



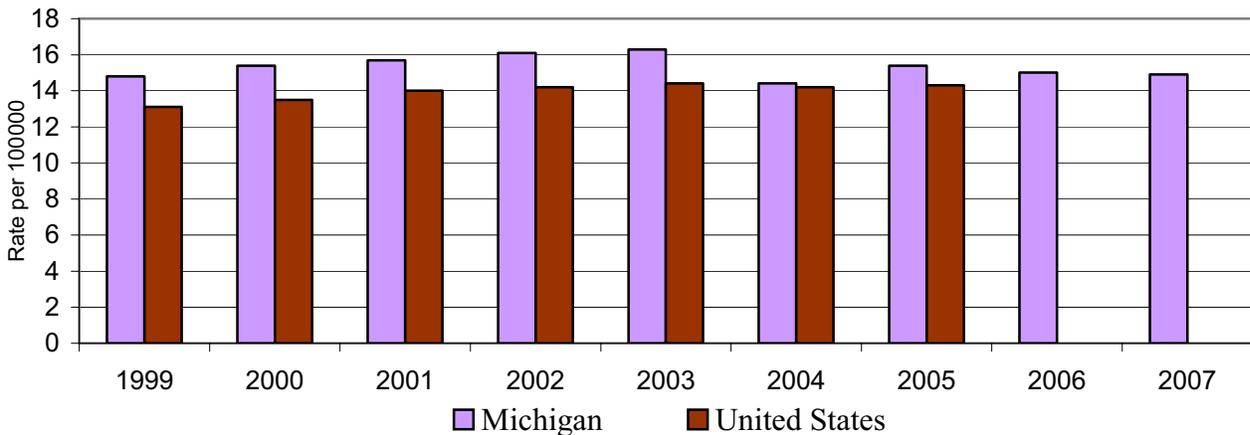
## Topic: Diabetes and Kidney Disease

### 20. Kidney Disease and Related Deaths

Chronic kidney disease (CKD) is a progressive condition in which the kidneys are damaged and lose function slowly over a long period of time. Loss of kidney function means that wastes can build up in the body causing illness. Loss of kidney function also means loss of kidney hormones, which can lead to increased blood pressure, anemia (low blood count), and osteoporosis (weakened bones). The advanced stage of kidney disease, end-stage renal disease (ESRD), requires dialysis or a kidney transplant to maintain life. The two main causes of chronic kidney disease are diabetes and hypertension (high blood pressure), which are responsible for up to two-thirds of the cases. Early detection and treatment are critical in the prevention of the serious and costly complications of kidney disease.

#### *How are we doing?*

**Age-Adjusted Kidney Disease-Related Death Rates**



It is estimated that 940,000 of the adults living in Michigan age 20 years of age or older have CKD, and many do not know it. That means 1 in 8 Michigan adults have CKD.

Over 3,800 new cases of end-stage renal disease were diagnosed in Michigan last year. More than 18,000 people were receiving treatment for end-stage renal disease. Of those, two-thirds were on dialysis and one-third received a kidney transplant.

Once an individual reaches ESRD, the risk of death from other disease also increases. Individuals with ESRD are 20 times more likely to have a cardiovascular-related death than to die of kidney failure. A total of 2,790 Michigan residents died while undergoing dialysis treatment last year; 45% of those deaths were cardiovascular-related.

#### *How does Michigan compare with the U.S.?*

The rate of kidney disease has risen 30% over 10 years. Over 26 million Americans have CKD, half a million have ESRD and another 20 million more are at increased risk. Kidney disease is the 9<sup>th</sup> leading cause of death in the United States. The rate of death from kidney disease has been historically higher in Michigan.

In the United States, the number of cases of ESRD has doubled since 1990. The rate of kidney failure in Michigan is increasing faster than in the United States. The number of ESRD cases is expected to continue to grow with increasing prevalence of kidney disease risk factors such as diabetes.



### ***How are different populations affected?***

People at highest risk for CKD are those with diabetes and/or hypertension, family history of kidney disease, seniors, and minorities. African Americans, Native Americans, Hispanic Americans and Asian Americans are all at increased risk for both CKD and ESRD. African Americans are at 3.8 times greater risk for kidney failure compared to Caucasians. Native Americans are at 2 times greater risk and Asian Americans are at 1.3 times greater risk. The relative risk of Hispanics compared to non-Hispanics is about 1.5 times greater.

The burden of ESRD among African Americans is especially troubling. Nationally, African Americans make up about 12 percent of the population but account for 32 percent of people with kidney failure. Among new patients whose kidney failure was caused by high blood pressure, more than half (51.2 percent) are African-American. Among new patients whose kidney failure was caused by diabetes, almost one third (31.3 percent) are African-American.

### ***What is the Department of Community Health (MDCH) doing to improve this indicator?***

Since kidney disease can be prevented or significantly delayed, MDCH joined with the National Kidney Foundation of Michigan (NKFM) to develop a plan for intervention. In 1996, NKFM began receiving state funding to implement State Renal Plan programs.

School prevention programs: A recent study found that children and teens diagnosed with Type 2 diabetes are five times more likely to develop kidney disease later in life than those who develop diabetes as adults. By teaching children healthy diet and active lifestyle, we can prevent obesity, Type 2 diabetes and kidney disease.

Healthy Hair Starts with a Healthy Body / Dodge the Punch: Live Right: The goal of these programs is to help prevent kidney disease by raising awareness of its two primary causes – diabetes and high blood pressure – and encouraging people to make healthy lifestyle choices. Hair stylists and barbers in African American communities are trained to become lay health educators. These lay education programs are successful in creating positive short-term outcomes that prompt attention to healthy behaviors. The Agency for Healthcare Research and Quality (AHRQ) highlights these programs in their Innovations Exchange website profile and gives them an evidence rating of “moderate.”

Healthy Families Start with You: This Head Start preschool program promotes healthy lifestyle changes for preschool-aged children as well as their parents, grandparents, or other caregivers. Parents are encouraged to make healthy lifestyle changes for themselves and their families. Kids are taught about eating fruits and vegetables that are the colors of the rainbow. This lay education program is successful in creating positive short-term outcomes that emphasize healthy eating and increased activity.

Increase awareness for kidney disease testing: The increasing prevalence of diabetes is already leading to a measurable increase in the earlier stages of CKD. NKFM is working with primary care providers and insurance companies to increase early screening for kidney disease in high risk populations. In the first year, kidney disease testing for people with diabetes increased 22-47%.