

Acknowledgments

Funding

The 29th Annual Data Report (ADR) of the United States Renal Data System (USRDS) was produced by the USRDS Coordinating Center at the University of Michigan Kidney Epidemiology and Cost Center (UM-KECC) in partnership with Arbor Research Collaborative for Health. Funding for the USRDS is provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health, U.S. Department of Health and Human Services, under contract HHSN276201400001C with the University of Michigan. The Centers for Medicare & Medicaid Services partners with NIDDK in supporting the USRDS.

In addition to the USRDS Coordinating Center, the NIDDK has independently funded two USRDS special study centers, one at the University of California, Irvine, in collaboration with the University of Tennessee Health Science Center and Kaiser Permanente Southern California, and the other special study center at the University of Washington, Seattle, in collaboration with Stanford University.

Contributors

Included here are the names of individuals who contributed to the 2017 ADR.

USRDS Investigators

Director: Rajiv Saran, MD, MRCP, MS

Co-Deputy Directors: Bruce Robinson, MD, MS, FACP;
Vahakn Shahinian, MD, MS

Volume 1. Chronic Kidney Disease in the United States

- Ch 1 CKD in the General Population**
Jennifer Bragg-Gresham, PhD, MPH; Rajiv Saran, MD, MRCP, MS
- Ch 2 Identification and Care of Patients With CKD**
Bruce Robinson, MD, MS, FACP; Vahakn Shahinian, MD, MS
- Ch 3 Morbidity and Mortality in Patients With CKD**
Kevin He, PhD, MS; Rajiv Saran, MD, MRCP, MS

- Ch 4 Cardiovascular Disease in Patients With CKD**
Nicole Bhawe, MD, MA; Brahmajee Nallamothu, MD, MPH; Rajiv Saran, MD, MRCP, MS
- Ch 5 Acute Kidney Injury**
Michael Heung, MD; Vahakn Shahinian, MD, MS
- Ch 6 Healthcare Expenditures for Persons With CKD**
Rajesh Balkrishnan, PhD; Richard A. Hirth, PhD; David Hutton; PhD, Rajiv Saran, MD, MRCP, MS
- Ch 7 Prescription Drug Coverage in Patients with CKD**
Rajesh Balkrishnan, PhD; Yun Han, PhD; Richard A Hirth, PhD; Rajiv Saran, MD, MRCP, MS
- Ch 8 USRDS Special Study Center on Transition of Care in CKD**
Abduzhappar Gaipov, MD; Daniel Gillen, PhD; Steven J Jacobsen, MD, PhD, MS; Kamyar Kalantar-Zadeh, MD, MPH, PhD; Csaba P Kovessdy, MD; Miklos Z Molnar, MD, PhD; Hamid Moradi, MD; Danh V Nguyen, PhD; Keith C Norris, MD; Yoshitsugu Obi, MD, PhD; Christina Park, MPH; Praveen K Potukuchi, MS, PharmD; Connie M Rhee, MD, MSc; Sally F Shaw, DrPH, MPH; Jiaxiao M Shi, PhD; John J Sim, MD; Melissa Soohoo, MPH; Elani Streja, MPH, PhD; Keiichi Sumida, MD; Amy S You, MS; Hui Zhou, MS, PhD
- Ch 9 USRDS Special Study Center on Transition of Care in CKD - State**
Kamyar Kalantar-Zadeh, MD, MPH, PhD; Connie M Rhee, MD, MSc; Christina Park, MPH, Melissa Soohoo, MPH; Elani Streja, MPH, PhD, Amy S You, MS

Volume 2. End-Stage Renal Disease in the United States

- Ch 1 Incidence, Prevalence, Patient Characteristics, and Treatment Modalities**
Hal Morgenstern, PhD; Bruce Robinson, MD, MS, FACP; Rajiv Saran, MD, MRCP, MS
- Ch 2 Clinical Indicators and Preventive Care**
William Herman, MD, MPH; Ronald Pisoni, PhD, MS; Vahakn Shahinian, MD, MS
- Ch 3 Vascular Access**
Ronald Pisoni, PhD, MS; Rajiv Saran, MD, MRCP, MS; Kenneth J Woodside, MD
- Ch 4 Hospitalization**
Kevin He, PhD, MS; Jeffrey Pearson, MS; Rajiv Saran, MD, MRCP, MS

Acknowledgments

Ch 5 Mortality

Panduranga Rao, MD; Bruce Robinson, MD, MS, FACP; Rajiv Saran, MD, MRCP, MS; Douglas E Schaubel, PhD

Ch 6 Transplantation

Vahakn Shahinian, MD, MS; Kenneth J Woodside, MD

Ch 7 ESRD Among Children, Adolescents, and Young Adults

Debbie Gipson, MS, MD; Zubin Modi, MD; David T Selewski, MD

Ch 8 Cardiovascular Disease in Patients With ESRD

Nicole Bhave, MD, MA; Brahmajee Nallamothu, MPH, MD; Rajiv Saran, MD, MRCP, MS

Ch 9 Healthcare Expenditures for Persons With ESRD

Rajesh Balkrishnan, PhD; Richard A Hirth, PhD; David Hutton, PhD; Rajiv Saran, MD, MRCP, MS

Ch 10 Prescription Drug Coverage in Patients with ESRD

Rajesh Balkrishnan, PhD; Yun Han, PhD; Richard A Hirth, PhD; Rajiv Saran, MD, MRCP, MS

Ch 11 International Comparisons

Ronald Pisoni, PhD, MS; Bruce Robinson, MD, MS, FACP

Ch 12 USRDS Special Study Center on End-of-life Care for Patients with ESRD

Susan M Hailpern, MS, DrPH; Yoshio Hall, MD, MS; Danielle Lavalley, PharmD, PhD; Maria Montez-Rath, PhD; Ann M O'Hare, MD, MA; Manju Kurella Tamura, MD, MPH

Healthy People 2020

Healthy People 2020

Michael Heung, MD; Keith McCullough, PhD, MS

Biostatisticians and Research Analysts

Xue Dietrich, MS; Ashley Eckard, MS; Yun Han, PhD, MS; Yan Jin, PhD; Alissa Kapke, MS; Keith McCullough, MS, PhD; Purna Mukhopadhyay, PhD; Jeffrey Pearson, MS; Kaitlyn Repeck, MS; Jillian Schragar, MPH; Monica Shieu, MPH; Diane Steffick, MA, PhD; Anca Tilea, MPH; Lan Tong, MA, MS; Dongyu Wang, MS; Mia Wang, MS; Xin Xin, MA, MS; Maggie Yin, MA, MS

Information Systems & Programming Staff

Patrick Callahan, BS; Sandra Callard, MHSA; Yang Casher, MA; David Dickinson, MA; Zach Dietrich, MS; Haoyu Gu, MS, PhD; William Kreuter, MPA; Shannon Li, MS; Xizhao Li, MS; Sai Liu, MPH; Keith McCullough, MS, PhD; Purna Mukhopadhyay, PhD; Kaitlyn Repeck, MS; Diane Steffick, MA, PhD; Anca Tilea, MPH; Megan Turf, BA; Weizhang Zeng, MS

Administrative, Editorial, and Project Staff

Administrative: Tracy Nakata, BA; Manilay Pulsinelli, BS

Editorial: Janet Leslie, MS; Katherine Pearson, MPP; Jessica Petras, BA

Project Managers: Vivian Kurtz, MPH; April Wyncott, MPH, MBA; Aya Inoue, BA, PMP; Kiril Jakimovski, BA; Sally Shaw, DrPH

Website Team

Benjamin Guidinger, BS; Michael Lipham, DMA; Charlie Sirich, MS, MBA

Suggested Citations

The suggested citation for this report is as follows:

United States Renal Data System. 2017 USRDS annual data report: Epidemiology of kidney disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2017.

Publications based upon data reported here or supplied upon request must include this citation and the following notice: "The data reported here have been supplied by the United States Renal Data System (USRDS). The interpretation and reporting of these data are the responsibility of the author(s) and in no way should be seen as an official policy or interpretation of the U.S. government."

The suggested citation for the AJKD e-supplement available at www.ajkd.org is:

Saran R, Robinson B, Shahinian V, et al. US Renal Data System 2017 Annual Data Report: epidemiology of kidney disease in the United States. *Am J Kidney Dis* (in press).

USRDS Coordinating Center

Director: Rajiv Saran, MD, MRCP, MS

Co-Deputy Directors: Bruce Robinson, MD, MS, FACP; Vahakn Shahinian, MD, MS

Project Manager

Vivian Kurtz, MPH
1415 Washington Heights, Suite 3626 SPH I
Ann Arbor, MI 48109-2029
Phone (734) 763-1609

Data Requests

usrds@usrds.org — Vivian Kurtz, MPH Toll Free
1-888-99USRDS; Fax (734) 763-4004

Website: www.usrds.org

webmaster@usrds.org — Benjamin Guidinger, BS

USRDS Special Study Centers**Transition of Care in CKD**

Principal Investigator (PI): Kamyar Kalantar-Zadeh, MD, MPH, PhD, University of California, Irvine (UCI)

Co-PIs: Csaba P Kovessy, MD, University of Tennessee Health Science Center; Steven J Jacobsen, MD, PhD, Kaiser Permanente Southern California

End-of-life Care for Patients With ESRD

Principal Investigator: Ann M O'Hare, MD, MA, University of Washington, Seattle

Co-PI: Manjula Kurella Tamura, MD, MPH, Stanford University

USRDS Oversight

USRDS work is overseen by the Project Officers of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the USRDS Steering Committee, and the USRDS External Expert Panel (EEP).

NIDDK Project Officers

Kevin C Abbott, MD, MPH
Director, Kidney and Urology Epidemiology
Phone 301.594.7714
kevin.abbott@nih.gov

Lawrence YC Agodoa, MD
Phone 301.594.1932; Fax 301.594.9358
agodoal@extra.nidk.nih.gov

USRDS Steering Committee

The USRDS Steering Committee consists of the NIDDK project officers, the director and two deputy directors at the USRDS Coordinating Center, and the PIs and co-PIs at the Special Study Centers.

USRDS External Expert Panel**Chair**

Catherine Stehman-Breen, MD, MS, Amgen,
Regeneron Pharmaceuticals, Inc.

NIDDK

Kevin C Abbott, MD, MPH; Lawrence YC Agodoa, MD

Centers for Medicare & Medicaid Services

Renee Dupee, PhD

EEP Members

L Ebony Boulware, MD, MPH, Duke University
M Alan Brookhart, PhD, University of North Carolina
at Chapel Hill

Nilka Rios Burrows, MPH, MT (ASCP), Centers for
Disease Control and Prevention

Bethany Foster, MD, MSCE, Montreal Children's
Hospital

Mahesh Krishnan, MD, MPH, MBA, FASN, DaVita
Healthcare Partners Inc.

Klemens Meyer, MD, Dialysis Clinic Inc. & Tufts
Medical Center

Paul Muntner, PhD, University of Alabama at
Birmingham

Robert Nee, MD, Walter Reed National Military Medical
Center

Keith C Norris, MD, PhD, University of California, Los
Angeles

Rajiv Saran, MD, MRCP, MS, University of Michigan

Mark Schnitzler, PhD, Saint Louis University Center for
Outcomes Research (SLUCOR)

Theresa I Shireman, PhD, RPh, University of Kansas
Medical Center

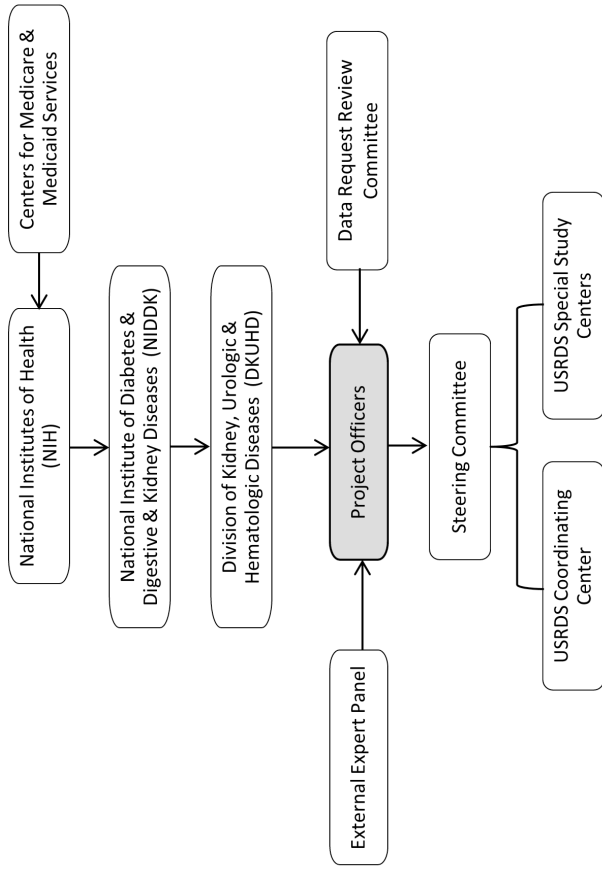
Bradley A Warady, MD, Children's Mercy Hospitals and
Clinics, University of Missouri

Haimanot (Monnie) Wasse, MPH, MD, Rush University

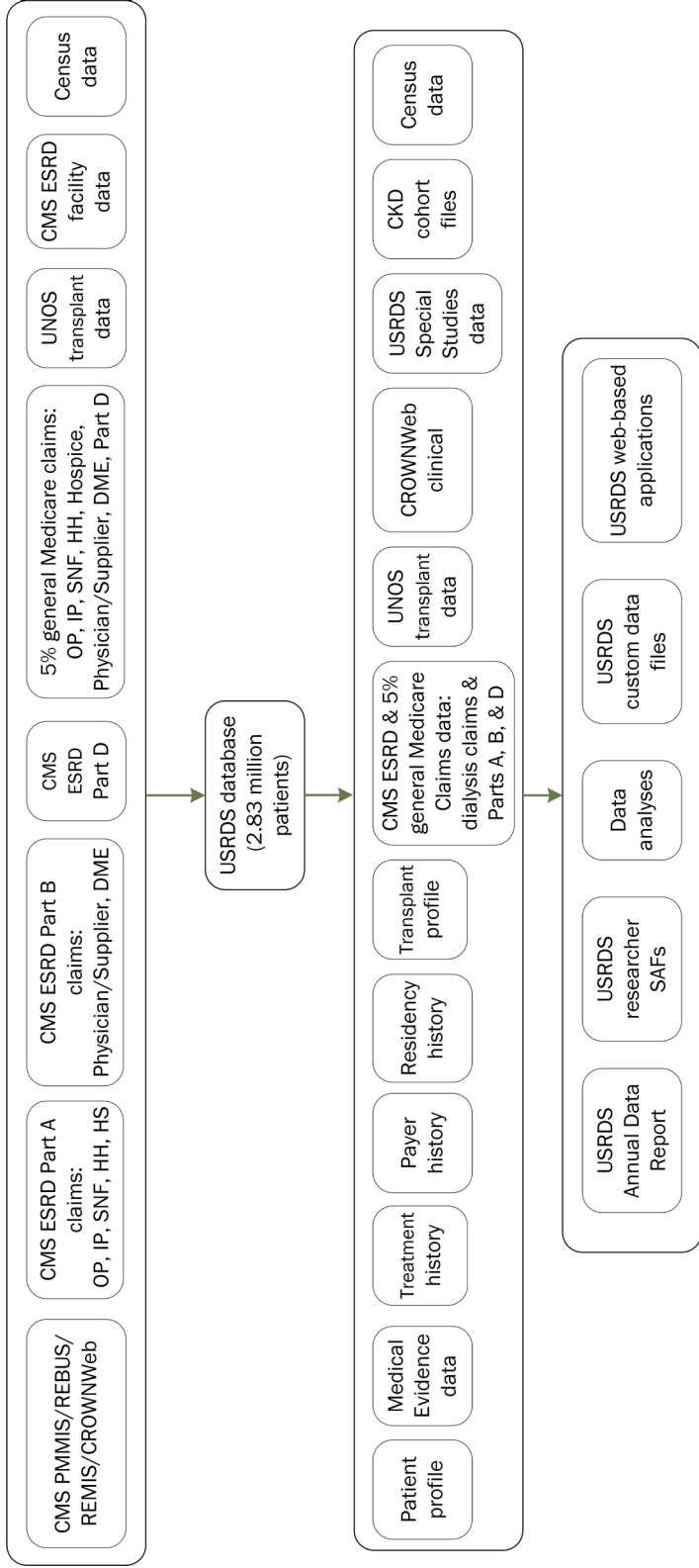
Wolfgang C Winkelmayr, MD, MPH, ScD, FASN,
Baylor College of Medicine

Yining Xie, MD, NIDDK

Administrative Oversight of the USRDS



Structure of the USRDS Database



Disclosures

UM-KECC and Arbor Research Collaborative for Health have each enacted conflict of interest (COI) policies and practices governing the conduct of research within the USRDS and of other research not related to the USRDS. In addition to internal controls, USRDS work is overseen by the Project Officers of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the USRDS Steering Committee, and the USRDS External Expert Panel.

Dr. Jennifer Bragg-Gresham is a consultant with the Medical Education Institute (MEI) involving quality-of-life performance measures. Dr. William Herman is chair of the DMC (Data Monitoring Committee) for both Merck and Lexicon Pharmaceuticals. Dr. Kamyar Kalantar-Zadeh has received honoraria and/or support from following entities: Abbott, Abbvie, Alexion, Amgen, Astra-Zeneca, Aveo, Chugai, DaVita, Fresenius, Genentech, Haymarket Media, Hospira, Kabi, Keryx, Novartis, Pfizer, Relypsa, Resverlogix, Sandoz, Sanofi, Shire, Vifor, UpToDate, ZS-Pharma. Dr. Csaba P. Kovesdy is a consultant for Abbott, Abbvie, Amgen, Bayer, Keryx and Sanofi-Aventis. Dr. Hal Morgenstern is a consultant at Arbor Research Collaborative for Health. Dr. Obi received honoraria for lectures from Ono Pharmaceutical and Chugai Pharmaceutical. Dr. Ann M. O'Hare is employed at the University of Washington; she has received grant support from NIDDK, CDC and the Veterans Administration; she has been a speaker and received fees/honoraria/travel support within the last three years from Fresenius, Dialysis Clinic, Inc., University of Alabama at Birmingham, UpToDate, and the University of Pennsylvania. Dr. John Sim has investigator-initiated research grants from Keryx Pharmaceuticals, Malinckrodt Pharmaceuticals, and Ostuka Pharmaceuticals. The other authors declare that they have no relevant financial interests.

