

Office of Research Methodology (ORM): An Overview for the NCHS Board of Scientific Counselors

Nathaniel Schenker

Associate Director for Research and Methodology, NCHS
Director of ORM

September 13, 2012
(with subsequent minor edits)



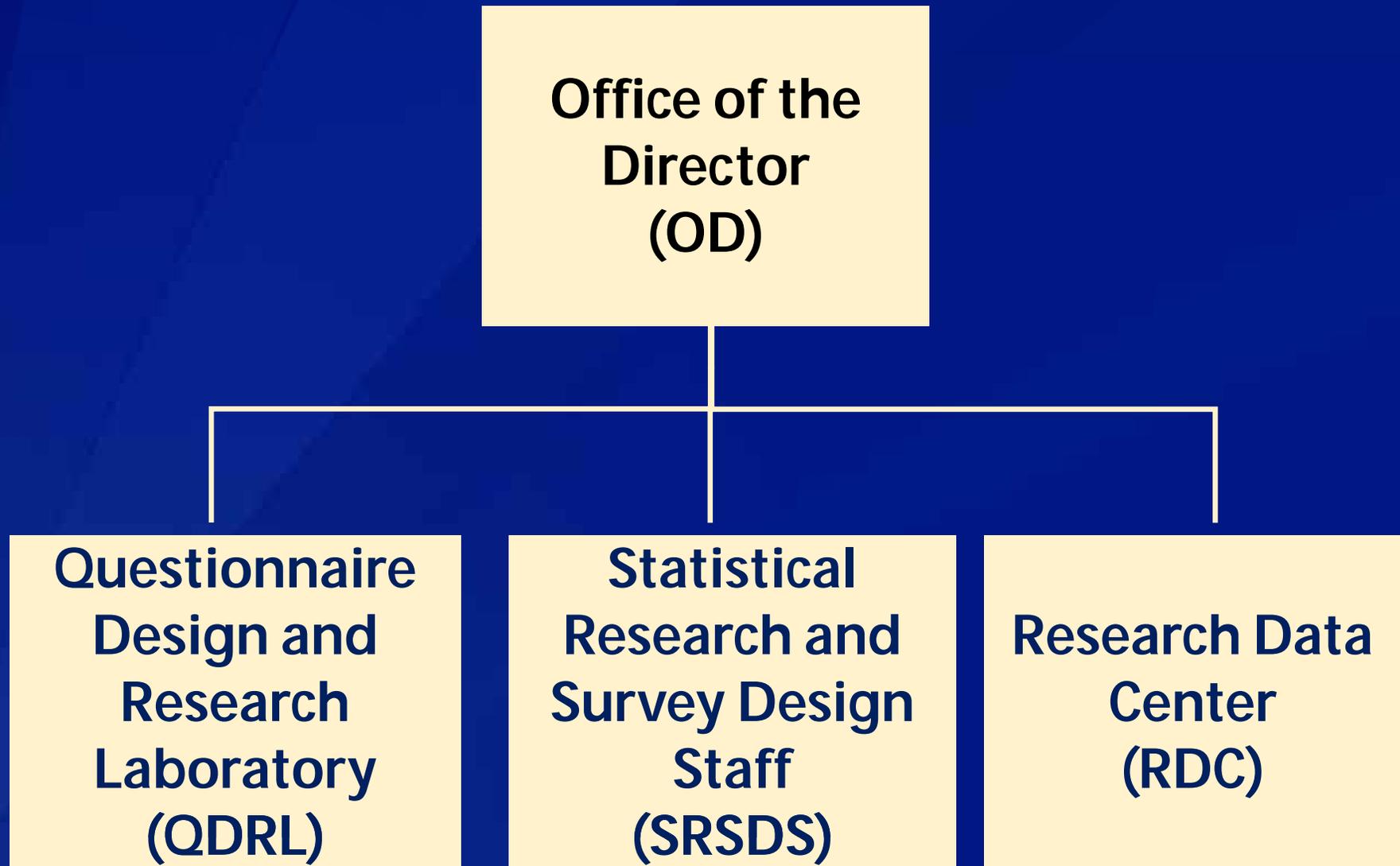
OUTLINE

- ❑ **WHAT ORM DOES**
- ❑ **ORM'S ORGANIZATIONAL STRUCTURE**
- ❑ **VISION FOR ORM**
- ❑ **NON-RANDOM SAMPLE OF RECENT ORM ACTIVITIES**
- ❑ **CHALLENGES AND OPPORTUNITIES FOR ORM**
- ❑ **SUMMARY THOUGHTS**

WHAT ORM DOES

- ❑ Seeks to advance the state of knowledge and applications in four core areas – measurement, data collection, data analysis, and dissemination
 - All of the core areas involve research design
- ❑ Primary activities
 - Conduct research – both basic and applied
 - Provide technical assistance
 - Develop applications
 - Collaborate primarily within NCHS, but also with outside organizations
- ❑ Activities are intended to benefit NCHS primarily, but also CDC, DHHS, the Federal Statistical System, and the broader scientific community

ORM's ORGANIZATIONAL STRUCTURE



The Four Components of ORM

- ❑ Office of the Director (OD)
 - Provides scientific, management, and administrative oversight
 - Participates in research, technical assistance, collaboration, and application
- ❑ Questionnaire Design Research Laboratory (QDRL)
 - Focuses on improving the reliability and validity of survey instruments, and providing understanding of the substantive meaning of estimates
 - Conducts cognitive interviewing and other evaluations for NCHS and external “clients”

The Four Components of ORM, continued

- ❑ **Statistical Research and Survey Design Staff (SRSDS)**
 - **Conducts research on statistical methods for design, analysis, and evaluation**
 - **Assists and collaborates on statistical issues within and outside of NCHS**

- ❑ **Research Data Center (RDC)**
 - **Provides access to restricted-use data files in a secure environment**
 - **Provides technical assistance to users of the data**

VISION FOR ORM

- ❑ **Serve as the central methodological unit for all of NCHS**
 - **Provide needed expertise while avoiding duplication of effort across NCHS**
 - **Conduct research and evaluation of methods for use in NCHS, and stay current on the latest methodological developments**
 - **Promote sharing of information and methods across NCHS**

- ❑ **Be a leader in methodological research and applications, with particular relevance to NCHS but also to the broader scientific community**

Initial Goals of the New Director of ORM

- ❑ Identify opportunities to collaborate with and conduct research relevant to the “data divisions” and the Office of Analysis and Epidemiology**
- ❑ Expand ORM’s statistical expertise**
- ❑ Increase communication within ORM, as well as between ORM and the rest of NCHS**
- ❑ Encourage ORM staff to publish research in peer-reviewed publications**
- ❑ Explore possibilities for collaboration among the QDRL, RDC, and SRSDS**
- ❑ Develop new avenues for collaboration with outside researchers**

NON-RANDOM SAMPLE OF RECENT ORM ACTIVITIES

Research and Technical Assistance

- Small-area estimation (OD, SRSDS, and RDC)
 - ASPE funded project to develop procedure to pre-determine variables that would benefit most from SAE
 - Project with NCI, NCCDPHP, and others to combine information from BRFSS and NHIS for SAE of prevalence of cancer risk factors and screening (<http://sae.cancer.gov>)
 - SAE for outcomes in NAMCS and NHAMCS
 - Research on models for SAE

Research and Technical Assistance, continued

- Multiple imputation (OD and SRSDS)
 - MI for missing income data in the NHIS
 - MI for missing body scan (DXA) data in the NHANES
 - Analytic approximations to MI for the NCHS race bridging project
 - Research on MI:
 - to improve on analyses of self-reported data
 - to adjust for missing and implausible gestational ages in birth data

Research and Technical Assistance, continued

- ❑ Developing/testing NHIS sexual identity questions and ACASI instrument (QDRL)
- ❑ Examination of DHHS Blood Donor Questionnaire to inform the deferral policy for men who have sex with men (QDRL)
- ❑ Cognitive interviewing methods as a scientific method for understanding validity of survey data (QDRL)
 - Q-Video, Q-Notes, Q-Bank
 - Book on cognitive interviewing methodology
 - Federal Committee on Statistical Methodology workgroup on best practices

Research and Technical Assistance, continued

- Sample design (SRSDS)
 - Joint NHIS redesign committee (with DHIS)
 - Design of the new National Hospital Care Survey (combining NHDS with NHAMCS)
- NCHS record linkage program
 - Research on adjusting for non-linkage using missing-data methods (SRSDS)
 - OAE/ORM workgroup on linked-data issues (SRSDS and OD)
- Methodology for and publication of 1999-2001 life tables for states (SRSDS)

Research and Technical Assistance, continued

- NCHS Presentation Series for CDC audiences in Atlanta (RDC)
- Expanded data hosting (RDC); e.g.,
 - CDC National Program of Cancer Registry data
 - AHRQ Medical Expenditure Panel Survey data
 - ASPE National Evaluation of Welfare-to-Work Strategies data
- NCHS/HUD geocoding project (RDC)
 - Geocoding NCHS data and appending HUD indicators

Work in the Scientific Community

- ❑ Publications and presentations
- ❑ Editorial work for journals
- ❑ NSF Measurement, Methodology, and Statistics grant program
- ❑ Committee on National Statistics panel
- ❑ Federal Committee on Statistical Methodology
 - Also several subcommittees
- ❑ American Statistical Association
 - Board of Directors, Washington Statistical Society, committees, sections

Accolades in 2012

- ❑ Schenker elected President of the American Statistical Association
- ❑ Meyer to receive award from the Statistics Section of the American Public Health Association for outstanding contributions in Government
- ❑ Miller to receive NCHS's Daniel D. Savage Award for Excellence in Minority Health Research
- ❑ Parsons and Schenker co-authors on articles receiving CDC/ATSDR Statistical Science Awards
- ❑ Miller, Parsons, Schenker, and Willson co-authors on articles nominated for CDC/ATSDR Charles Shepard Science Awards
- ❑ Zhang member of NHANES Blood Pressure Methodology Study Team to receive NCHS Director's Merit Award; team also nominated for CDC/ATSDR Honor Award
- ❑ Chepp, Harwell, Miller, Ryan, Sandoval Giron, Whitaker, and Willson members of the Sexual Identity Group to receive NCHS Director's Merit Award
- ❑ Maze (student employee) received second prize in the poster competition at the National Conference on Health Statistics

CHALLENGES AND OPPORTUNITIES FOR ORM

- **Staffing and Personnel**
 - **How to recruit and retain the necessary talent in statistics and survey methodology to address NCHS's methodological needs**
 - e.g., Staff Chief for SRSDS, statistical researcher on confidentiality
 - **Succession planning**
- **Working with the rest of NCHS**
 - **"Marketing" ORM**
 - **The tension between independence and relevance**
 - **Being part of the entire project**
 - **Balancing research and technical assistance**
 - **Engaging other NCHS units in research**

CHALLENGES AND OPPORTUNITIES, continued

- ❑ Partial dependence of QDRL and RDC on reimbursable funds can create difficulties in planning
 - Fluctuations in funding
 - Varying spending deadlines
 - Funding sometimes “last minute”
- ❑ Determining broad areas for potential expansion of research

SUMMARY THOUGHTS

- ❑ Director beginning his third year
- ❑ ORM is on a good path
- ❑ Room for growth
 - Staffing and personnel
 - Communication
 - Integration in NCHS
 - Research
- ❑ ORM should maintain its engagement and service to the broader scientific community
- ❑ Looking forward to input from the BSC reviewers

THANK YOU