

A PRIMER ON DIABETES

It Could Be in Your Future — Are You Informed?

With the ever increasing incidence of diabetes reaching epidemic proportions in the U.S., and with an estimated one in three cases as yet undiagnosed, it is imperative that consumers are both informed and vigilant about monitoring for diabetes. According to the Centers for Disease Control, 20.8 million people in the U.S. in 2005 had been diagnosed with diabetes, with another 6.2 million people unaware they also had the disease. Because the symptoms can be mild and somewhat non-descript, it is possible to have the disease for years and have damage to internal organs before the disease is diagnosed.

While the total cause of diabetes is not known, major contributing factors to the escalation in the incidence of diabetes are identified as obesity and increasingly, sedentary lifestyles. According to the National Diabetes Fact Sheet, the overall risk of death among people with diabetes is about twice that of people without diabetes of similar age, causing directly or indirectly at least 284,000 deaths in 2007. Diabetes is a leading cause of death in all industrial nations.

This edition of the Consumer Connection will focus on Type 1 and Type 2 diabetes. Other types of diabetes can develop in concert with specific conditions which are resolved when the condition is resolved. An example would include gestational diabetes that generally develops during the second half of pregnancy, and typically is resolved after delivery.

The following information, taken from www.eMedicineHealth.com, provides background information on the disease, as well as suspected causes or contributing factors.

Background Information

Diabetes is a set of related diseases in which the body cannot regulate the amount of sugar (glucose) in the blood. Glucose in the blood provides energy—the kind required to exercise and perform daily tasks.

- Glucose in the blood is produced by the liver from the foods consumed.
- In a healthy person, the blood glucose level is regulated by several hormones, one of which is insulin. Insulin is produced by the pancreas, a small organ near the stomach that also secretes important enzymes that help in the digestion of food.

- Insulin allows glucose to move from the blood into liver, muscle, and fat cells, where it is used for fuel.
- People with diabetes either do not produce enough insulin (type 1 diabetes) or cannot use insulin properly (type 2 diabetes), or both.
- In diabetes, glucose in the blood cannot move into cells, and it stays in the blood. This not only harms the cells that need the glucose for fuel, but also harms certain organs and tissues exposed to the high glucose levels.

TYPE 1 DIABETES: The body stops producing insulin or produces too little to regulate blood glucose level, generally requiring a daily insulin treatment to sustain life.

- Type 1 diabetes comprises about 10 percent of total cases in the United States and is typically recognized in childhood or adolescence. It used to be known as “juvenile-onset” diabetes or “insulin-dependent diabetes mellitus.”
- The disease can occur in older individuals due to damage to the pancreas by alcohol, disease, or removal by surgery, or progressive failure of pancreatic beta cells, which produce insulin.

TYPE 2 DIABETES: The pancreas secretes insulin, but the body is partially or completely unable to use the insulin. This condition is sometimes referred to as “insulin resistance.” The body then tries to overcome the resistance by secreting more and more insulin. As the need for insulin rises, the pancreas gradually loses its ability to produce insulin. People with insulin resistance develop type 2 diabetes when they can no longer secrete enough insulin to meet increasingly higher demands.

- At least 90 percent of patients with diabetes have type 2 diabetes, which is typically recognized in adulthood, usually after age 45 years. It used to be called “adult-onset diabetes mellitus,” or “non-insulin-dependent diabetes mellitus.” These names are no longer used because type 2 diabetes does occur in younger people, and some people with type 2 diabetes need to use insulin.
- Type 2 diabetes is usually controlled with diet, weight loss, exercise, and oral medications to lower blood sugar levels. However, more than half of all people with type 2 diabetes require insulin to control their blood sugar levels at some point during the treatment of the disease.

TYPE 1 CAUSES/FACTORS INVOLVED:

Type 1 diabetes is believed to be an autoimmune disease. The body’s immune system attacks the cells in the pancreas that produce insulin.

- *Heredity* – A predisposition to develop type 1 diabetes may run in families but much less so than for type 2.
- *Environment* – Environmental factors, such as certain types of viral infections, may also contribute.
- *Ethnicity* – Type 1 diabetes is most common in non-Hispanic white persons of Northern European descent, followed by African Americans and Hispanic Americans. It is relatively rare in those of Asian descent.
- *Gender* – Type 1 diabetes is slightly more common in men than in women.

TYPE 2 CAUSES/FACTORS INVOLVED:

Type 2 diabetes is believed to have a strong genetic link. Several genes are being studied that may be related to the cause of type 2 diabetes. Risk factors for developing type 2 diabetes include the following:

- High blood pressure; and high blood triglyceride (fat) levels;
- Gestational diabetes (giving birth to a baby weighing more than 9 pounds);



“I realize you have diabetes, Mr. Carlton. However, I don’t think the IRS is going to allow you to deduct the depreciation in the value of pancreas”

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- High-fat diet or high alcohol intake;
- Sedentary lifestyle, obesity, overweight;
- Certain ethnic groups, such as African Americans, Native Americans, Hispanic Americans, and Japanese Americans, have a greater risk of developing type 2 diabetes than non-Hispanic whites;
- Increasing age: risk begins to rise significantly at about age 45 years, and rises considerably after age 65 years.

Complications

The complications of diabetes are pervasive and can impact nearly every part of the body in some way. For those diagnosed with the disease, it is critical that they are checked regularly for potential complications. For some people, the development of a complication is the first indication of diabetes. The following list of complications and their incidences as well as preventive care practices are included in the National Diabetes Fact Sheet prepared jointly by the Centers for Disease Control and Prevention, the National Institutes of Health, the American Diabetes Association, and other partners. The full fact sheet is available at http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2005.pdf.

Heart disease and stroke

- Heart disease and stroke account for about 65 percent of deaths in people with diabetes.

- Adults with diabetes die from heart disease at about 2 to 4 times the rate of adults without diabetes, and similarly experience stroke 2 to 4 times more often.

High blood pressure

- Almost three in four adults with diabetes have high blood pressure.

Loss of vision

- Diabetes is the leading cause of new cases of blindness among adults aged 20 - 74 years:
- Diabetic retinopathy accounts for 12,000 to 24,000 new cases each year.

Kidney disease

- Diabetes is the leading cause of kidney failure, accounting for 44 percent of new cases in 2002. In 2002, 44,400 people with diabetes began treatment for end-stage kidney disease in the United States and Puerto Rico. A total of 153,730 people with end-stage kidney disease due to diabetes were living on chronic dialysis or with a kidney transplant in the United States and Puerto Rico in 2002.

Nervous system disease

- Nearly 70 percent of people with diabetes have mild to severe forms of nervous system damage. The results of such damage include impaired sensation or pain in the feet or hands, slowed digestion of food in the stomach, carpal tunnel syndrome, and other nerve problems. Among people with diabetes aged 40 years or older, almost 30 percent have impaired sensation in the feet (i.e., at least one area that lacks feeling).

Amputations

- Severe forms of diabetic nerve disease are a major contributing cause of lower-extremity amputations. More than 60 percent of non-traumatic lower-limb amputations occur in people with diabetes; in 2002, about 82,000 diabetics experienced non-traumatic lower-limb amputations.

Dental disease

- Periodontal (gum) disease is more common in people with diabetes: almost one-third of them have severe periodontal disease. Among young adults, those with diabetes have about twice the risk of gum disease as those without diabetes.

Pregnancy-related problems

- Poorly controlled diabetes before conception and during the first

trimester of pregnancy can cause major birth defects in 5 to 10 percent of cases and spontaneous abortions in 15 to 20 percent of pregnancies; during the second and third trimesters of pregnancy, excessively large babies can result, posing a risk to both mother and child.

Other complications

- Uncontrolled diabetes often leads to biochemical imbalances that can cause acute life-threatening events, such as diabetic coma. People with diabetes are more susceptible to many other illnesses and, once they acquire these illnesses, often have worse prognoses. For example, they are more likely to die with pneumonia or influenza than people who do not have diabetes

Preventive care practices for eyes, kidneys, and feet

- Detecting and treating diabetic eye disease with laser therapy can reduce the development of severe vision loss by an estimated 50 to 60 percent. Comprehensive foot care programs can reduce amputation rates by 45 to 85 percent. Detecting and treating early diabetic kidney disease by lowering blood pressure can reduce the decline in kidney function by 30 to 70 percent. Treatment with ACE inhibitors and angiotensin receptor blockers (ARBs) are more effective in reducing the decline in kidney function than other blood pressure lowering drugs.

Key Screenings

Recommended exams and screenings for the early detection of complications, some requiring specialists, are critical to reduce serious disabling conditions.

- Annual eye exams by an eye specialist (ophthalmologist) to screen for diabetic retinopathy, a leading cause of blindness.
- Urinalysis on a regular basis, at least 1-2 times per year to screen for protein. Protein in the urine is an early

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E-mail: jbenson@michleagueforhumansvs.org

sign of diabetic nephropathy, a leading cause of kidney failure.

- Sensation in the legs should be checked regularly using a tuning fork or a monofilament device. Diabetic neuropathy is a leading cause in diabetic lower extremity ulcers, which frequently lead to amputation of the feet or legs.
- Feet and lower legs should be checked at every visit for cuts, scrapes, blisters, or other lesions that could become infected.
- Regular screening for conditions that may contribute to heart disease, such as high blood pressure and high cholesterol.

Source: www.emedicinehealth.com.

Direct and Indirect Costs

The economic impacts of diabetes are extraordinary when considering the costs for medical services, lost work time, and disability payments to name a few. According to the American Diabetes Association, the estimated economic impact of the disease in 2007 was \$174 billion dollars and is comprised of the following components:

- Medical expenditures totaled \$116 billion in 2007: \$27 billion for diabetes care, \$58 billion for chronic diabetes-related complications, and \$31 billion for excess general medical costs. Indirect costs resulting from increased absenteeism, reduced productivity, disease-related unemployment disability, and loss of productive capacity due to early mortality totaled \$58 billion. This is an increase of \$42 billion (32%) since 2002, \$8 billion each year.

- In 2007, diabetes accounted for 15 million lost work days, 120 million work days with reduced performance, 6 million reduced productivity days for those not in the workforce, and an additional 107 million work days lost due to unemployment disability attributed to diabetes.
- Diabetes caused 445,000 cases of unemployment disability in 2007.
- The 2007 per capita annual costs of health care for people with diabetes is \$11,744 a year, of which \$6,649 (57%) is attributed directly to diabetes.
- One out of every five health care dollars is spent caring for someone with diagnosed diabetes, while one in ten health care dollars is attributed to diabetes. People with diagnosed diabetes, on average, have medical expenditures that are approximately 2.3 times higher than those without diabetes.

In summary, the percent of the population with diagnosed diabetes continues to rise dramatically: from 2.5 percent in 1980, to 4.2 percent in 2002, to 5.8 percent in 2007; they are estimated to rise to 12 percent by 2050 (Centers for Disease Control). Lifestyle changes and education are key to reducing the ever-increasing rate of incidence of diabetes, its complications, and its disabling conditions. "The biggest risk to diabetics is ignorance of the facts." from <http://www.diabetesthesilentkiller.com/index.shtml>

Michigan specific information, including a strategic plan from October 2003 and fact sheet with 2004 data, can be obtained from the Department of Community Health website www.michigan.gov/mdch under the Physical Health and Prevention heading.

Michigan Health Care Security Ballot Initiative

The Health Care for Michigan Ballot Committee is in the process of gathering signatures for the inclusion of a proposed constitutional amendment on the November 2008 ballot to direct the Legislature to pass laws to provide affordable healthcare to every Michigan resident. The ballot language follows:

The State Legislature shall pass laws to make sure that every Michigan resident has affordable and comprehensive health care coverage through a fair and cost effective

financing system. The legislature is required to pass a plan that, through public or private measures, controls health care costs and provides for medically necessary preventive, primary, acute and chronic health care needs.

While the Michigan Consumer Health Care Coalition has not taken a position on the initiative, discussions among the members resulted in the following themes of support and concern.

Support

- This initiative will start a needed debate.
- Guaranteed access for Michigan residents to affordable, comprehensive healthcare coverage is the right public policy
- We're going over a cliff with the current healthcare system.
- A staggering effort is needed to control costs in the face of multiple payers, and the legislature should be charged in our constitution with figuring this out.

Concerns and Issues

- A constitutional amendment is not to be taken lightly, nor reversed easily.
- Constitutional amendments do not guarantee desired outcomes. (Michigan does have a constitutional mandate "to maintain and support a system of free public elementary and secondary schools as defined by law." Article VIII Sec. 2. It even has a mandate regarding taxes for state expenses. "The legislature shall impose taxes sufficient with other resources to pay the expenses of state government.")
- The dollars in the system now (\$60 billion annually in Michigan) could conceivably bring \$6,000 to everyone for health care, but it could not possibly be redirected in a significant way away from its current beneficiaries, especially in the federal public programs; "earmarked"

spending includes Medicare, Medicaid, employer "self funded" health care benefits, underwritten employer group plans, and prescription drug spending.

- For state government to pick up the costs of covering the uninsured, it would be virtually impossible without raising taxes, and/or extensively cutting other state services. Government cannot enforce the guarantee that people can all continue their "private" coverage.
- Does not address how or who will be the provider of this new plan.
- It is not clear if the proposed amendment is intended to cover residents' health care needs from cradle to grave (Long Term Care needs of the aging population is a key emerging issue).
- Assumes bipartisan cooperation that does not currently exist and may not in the future.
- The initiative does not address potential future action at the federal level.

We want to hear from you—
suggestions for improvements and
topics, questions, even encouragement!

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Individual Market Reform Legislation—House Bills 5282 - 5285

A package of bills intended to "reform the individual health insurance market has been passed by the Michigan State House and is currently under review in the Senate. The Consumer Health Care Coalition submitted a letter to the Governor and members of the legislature expressing concern about these bills. The text of the letter follows:

Major issues for our coalition and its member organizations are the interrelated questions of health care costs and access. The high costs of health care determine access for the uninsured, the underinsured, and those threatened with the loss of coverage. The proposed Blue Cross Blue Shield of Michigan (BCBSM) package of bills (HBs 5282-5283), "Individual Health Benefit Plans Reform," relate to these central issues in critical ways.

— ACCESS —

Rational public health policy is not served by the expanded use of age, geography, and health status to "price" benefit packages. The current community rating system used by BCBSM provides the best protection for consumers across the board and spreads both the costs and the risk. Taken to its logical conclusion, the new approach will put individual applicants into a risk group of one.

We oppose the approach which denies or limits care on the basis of "initial (health) condition" of applicants. The proposals would even allow BCBSM—as the state's last-resort



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insurer—to increase its waiting period for new enrollees for coverage of a pre-diagnosed or pre-treated condition to 12 months from the current six months. Not only does such a waiting period affect public health, the costs of such a limitation are destined to emerge in other parts of the system.

— COSTS —

We believe it would be a grave error to eliminate Insurance Bureau review of BCBSM benefit packages and rates and the potential for consumer intervention in the rate-making process. This lack of oversight and regulation is guaranteed to lead to higher insurance and medical care costs.

At particular risk are Michigan’s older citizens who approach BCBSM for Medigap coverage.

Low-income seniors and others of low income have a right to protection in the process. If staffing of such regulation is the problem, the bureau should staff up and institute procedures to make the rate-setting process more timely. The costs of a streamlined system could be absorbed by the insurance industry.

Writing in allowable annual premium increases of 10 percent is a mistake—history bears out that inflation will quickly move to fill up the allowable increase. For Medigap enrollees with RX coverage, this means that \$200 a month in 2008 coverage becomes almost \$400 in 2013. Similarly, family coverage of \$400 a month could reach almost \$650 in five years.

We appreciate your strong consideration of our comments on the consumer impact of House Bills 5282-5283.

Members of the Michigan Consumer Health Care Coalition:

- American Association of University Women in Michigan ♦ Citizens for Better Care
- Community Choice Michigan ♦ International Union, United Auto Workers, Social Security Department
- League of Women Voters of Michigan ♦ Michigan Consumer Federation ♦ Michigan Jewish Conference
- Michigan League for Human Services ♦ Michigan Council for Maternal and Child Health
- Michigan Parkinson Foundation ♦ Michigan Primary Care Association ♦ MichUHCAN
- MPRO Michigan’s Quality Improvement Organization ♦ National Association of Social Workers, Michigan Chapter
- National Association of the Physically Handicapped, Michigan Chapter
- National Council on Alcoholism and Drug Dependence of Michigan ♦ Older Women’s League, Michigan Chapter
- Planned Parenthood Affiliates of Michigan ♦ Service Employees International Union ♦ Consumers-at-Large