

Addressing Chronic Kidney Disease in Texas

The Report of the Chronic Kidney Disease Task Force

Implementation Update to January 2011 Report

January 2013

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Executive Summary

Chronic kidney disease (CKD) is defined by the presence of kidney damage or reduced kidney function for a period of at least 3 months. The level of disease severity has been used to classify CKD into various stages from one through five, with stage one being the mildest form of the disease and stage five referring to advanced kidney disease. End-stage renal disease (ESRD) is the point where the kidneys can no longer function in a manner that sustains life, requiring dialysis or transplant.

CKD is a national health priority. The National Health and Nutrition Education Survey (NHANES) estimates the prevalence of CKD among adults aged 20 and older in the U.S. to be 15.75 percent. A recent study conducted by Texas Tech University estimates prevalence in Texas to be 17 percent. Diabetes and hypertension are well established risk factors for CKD and ESRD. In the Texas Tech CKD study, hypertension was the predominant risk factor or co-morbid condition in 35 percent of the study population, followed by obesity at 20 percent and diabetes at 17 percent. Data from the ESRD Network of Texas indicate 53 percent of new cases of ESRD in Texas in 2011 were secondary to diabetes, and another 26 percent were related to hypertension.

According to the Centers for Disease Control and Prevention's National CKD Fact Sheet, 2010, African Americans are four times more likely to develop ESRD than whites, and Hispanics have 1.5 times the rate of kidney failure compared to non-Hispanic whites.

The ESRD Network of Texas reports that incidence of ESRD in Texas (376 per million in 2011) is above the national average. In 1990, 524 out of each million Texans had a diagnosis of ESRD; in 2011 the unadjusted prevalence rate for the Texas population had climbed to 1,524 per million.

Premature death from both cardiovascular disease and from all causes is higher in adults with CKD compared to adults without CKD. In fact, individuals with CKD are 16 to 40 times more likely to die than to reach ESRD.

H.B. 3724, 82nd Legislature, Regular Session, 2011, requires the Texas Chronic Kidney Disease Task Force to:

1. Coordinate implementation of the state's cost-effective plan for prevention, early screening, diagnosis, and management of CKD for the state's population through national, state, and local partners; and
2. Educate health care professionals on the use of clinical practice guidelines for screening, detecting, diagnosing, treating, and managing CKD, its co-morbidities, and complications based on the National Kidney Foundation Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines (NKF KDOQI™).

This report includes the task force's strategic plan for 2012-13, describes task force action to address requirements of H.B. 3724, and serves as an update to the task force's second legislative report "*Addressing Chronic Kidney Disease in Texas: The Report of the Chronic Kidney Disease Task Force, January 2011,*" available at: <http://www.dshs.state.tx.us/diabetes/PDF/kidney/Chronic-Kidney-Disease-Report-2011.pdf>

CKD Task Force Strategic Plan, 2012-2013

Priority 1: Increase awareness of primary prevention and early detection to prevent and control disease progression.

Goals:

1. Inform the public of CKD risk factors and the importance of getting tested for kidney disease.

2. Increase the proportion of persons with CKD who know they have impaired kidney function.
3. Increase the number of at-risk patients who get tested for kidney disease.
4. Work with community organizations and programs to promote risk factor prevention and early detection.
5. Support and promote quality self-management education programs.

Priority 2: Implement clinical practice guidelines for screening, detecting, diagnosing, treating and managing CKD, its co-morbidities, and complications across healthcare systems.

Goals:

1. Promote early identification of people with CKD or at risk for CKD.
2. Apply clinical practice guidelines that will result in annual measurement of microalbuminuria and estimated glomerular filtration rate (eGFR) on all patients with diabetes, hypertension, cardiovascular disease, and/or a family history of kidney disease, followed by timely intervention and disease management.
3. Increase the proportion of persons with diabetes and CKD who receive recommended medical treatment with Angiotensin Converting Enzyme Inhibitors (ACEI) or Angiotensin II Receptor Blockers (ARBs).
4. Improve cardiovascular care in persons with CKD:
 - a. Reduce the proportion of persons with CKD who have elevated blood pressure.
 - b. Reduce the proportion of persons with CKD who have elevated lipid levels.
5. Increase the proportion of CKD patients receiving care from a nephrologist at least 12 months before the start of renal replacement therapy (RRT).
6. Increase the proportion of adult hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access.
7. Increase the use of pre-emptive transplantation as a RRT option.
8. Promote/increase professional education related to:

- a. Primary prevention of chronic diseases;
 - b. Early recognition, diagnosis, and treatment of CKD;
 - c. A multidisciplinary approach to patient care among primary care, nephrology, and other specialists; and
 - d. Educating patients on RRT options in a timely manner to improve outcomes and decrease complications.
9. Improve professional education related to care of people with CKD and those at risk by including kidney-specific content and expanding the required clinical competencies in professional preparation and continuing education programs for healthcare professionals.
 10. Partner with professional associations and health benefit plans to promote the use of clinical practice guidelines.
 11. Reduce the rate of new cases of ESRD.

Priority 3: Enhance data and surveillance systems to include CKD data collection and state oversight to better assess the prevalence and incidence of CKD in Texas, and more effectively address the burden.

Goals:

1. Identify statistically significant subgroups who are at risk for CKD.
2. Yield population-based data, representative of all Texans, to identify the number of people with CKD at each stage.
3. Identify costs associated with CKD, its precursors and comorbidities, including projected costs over the next ten years.
4. Develop hypotheses and conclusions to help direct public health efforts.

PUBLIC HEALTH STRATEGIES

1. Surveillance to define the burden of chronic kidney disease, identifying high risk population groups and costs.
2. Health messaging targeted to high-risk populations and healthcare providers to increase awareness of CKD and the importance of early detection to prevent and control disease progression.

3. Health messaging targeted to primary care physicians and practices, nephrologists, and other specialists who treat patients with CKD.
 4. Partnering to leverage shared goals, provide consistent messaging, expand reach, and contain costs.
 5. Advancing public policy and systems changes to improve early detection and care of patients at risk for kidney disease.
-

POTENTIAL PARTNERS

- Texas Renal Coalition
- ESRD Network of Texas
- Texas Medical Association
- Texas Medical Board
- Texas Academy of Family Physicians
- Texas Transplantation Society
- Texas Hospital Association
- Texas Dietetic Association
- Texas Academy of Family Physicians, Renal Physician's Association
- Renal Physician's Network
- National Kidney Foundation
- National Kidney Disease Education Program
- DSHS programs and councils
 - i. Kidney Health Care Program
 - ii. Diabetes Prevention & Control Program/Texas Diabetes Council
 - iii. Cardiovascular Health & Wellness Program/Texas Cardiovascular Disease and Stroke Council/Cardiovascular & Stroke Partnership/Salt Reduction Collaborative
 - iv. Nutrition, Physical Activity and Wellness

- Medical schools
 - Nursing schools
 - Hospitals
 - Faith-based institutions
 - Community Diabetes Projects
 - Local and Regional Health Departments
 - Texas Department of Insurance
-

ACTIVITIES SUPPORTING PRIORITY AREAS

Priority 1: Increase awareness of primary prevention and early detection to prevent and control disease progression by collaborating with existing programs.

- **Love Your Kidneys campaign presented in 170 Texas counties since 2008**
 - TV, cable and radio public service announcements (PSAs)
 - Pharmacy and grocery store advertisements
 - Website
 - Web banners on popular sites directing users to www.lovekidneys.com
 - Print advertisements in minority publications
- **Texas Campaign for Kidney Health Resources**
 - Diabetes Educator's Plan
 - Faith-based Tool Kit
- **Kidney education/outreach through Community Diabetes Projects**
 - Community Diabetes Project locations:
<http://www.dshs.state.tx.us/diabetes/tdcdaecs.shtm>

- **Kidney Series at Memorial Hermann Wellness Center in Houston**
- **Kidney Talks conducted by San Antonio Kidney Disease Center**
- **Kidney Health Risk Assessment Programs by NKF Texas**
- **Kidney Early Evaluation Programs (KEEP) by NKF Texas**

Priority 2: Implement clinical practice guidelines for screening, detecting, diagnosing, treating and managing CKD, its co-morbidities, and complications across healthcare systems.

- ***Save Their Kidneys* campaign**
 - Print advertisements and advertorials in medical publications;
 - Direct mailings
 - Exhibits at conferences
 - Website (www.savekidneys.com)
- **Webinars conducted by TMF Health Quality Institute**
- **Presentations at conferences**
- **One-on-one consultations with primary care physicians**
- **Standing orders for patients with diabetes and hypertension in the prevention of CKD**
- **Hospital pilot project (see pg. 12)**

Priority 3: Enhance data and surveillance systems to include CKD data collection and state oversight, to better assess the prevalence and incidence of CKD in Texas, and more effectively address the burden

- **Texas Tech University CKD study (see pg. 14)**

Legislative Update, 2012-13

Two legislative initiatives passed during the 82nd Legislative Session guided the work of the task force during the 2012-13 biennium. House Bill 3724, (82R), focused the work of the task force on implementation of its 2011 strategic plan. Rider 83 stated that, “out of funds appropriated in Strategy A.3.1, Health Promotion and Chronic Disease Prevention, the Department of State Health Services (DSHS) shall allocate \$100,000 in General Revenue for fiscal year 2012 and \$100,000 in General Revenue for fiscal year 2013 to reduce the health and economic burdens of chronic kidney disease end stage renal disease through the End Stage Renal Disease Prevention Program model, *Love Your Kidneys*. The program shall work in collaboration with the Texas Renal Coalition and the State Chronic Kidney Disease Task Force to educate the medical community and at-risk patients on the importance of early diagnosis and treatment of chronic kidney disease to prevent premature death from cardiovascular disease and other co-morbid conditions, and to delay progression to kidney failure necessitating expensive renal replacement therapy by dialysis or transplantation.”

House Bill 3724 82nd (R), 2011

The Task Force shall:

- **Coordinate implementation of the state’s cost-effective plan for prevention, early screening, diagnosis, and management of CKD for the state’s population through national, state, and local partners; and**
- **Educate health care professionals on the use of clinical practice guidelines for screening, detecting, diagnosing, treating, and managing CKD, its co-morbidities, and complications based on the KDOQI Clinical Practice Guidelines for CKD.**

Implementation Activities for 2012-2013

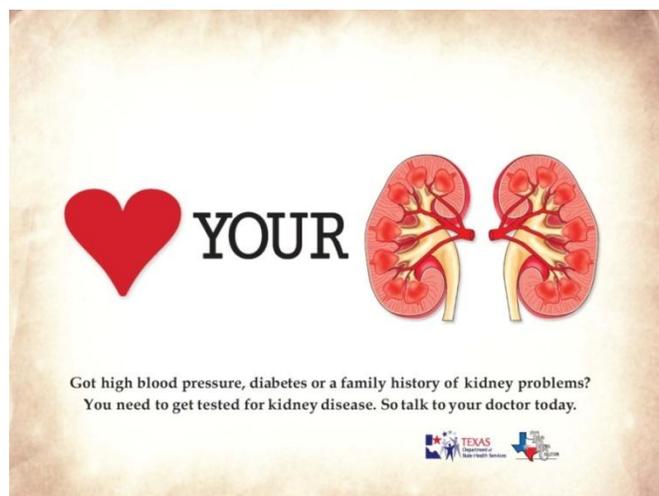
The following is a summary of activities related to implementation of the CKD strategic plan for 2012-2013 that satisfies the requirements of HB 3724 (82R).

End Stage Renal Disease Prevention Program

Love Your Kidneys, which initially launched in 24 Texas counties in 2008, is a state-wide media campaign that targets individuals with diabetes mellitus, hypertension or a family history of kidney problems and urges them to get tested for kidney disease. As of April 2011, the campaign has appeared in 170 Texas counties. The campaign message and call to action have been consistent across television, cable and radio PSAs, signage in pharmacies and grocery stores, print advertisements in minority publications, brochures and tools, and campaign websites: *"If you have diabetes, high blood pressure, heart disease or a family history of kidney problems, you need to get tested for kidney disease. Call your doctor today."*

*Priority 1:
Increase awareness
of primary prevention
and early detection to
prevent and control
disease progression.*

The *Love Your Kidneys* campaign was implemented in late March through May, 2012. Target markets included Amarillo, Corpus Christi, Harlingen-McAllen, Laredo, and Lubbock. The campaign featured television and radio spots, as well as print ads targeting African-Americans and Hispanics aged 35-64. The *Love Your Kidneys* campaign was also supported by two websites: LoveKidneys.com



(targets persons at-risk) and SaveKidneys.com (targets medical professionals).

The 2012 campaign reached 695,086 target audience members through television (2,217,470 impressions) and an additional 307,287 through radio (1,848,500 impressions). Print ads ran in minority publications with a combined circulation of 479,353.

Evaluation of the campaign conducted in 2008 by the University of Texas Medical Branch (UTMB) indicated that campaign PSAs had a significant impact on awareness and behaviors. Based on surveys conducted among participants in community diabetes projects focusing on diabetes self-management:

- The PSAs increased individual's awareness of the risk factors related to CKD.
- The PSAs were effective in increasing respondents' knowledge of CKD.
- The PSAs resulted in behavior changes in at-risk individuals. Respondents were encouraged to seek additional information on CKD, talk to their doctors about their conditions, get tested for kidney disease, and make at least one lifestyle change.

*Priority 2:
Implement clinical
practice guidelines
for screening,
detecting,
diagnosing, treating
and managing CKD,
its co-morbidities,
and complications
across health
systems.*

Hospital Pilot Project

The task force proposes an initiative to increase identification of patients with CKD at the time of hospital admission and to attempt to prevent further renal injury, and morbidity in these patients.

Background:

CKD is a condition characterized by decline in renal function. It is commonly associated with diseases or conditions such as cardiovascular disease, hypertension, diabetes, and aging.

CKD has been associated with increased risks of morbidity and mortality both in the general population and in hospitalized patients. A major problem in dealing with CKD is the general lack of awareness of the widespread nature of the disease by physicians and patients. This under-diagnosis stems from the fact that serum creatinine, the most widely used marker for measuring renal function, underestimates the prevalence of CKD in a substantial group of patients, and that more accurate estimates of renal function require calculation or measurement of the glomerular filtration rate and its relation to body size, age, gender and race.

Hospitalized patients with undiagnosed and/or early CKD are particularly at risk for rapid deterioration in renal function and concomitant increased morbidity, length of stay and mortality. The lack of recognition of CKD in patients being admitted to the hospital may lead to treatment without regard to reduced renal function, potentially causing acute renal failure or acute kidney injury leading to renal failure.

Goals:

- To routinely calculate the estimated glomerular filtration rate (eGFR) in all hospital admissions including elective surgical admission
- To devise interventions aimed at reducing the risk of renal injury that target the different degrees of renal function
- To measure the impact of routine renal protection protocol on patient and hospital outcomes

Strategies:

The task force will issue an invitation to all Texas hospitals to participate in the kidney injury prevention campaign. The task force will issue a series of

requirements that all participating hospitals will have to fulfill in order to be recognized as partners in this initiative. These requirements will, at minimum, include routine calculation of the eGFR, classification of patients by CKD stage and implementation of at least one protocol of renal protection in patients with CKD.

Hospitals employing more than three protocols for renal protection can be specifically designated. The task force will also recognize hospitals with outstanding projects in its meetings and through its website. Hospitals with identified best practices will be publicly distinguished after results demonstrating improved outcomes are reviewed by the task force.

To increase physician education and awareness of CKD through this campaign, the CKD task force would hold physician and staff educational events in the various hospitals at the initiation of this campaign.

Required Resources:

- Health services research expertise to help design and aid hospitals in managing projects and data design
- Epidemiology and biostatistics support, working directly with the task force, to review and report on project results and outcomes
- Administrative support to help establish, manage, and oversee the project
- Legislative support to provide recognition, backing and focus on the project
- Resources to create commendations and public education and recognition events for the project

Kidney Disease Study

During the 81st Texas Legislative Session, Rider 96 authorized DSHS to allocate \$1,000,000 in general revenue funds for the 2010-2011 state biennium to fund a kidney disease study conducted by Texas Tech University, in consultation with the task force. This study focused on kidney disease and its precursors, including, but not limited to, diabetes and hypertension.

Three objectives of the study included:

- Identify statistically significant subgroups who are at risk and recent patterns of change within these subgroups;
- Identify costs associated with kidney disease and its precursors, including projected costs over the next ten years; and
- Develop public health policy hypotheses.

A demonstration project was initiated to define the study objectives which included the following activities focusing on prevalence of CKD at different stages of the disease:

- Organize a multi-campus demographic analysis to identify characteristics of CKD in West Texas nephrology clinics, including prevailing practice patterns.
- Organize a multi-campus demonstration project (to be performed in West Texas primary care clinics) to: 1) examine the prevalence of various CKD stages in the general population (as opposed to high risk patients) and 2) implement a simple intervention to prevent CKD.

*Priority 3:
Enhance data and surveillance systems to include CKD data collection and state oversight, to better assess the prevalence and incidence of CKD in Texas, and more effectively address the burden.*

- Conduct random screening for CKD in the general population in a representative community of West Texas.

Several issues were identified in prevailing practice patterns including lack of awareness, poor compliance with established practice guidelines, and late referral of patients with CKD to nephrologists. **Results of the random community screening study indicated that prevalence of CKD was about 17 percent among the general population, with 58 percent in stage III or worse, and most not aware of their condition.**

Texas Tech University submitted a report to DSHS in September 2011 entitled *Prevalence and Medical Care Cost Associated with Chronic Kidney Disease in Texas*.

A copy of the report can be downloaded at:

<http://www.ttuhsu.edu/gsbs/faculty/Prabhakar.aspx> (click on *Texas DSHS CKD Project Comprehensive Report*).

Future Opportunities

The task force has identified future areas of focus that support its mission to reduce morbidity and mortality caused by kidney disease for implementation during the 2012-2013 biennium and beyond.

- **Identify partnerships for collaboration.**
 - Leverage resources to carry out CKD Task Force priorities and goals (e.g. medical schools, insurance companies, Texas Hospital Association, Texas Medical Association, TMF Health Quality Institute, National Kidney Foundation Texas etc.).
- **Establish a permanent, structured advisory group.**

- Establish a governor-appointed council/committee with dedicated administrative staff support from the DSHS to address the priorities and goals of the task force.
- Expand membership of the task force to include Medicaid, Medicare, and the Department of Insurance.
- **Guide and support ESRD research.**
 - Identify grant opportunities that support, validate, and promote the prevention and treatment of CKD.
- **Promote kidney awareness and education media campaigns.**
 - Continue to support the ESRD Prevention Program.
 - Leverage resources of other chronic disease media campaigns, including the National Kidney Disease Education Program (NKDEP), and National Kidney Foundation, Texas, as examples.
- **Analyze and assess impact of the Affordable Care Act (ACA).**
 - Identify opportunities to promote standards of care that cover screening, referral, and treatment to prevent ESRD.
- **Identify and analyze CKD data**
 - Partner with the Office of Surveillance, Evaluation and Research (OSER) at DSHS to identify and review existing data sources related to CKD and chronic disease risk factors.
 - Review patient outcomes from public and private health care plans.

Appendices

I. Texas Chronic Kidney Disease Task Force Mission, Meeting Schedule, and Members (2012-2013)

Mission

The Chronic Kidney Disease Task Force, a team of experts representing primary care, nephrology, transplant surgery, nephrology nursing, renal dietetics, health plans, laboratories, medical schools, Texas kidney organizations, and the Texas Legislature, aims to reduce the morbidity and mortality caused by kidney disease and its complications. The task force works to improve early detection of chronic kidney disease, facilitate the identification of patients at greatest risk for kidney failure, and promote evidence-based interventions to slow the progression of kidney disease.

Fiscal Year 2012-2013 CKD Task Force Meetings

- November 21, 2011
- February 17, 2012
- September 14, 2012

Members

Osama Gaber, MD, Chair
[Houston](#)

Carolyn Atkins, BS, RN, CCTC
[Dallas](#)

Robert Collazo-Maldonado, MD
[Dallas](#)

The Honorable Robert Deuell
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II. Background: Texas Chronic Kidney Disease Task Force 2008-2011

The Texas Chronic Kidney Disease Task Force (task force) was established by the Texas Legislature in 2007 to address the growing burden of CKD and ESRD in Texas. The Legislature directed the task force to:

1. Develop a plan to educate health care professionals about the advantages and methods of early screening, diagnosis, and treatment of CKD and its complications based on the National Kidney Foundation Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines (NKF KDOQI™) for CKD, or other medically recognized clinical practice guidelines.
2. Develop a plan to educate health care professionals and individuals with CKD about the advantages and options for early renal replacement therapy.
3. Make recommendations regarding the implementation of a cost-effective plan for early screening, diagnosis, and treatment of CKD for the State's population.

The NKF KDOQI™ are nationally and internationally recognized as the preeminent tool for clinicians and stakeholders for developing programs to improve kidney patient outcomes. While earlier guidelines focused on treatment methods to reduce death and disability among dialysis patients, the NKF KDOQI™ provide a uniform definition of CKD, a classification system for disease stage and severity, and an action plan to address CKD at each stage.

During its first biennium (2008-2009) the task force met with stakeholders to develop state goals, including implementation of the NKF KDOQI™ and other medically recognized strategies through physician practices, insurers, health plans, laboratories, medical associations, medical and nursing schools, and agency partners. Other goals addressed increased public and medical community CKD awareness and education, early screening and detection of CKD, surveillance system improvements to better assess the prevalence and incidence of CKD in

Texas, and annual measurement of urinary protein creatinine ratios and estimated glomerular filtration rate (eGFR). eGFR is a key screening method for identifying people who may have chronic kidney disease (CKD). Since the eGFR calculation takes into account several factors that impact creatinine production, including age, gender, and race, it provides a more clinically useful measure of kidney function than serum creatinine alone.

To advance these goals, the task force partnered with the TMF Health Quality Institute, the NKF, ESRD Network 14, Texas Renal Coalition (TRC), and DSHS in a “*Campaign for Kidney Health*” (CKH). Over a three-year period, TMF conducted a chronic kidney disease initiative with physicians who treat patients at risk for kidney disease. The initiative promoted timely screenings and care management strategies for Medicare beneficiaries, specifically those with diabetes. The *CKH* also included a state-supported public information campaign implemented by the TRC and DSHS which encouraged Texans at risk to get tested for kidney disease (www.lovekidneys.com), and provided guidance to primary care physicians regarding their role in preventing and

Outcomes of the 81st Texas Legislature

HB 2055 continues the CKD Task Force through August 31, 2011, to address two legislative charges:

1. Develop a cost-effective plan for prevention, early screening, diagnosis and management of chronic kidney disease for the state’s population; and
2. Develop a plan for surveillance and data analysis to assess the impact of chronic kidney disease in the state.

HB 2330 relates to laboratory tests measuring kidney function, and requires:

1. A laboratory that performs a serum creatinine test on a person 18 years of age or older to calculate and report results of the person’s eGFR or results of an equivalent calculation measuring kidney function; and
2. A physician requesting a serum creatinine test to provide to the laboratory all relevant clinical information needed to calculate the person’s eGFR or to perform an alternative equivalent calculation.

treating kidney disease (www.savekidneys.com)

In 2009, the task force published its first report, *Addressing Chronic Kidney Disease in Texas*. The report can be downloaded at

<http://www.dshs.state.tx.us/diabetes/PDF/ChronicKidneyDiseaseTaskForceFinal.pdf>.

During the 81st Texas Legislative Session, HB 2055 amended the Health and Safety Code, Chapter 98, to continue the task force through August 31, 2011, and passed HB 2330 related to laboratory tests measuring kidney function.

In addition to HB 2055 and HB 2330, two riders were attached to the State's General Appropriations Act for state fiscal years 2010-2011:

Rider 74: End Stage Renal Disease Prevention Program

Allocates funds during the 2010-11 biennium (\$500,000 annually) for a statewide program to decrease the number of new ESRD cases in Texas. The rider provides for continuation of the *Love Your Kidneys* campaign, providing outreach to at-risk individuals and physicians to increase awareness, early detection, and treatment of CKD.

Rider 96: Chronic Kidney Disease Demonstration Project

Allocates funds during the 2010-11 biennium for a study to be conducted by Texas Tech University Health Sciences Center (TTUHSC) in consultation with the task force. The study will address CKD and its precursors, including but not limited to diabetes and hypertension, and will

- a) Identify statistically significant subgroups who are at risk and recent patterns of change within these subgroups;
- b) Identify costs associated with CKD and its precursors, including projected costs over the next ten years; and
- c) Develop hypotheses and conclusions to help direct public health efforts.

During the 2010-2011 biennium, the task force continued partnership development through the *CKH*, promoted the statewide *Love Your Kidneys* public information campaign, and consulted with Texas Tech on implementation of the kidney disease study required by Rider 96. By April 2011, a range of activities focusing on professional and patient education and disease surveillance were underway.

Partners in the *CKH* presented a professional education webinar titled *Use of ACEI and ARBs in Patients with Chronic Kidney Disease* to an audience of 252 healthcare professionals. A continuing nursing education program, *Strategies to Help Your Kidney Patients Self-Manage*, was also presented. A free *Living Better with Kidney*

Disease series for CKD patients in stages 3 to 5 was presented on Wednesday evenings at Memorial Hermann Wellness Center in Houston, with participation of task force chair, Osama Gaber, M.D.

The *Love Your Kidneys* campaign message reached an average of 4.2 million adults aged 35-64 during the 2010-11 biennium through television, radio and print media. An additional 1.9 million impressions were made through grocery store advertising. Geo-targeted online advertising in Texas provided 17,596,545 campaign impressions in 2011, resulting in 16,164 click-through visits to www.lovekidneys.com.

To improve state surveillance of kidney disease, a proposal was submitted to the Texas Behavioral Risk Factor Surveillance System (BRFSS) to include a question related to the prevalence of kidney disease on the annual BRFSS household survey. The Centers for Disease Control and Prevention (CDC) later decided to add a question to the national survey, providing Texas with increased capacity to obtain CKD prevalence data that can be compared to other states. Texas was also asked to submit a success story regarding implementation of HB 2330 as guidance for other states funded by the National Association of Chronic Disease Directors to promote automatic calculation and reporting of eGFR by laboratories.

III. About Chronic Kidney Disease: Data Updates

CKD prevalence, or number of CKD cases in a given population at a specific period of time, was estimated using data from the National Health and Nutrition Examination Survey (NHANES). In 1999-2008, 13.5 percent of adult NHANES participants, representing about 28 million non-institutionalized U.S. civilian residents aged 20+ years, had CKD stages 1-4. Of these, about 17 million had CKD stage 3 or 4. Overall, the prevalence or amount of CKD stages 1-4 in the general population increased by one-third from 1988-1994 to 1999-2008.¹ According to NHANES data for 2005-2006, about 33 million people aged 20+ years in the U.S., or 16 percent of this population, had CKD stages 1-4.²

CKD was more common in those who were older, females, and non-Hispanic whites. However, with adjustment for age, prevalence was higher among non-Hispanic blacks and Mexican-Americans than among non-Hispanic whites. Persons with diabetes and hypertension had far greater prevalence of CKD than those without these conditions.¹

According to the 2010 Centers for Disease Control and Prevention *National CKD Fact Sheet* (<http://www.cdc.gov/diabetes/pubs/factsheets/kidney.htm>):

- More than 35% of persons aged 20 years or older with diabetes have CKD.³
- More than 20% of persons aged 20 years or older with hypertension have CKD.³
- Leading causes of ESRD are diabetes and hypertension with 7 out of 10 new ESRD cases in 2006 listing diabetes or hypertension as the primary cause.³
- African Americans are four times more likely to develop ESRD than whites, and Hispanics have 1.5 times the rate of kidney failure compared to non-Hispanic whites.³

National ESRD Trends⁴

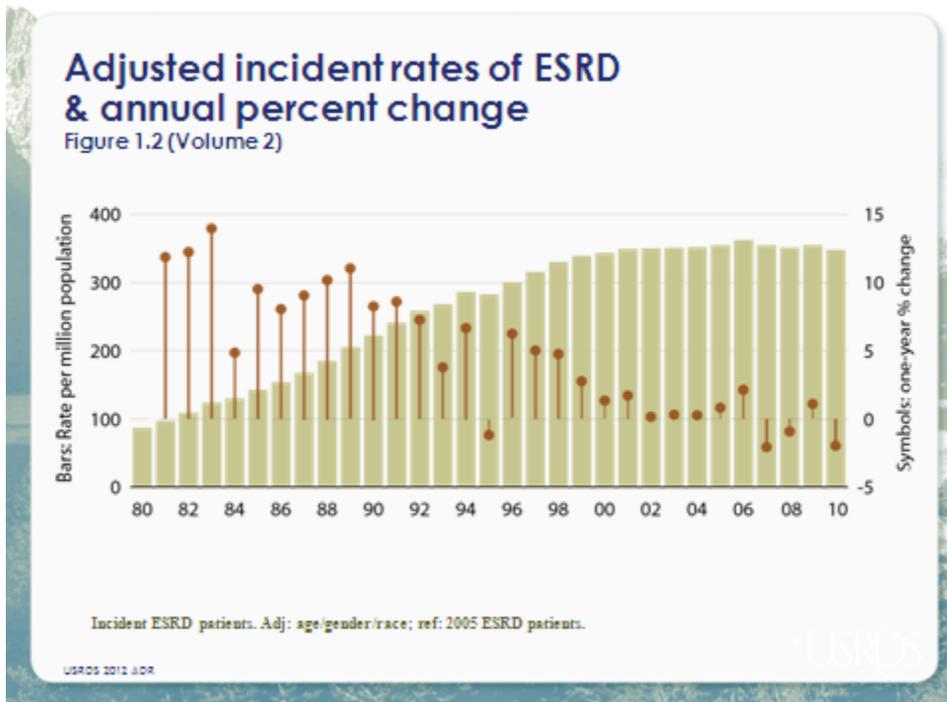


Figure 1.2 (above) is excerpted from *The United States Renal Data System (USRDS) 2012 Annual Data Report*. USRDS is a national data system that collects, analyzes, and distributes information about end-stage renal disease (ESRD) in the United States. The USRDS is funded directly by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). USRDS staff collaborates with members of the Centers for Medicare & Medicaid Services (CMS), the United Network for Organ Sharing (UNOS), and the ESRD networks, sharing datasets and actively working to improve the accuracy of ESRD patient information.

According to the *USRDS Annual Data Report, 2012*, the number of new patients starting therapy on hemodialysis declined in 2010 for the first time in more than three decades. The population initiating on peritoneal dialysis, in contrast, grew for the second year in a row, and now accounts for 6.6 percent of patients with a known dialysis modality. This change may foreshadow those to come under the new bundled payment system, with its clear incentives for this form of home dialysis.

Total incident dialysis cases rose 0.27 percent in 2010, to 114,083, while 2,863 patients received a preemptive transplant as their first ESRD modality; a total of 116,946 patients began ESRD therapy in 2010.

The rate of new ESRD cases per million population, which has been relatively stable since 2000, fell 2.0 percent in 2010, to 348. Growth continues to be driven by a relatively linear increase in the number of patients age 45–64; growth in the population age 65 and older, in contrast, has slowed considerably, but a slight upturn is present among those age 65–74, which could reflect the emergence of the post-World War II baby boomers into retirement age.

The incidence of ESRD in the black/African American population has finally started to decline, overall, and for ESRD due to diabetes. Among those age 20–39, however, differences between whites and blacks/African Americans continue to be dramatic, with rates among the latter up to 3.8 times greater. Rates are also considerably higher for blacks/African Americans age 60 and older than for their white counterparts, though the gap is beginning to narrow.

The December 31, 2010, prevalent population included 383,992 patients on hemodialysis and 29,733 on peritoneal dialysis, as well as 179,361 with a functioning kidney transplant; the total treated ESRD population thus rose to 593,086 — growth of 4 percent from 2009, which is the smallest increase in 30 years. The rate of prevalent ESRD cases reached 1,752 per million population, an increase of 1.1 percent from 2009, and also the slowest growth in the last three decades.

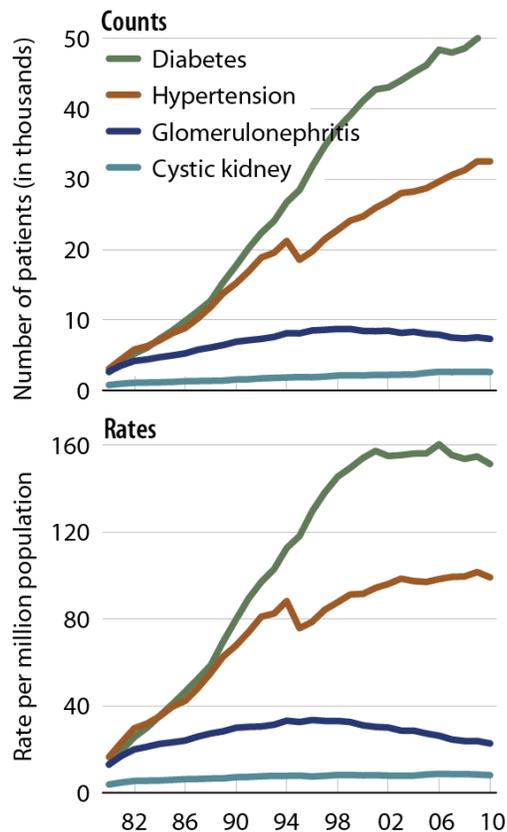
Insurance coverage in the dialysis population continues to change, with more incident dialysis patients now covered by Medicare Advantage. Private insurance, in contrast, is dominant among patients who receive a preemptive kidney transplant. In the 2010 prevalent population, 84 percent of hemodialysis patients and 79 percent of those on peritoneal dialysis had some type of Medicare coverage, compared to just 65 percent of those with a transplant.

Nephrology care prior to ESRD continues to be a concern. Since the 2005 introduction of the new Medical Evidence form (2728), with fields addressing pre-ESRD care, there has been little progress made in this area (pre-ESRD data, however, should be interpreted with caution because of the potential for misreporting). Forty-three percent of new ESRD patients in 2010, for example, had not seen a nephrologist prior to beginning therapy. Among these patients, 88 percent of those began hemodialysis with a catheter inserted into the subclavian vein in the neck. Of the 54 percent of patients who received a year or more of nephrology care, 26 percent began therapy with an arteriovenous (AV) fistula (the preferred vascular access) — eight times higher than the rate among non-referred patients.

The best kind of long-term vascular access for hemodialysis is an AV fistula. An AV fistula is created when a surgeon connects an artery to a vein, usually in the arm. The increased blood flow through the AV fistula causes the vein to grow large and strong allowing the needles used for dialysis to be easily placed in the blood vessels. The AV fistula is considered the best option because it:

- provides adequate blood flow for dialysis,
- lasts longer, and
- has a lower complication rate than the other types.

According to the USRDS, the incidence and prevalence of CKD has continued to rise with diabetes leading the way as the primary cause of renal failure (see charts on page 29).



Incident counts & adjusted rates of ESRD, by primary diagnosis

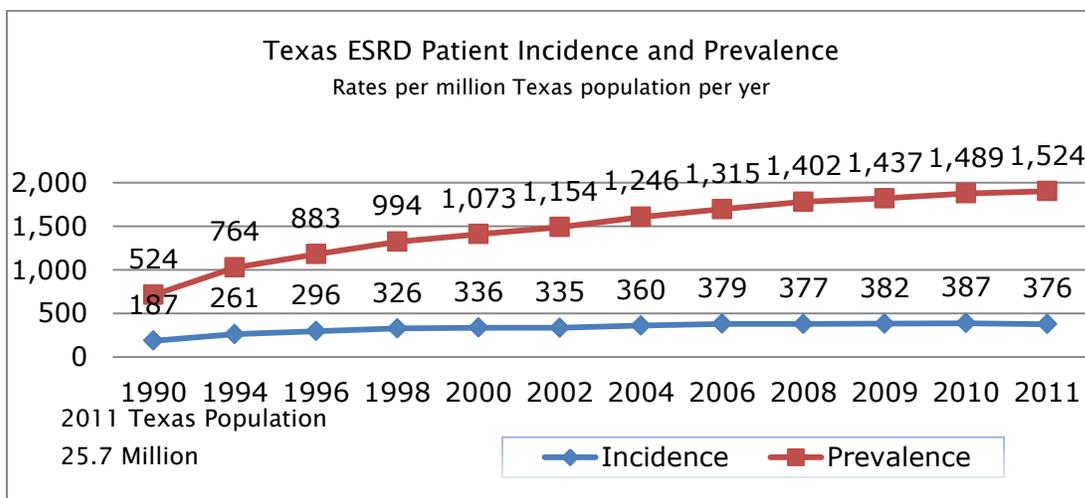
Incident ESRD patients.
Adj: age/gender/race; ref: 2005 ESRD patients.

USRDS 2012 ADR

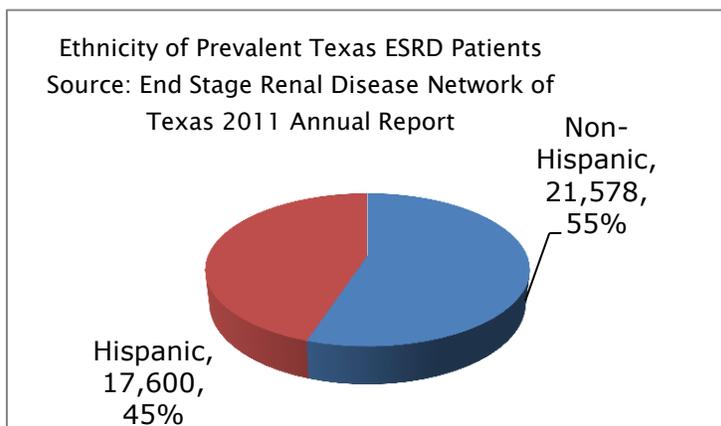
State ESRD Trends⁵

The End Stage Renal Disease (ESRD) program, which extends Medicare benefits to cover the cost of medical care for most individuals suffering from ESRD, was created in October 1972 through the passage of Section 299I of Public Law 92-603. The ESRD Networks provide quality oversight of the care ESRD patients receive, collect data to administer the national Medicare ESRD program, and provide technical assistance to ESRD providers and patients. ESRD Network #14, which encompasses the state of Texas, produces an annual report which served as the source for data on incidence and prevalence of ESRD in Texas presented in this section.

The incidence of ESRD in Texas is above the national average and trended upward annually for many years with the exception of 2007. The rate increased to 387 per million in 2010, but decreased to 376 per million in 2011. The prevalence of ESRD in Texas, however, continues to rise. In 1990, 524 out of each million Texans had a diagnosis of ESRD; in 2011 the unadjusted prevalence rate for the Texas population had climbed to 1,524 per million, up from 1,489 in 2010.



Source: End Stage Renal Disease Network of Texas 2011 Annual Report

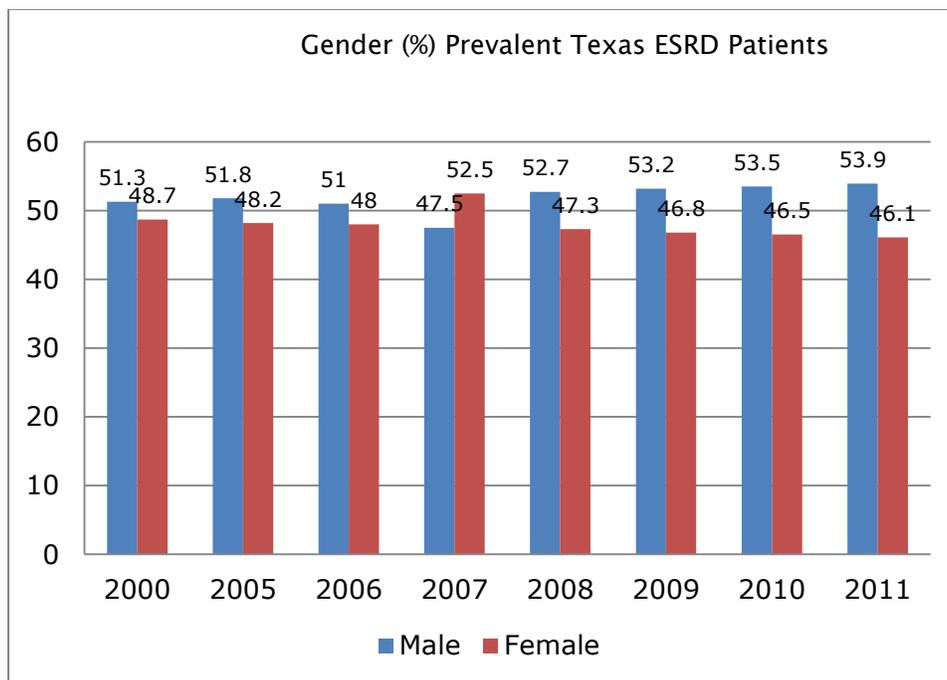


At the end of 2011, the number of persons receiving renal replacement therapy (dialysis and transplant combined) in Texas was 50,273. Of these, 39,177 were receiving dialysis and 11,114 had functioning transplants. There were

5,119,800 dialysis treatments delivered to Texas patients in 2011. Of those treatments, 91.2 percent were currently enrolled in Medicare.

Hispanics are the most highly represented ethnic group in the Texas ESRD population. Approximately 42 percent of newly diagnosed (incident) patients in 2011 were Hispanic, while 45 percent of all (prevalent) Texas ESRD patients were Hispanic. In contrast, only 38.1 percent of the estimated 2011 Texas population was Hispanic. African-Americans make up 30 percent of the ESRD patients in Texas, nearly triple the 2011 Texas estimated population percentage (12.2 percent).

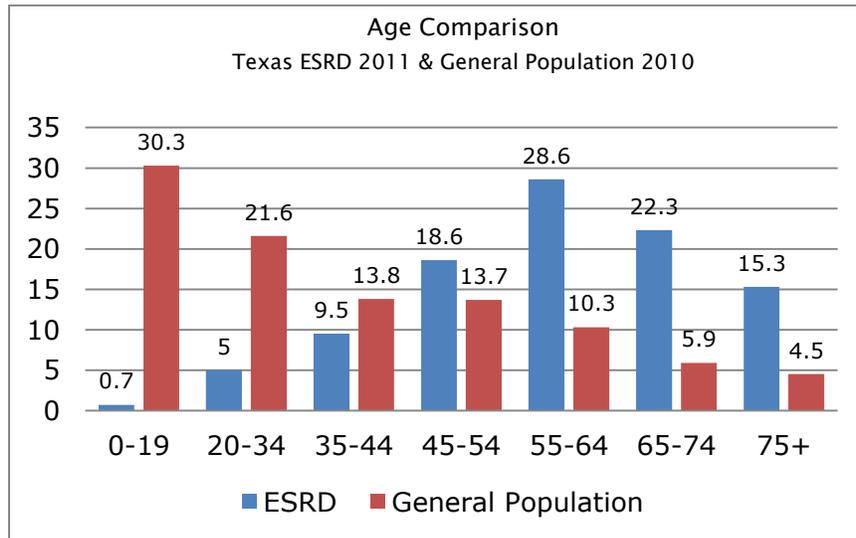
The percent of females in the Texas ESRD prevalent population has decreased 2.6 percent since 2000, with a 0.4 percent decrease from 2010, while the percent of males in the prevalent population has increased 2.2 percent since 2000 with a 0.4 percent increase from 2010.



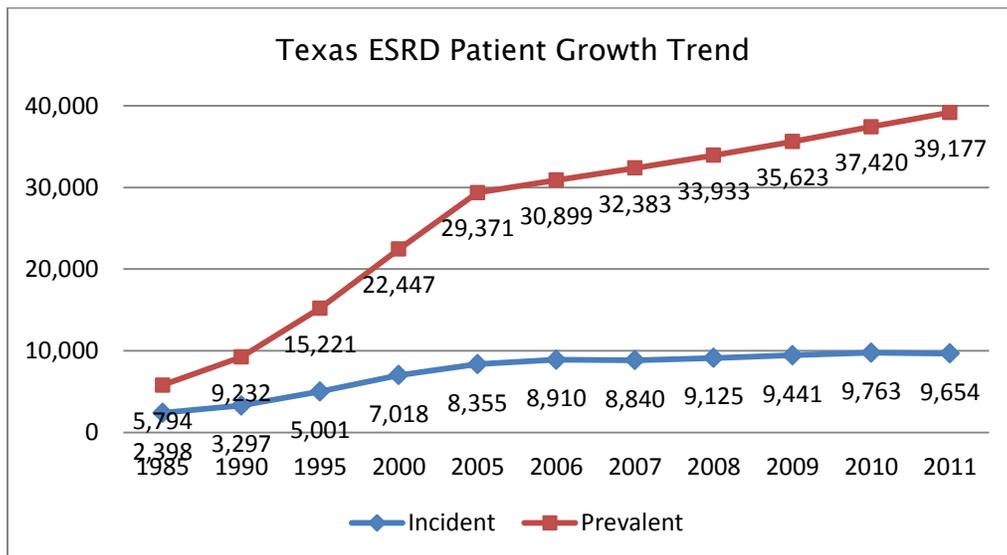
Source: End Stage Renal Disease Network of Texas 2011 Annual Report

Persons age 45 years and over account for 85 percent of all ESRD patients in 2011, up from 84 percent in 2008. This age group comprised only 34.4 percent of the general Texas population. The percent of Texas ESRD patients 65 and over, (37.6

percent), is nearly four times that of this age group in the general population (10.4 percent). In contrast, less than 1 percent of all Texas ESRD patients are children aged 0-19, which is significantly below the general population (30 percent) in this age range.

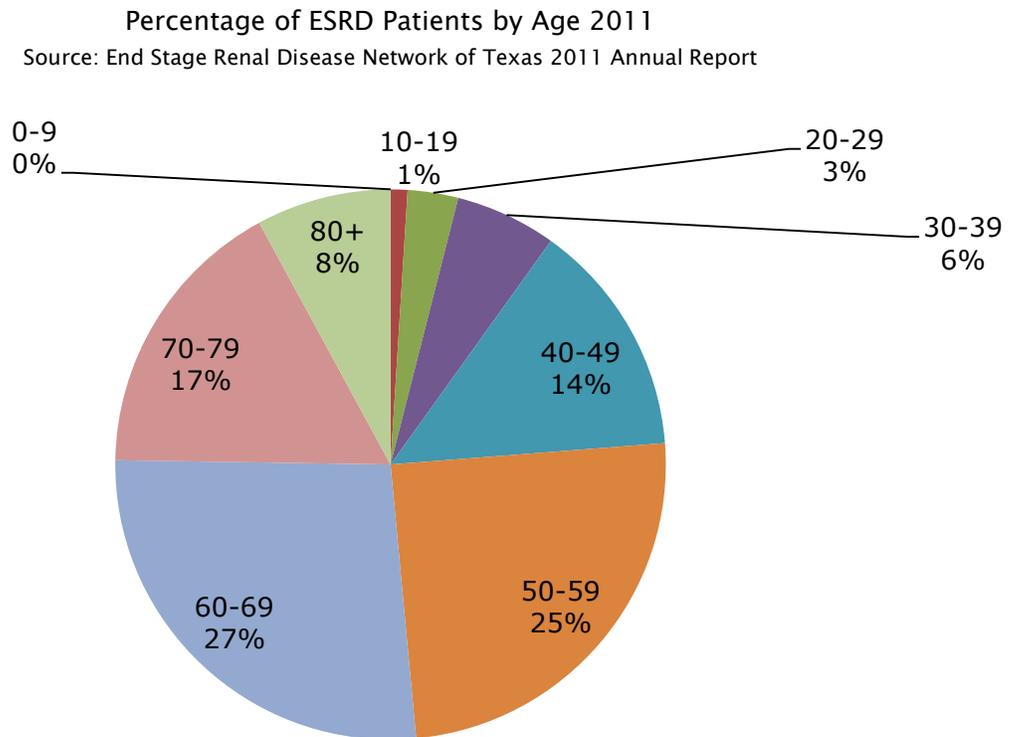


Source: End Stage Renal Disease Network of Texas 2011 Annual Report



Source: End Stage Renal Disease Network of Texas 2011 Annual Report

Persons aged 60-69 (27 percent) comprised the greatest proportion of ESRD patients closely followed by those aged 50-59 (25 percent).



Chronic Kidney Disease Demonstration Project
Texas Tech University Health Sciences Center

While data pertaining to end stage renal disease (ESRD) is well established and readily available through US Renal Data Systems (USRDS) and Texas ESRD Network #14, the information relating to the disease and financial burden of

chronic kidney disease (including the impact of earlier stages of kidney disease) is conspicuously lacking. Driven by the public health and financial implications, the State of Texas funded a project to define the magnitude of chronic kidney disease in Texas. In the study conducted at Texas Tech University Health Sciences Center, several issues were identified in prevailing practice patterns including lack of awareness of CKD, poor compliance with established practice guidelines, and late referral to nephrologists. In an unprecedented large random community screening study, the prevalence of CKD was found to be about 17 percent in the general population. This observation of CKD prevalence is higher than expected and warrants further action to address the growing prevalence of CKD in Texas.

The Chronic Kidney Disease Demonstration Project report can be downloaded at: <http://www.ttuhschool.edu/gsb/faculty/Prabhakar.aspx> (click on *Texas DSHS CKD Project Comprehensive Report*).

Endnotes

¹ Chronic Kidney Disease Surveillance in the United States, 2010, Executive Summary, The CDC CKD Surveillance Project. September 29, 2010.

² US Renal Data System, USRDS 2010 Annual Report. CKD Reference Tables, Volume 1 145-162, 2010. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2012.

³ Centers for Disease Control and Prevention. National Chronic Kidney Disease Fact Sheet: General Information and National Estimates on Chronic Kidney Disease in the United States, 2010. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2010.

⁴ U S Renal Data System, USRDS 2012 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2012.

⁵ End Stage Renal Disease Network of Texas, Inc. #14, Annual Report 2011.