSS ask that question?
- What questions have states added to BRFSS?
- Did that question change from 1999 to 2002?
- Is the same question asked on both the national and state survey?
- How do you calculate DMFT?
- So, how did you get that number? I got a different one…
- What’s the variable name? How is it coded?
Information to answer these questions
Challenges to obtaining it

- Documentation for
  - Surveys
    - Many surveys, lots of documentation to read
    - Not all documentation is readily available in a central place
    - Surveys change over time
    - Lots of data other than oral health
  - Procedures and analytic methods used in surveys
    - Method section in journal articles is notoriously short
    - Appropriate methods vary from survey to survey
  - Specific analyses
    - Sometimes, you have to read the code.
    - But the code is not always available
Common tasks in data analysis

- Review literature, existing data, reports, previous analyses
- Compare content of available data sources
- Identify analysis issues
  - Weighting, sample design, sample sizes
- Identify data issues
  - Variable name changes, special codes

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How to reduce barriers to analytic information?

- How to make information on oral health components of surveys more readily available
  - Abstract oral health sections of survey documentation and put in one place

- How to avoid duplication of effort by oral health analysts doing similar tasks
  - Document and share
    - survey comparisons
    - variable name and coding changes (crosswalks)
    - calculation of common indices
Welcome to the NIDCR/CDC Dental, Oral and Craniofacial Data Resource Center (DRC)

The Dental, Oral and Craniofacial Data Resource Center (DRC), co-sponsored by the National Institute of Dental and Craniofacial Research (NIDCR) and the Division of Oral Health, Centers for Disease Control and Prevention (CDC), serves as a resource on dental, oral and craniofacial data for the oral health research community, clinical practitioners, public health planners and policy makers, advocates and the general public.

- **About the DRC**: Learn about the purpose of the DRC.
- **Catalog/Archive**: The Catalog of Surveys and Archive of Procedures Related to Oral Health. Search the Catalog for oral health surveys. Search the Archive for procedures used in oral health surveys. Link surveys to procedures used. Create reports of search results.
- **Annual Report**: View, print, or download *Oral Health U.S.*, 2002, the annual chartbook of statistics on dental, oral and craniofacial health.
- **Data Tables**: View, print, or download data tables from *Oral Health U.S.*, 2002 and recent updates.
- **Data Query System**: Generate rapid statistical analyses of selected dental and oral health data using the NIDCR/CDC Dental, Oral and Craniofacial Data Resource Center (DRC).
NIDCR/CDC Dental, Oral, and Craniofacial Data Resource Center

- Shares analytic information to support analytic capacity building
  - Survey Question Inventory
  - Catalog of Surveys and Archive of Procedures Related to Oral Health
  - Data Quick Tables and Data Query System
  - Code Library

http://drc.nidcr.nih.gov
What’s in the Code Library?

- Documentation of oral health components of surveys
- Comparisons of content from different surveys
- Variable crosswalks
  - Compares variable names and response codes for same item across data sets
- Statistical programming code for analyses
State-added questions

- ASTDD 2006 Synopses
  - Included questions about state-added oral health questions on BRFSS, YRBSS and PRAMS
  - This information will be added to the DRC Code Library when available from ASTDD
People who made this possible

- MMWR NHANES programming
  - Keith Heller
  - Mark Macek
  - Jeff Hyman, Al Kingman, Tianxia Wu, Richard Oldakowski, Rob Selwitz (NIDCR)
  - Eugenio Beltran, Bruce Dye, Susan Griffin, Paul Eke (CDC)
  - Charles Li (DRC)
People who made this possible

- BRFSS programming
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  - Paul Eke (CDC)
  - Scott Tomar (U Florida)
  - Clemencia Vargas (U Maryland-Baltimore)
  - Amy Zlot (CDC informatics fellow and epidemiologist, now in Oregon State Health Department)
Data Resource Center

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  - Britt Reid

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  - Holly Morton
  - Erica Newcomb
  - Prabhu Krishnadas
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  - Claudia Hudson
Building Analytical Capacity

Questions?

Example SUDAAN code block to produce estimates for past year dental visits for all states, by several demographic groupings

*Table for 2004 Dental visits: 18 and older - Not age adjusted;

Proc crosstab Data = Brf04ss.BRFDOHO4 design=wr filetype=sas
CONF_LIM=95;
Nest _ststr _psu/missunit;
Weight _finalwt;
Subpopn agegrp >= 1 and _finalwt>0;
Class _state;
Subgroup visit sex agegrp racegrp income educat ;
Levels 2 2 6 5 5 4 ;
Tables _state*visit
(sex income educat racegrp agegrp)*_state*visit;
Print nsum rowper lowrow uprow rowperfmt=f5.1 lowrowfmt=f5.1
uprowfmt=f5.1 style=nchs;
output nsum rowper lowrow uprow/ filename=brf04ss.vis04 REPLACE
filetype=SAS;
rttitle "NHSS 2005 release - BRFSS 2004 Estimates for Dental
Visits - not age adjusted";
Run;