

- People with type 2 diabetes **usually develop the disease after age 45**, but often are not aware they have diabetes until severe symptoms occur or they are treated for one of its serious complications.
- The risk for type 2 diabetes increases with age. Nearly **18.4%** of the United States population aged 65 and older has diabetes.
- Studies indicate that diabetes is generally under-reported on death certificates, particularly in the cases of older persons with multiple chronic conditions such as heart disease and hypertension. Because of this, the toll of diabetes is believed to be **much higher** than officially reported.

What Are the Other Types of Diabetes?

Gestational diabetes is a temporary form of insulin resistance that usually occurs halfway through a pregnancy as a result of excessive hormone production in the body, or the pancreas' inability to make the additional insulin that is needed during some pregnancies in women with no previous history of type 1 or type 2 diabetes. Gestational diabetes usually goes away after pregnancy, but women who have had gestational diabetes are at an increased risk for later developing type 2 diabetes.

Researchers have identified a small percentage of diabetes cases that result from specific genetic syndromes, surgery, chemicals, drugs, malnutrition, infections, viruses and other illnesses.

What Are the Complications of Diabetes?

With its complications, diabetes is the seventh leading cause of death (sixth-leading cause of death by disease) in the United States. Each year, at least 190,000 people die as a result of diabetes and its complications.

- **Blindness** due to diabetic retinopathy. Each year 12,000 to 24,000 people lose their sight because of diabetes. Diabetes is the leading cause of new blindness in people 20-74 years of age.
- **Kidney Disease** due to diabetic nephropathy. Ten to twenty-one percent of all people with diabetes develop kidney disease. Diabetic nephropathy is the most common cause of end-stage renal disease, a condition where the patient requires dialysis or a kidney transplant in order to live.
- **Heart Disease and Stroke.** People with diabetes are 2 to 4 times more likely to have heart disease (more than 77,000 deaths due to heart disease annually). Heart disease death rates are also 2 to 4 times as high as

MEN AND DIABETES

What Is Diabetes?

Diabetes is a disease that affects the body's ability to produce or respond to insulin, a hormone that allows blood glucose (blood sugar) to enter the cells of the body and be used for energy. Diabetes falls into two main categories: type 1, which usually occurs during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45.

How Does It Affect Men?

Approximately 7.5 million or 8.2% of all men in the United States have diabetes, however, more than one third of these do not know it. With its complications -- blindness, kidney failure, amputations, heart attack and stroke -- diabetes is the seventh-leading cause of death (sixth-leading cause of death by disease) in the United States. Diabetes can also cause impotence.

Impotence

Impotence is a sexual dysfunction characterized by the inability to have or keep an erection. In impotence caused by diabetes, the nerves that cause an erection may be damaged or, due to damage of blood vessels, the penile artery may be blocked.

- The **prevalence of impotence** in men with diabetes over the age of 50 has been reported to be as high as **50-60 percent**.
- **Impotence can have a significant psychological component.** Concern about sexual ability can often cause impotence even though there is no physiological abnormality. For example, the fear of a heart attack during sex can cause impotence, even though the fear is unfounded.
- **Certain medications can cause impotence** -- for example, some antihypertensive agents (drugs to help control high blood pressure) are known to cause impotence in some men.
- **How to help avoid impotence:**
 - Take control of your diabetes. Good blood glucose control can prevent the complications that lead to impotence.
 - Don't worry. Fear of becoming impotent can sometimes be the cause.
 - Avoid drinking excessive amounts of alcohol.

Studies show that drinking large amounts of alcohol can cause impotence.

-Don't smoke. Smoking causes blood vessels to constrict, or narrow, and this contributes to artery blockages that can lead to impotence.

Other Diabetic Complications

- In younger-onset cases (usually diabetes before 30 years of age), **men develop retinopathy more rapidly** than women. Retinopathy is a progressive vision disorder that can lead to blindness. Diabetes is the leading cause of new cases of blindness in adults 20-74 years of age.
- **Intermittent claudication** (the principal symptom of peripheral vascular disease, often manifested by pain in the thigh, calf, or buttocks during exercise) is associated with a **two- to three-fold increased risk** of coronary heart disease, stroke, or cardiac failure in men with diabetes.
- **Amputation rates are 1.4-2.7 times higher** in men than women with diabetes.

What Is Needed?

In ideal circumstances, men with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- **Patient education is critical.** People with diabetes can reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and receive regular checkups from their health care team.
- People with diabetes, with the help of their health care providers, should **set goals for better control of blood glucose levels, as close to the normal range as is possible for them.**
- **Health care team education is vital.** Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.

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WOMEN AND DIABETES

What Is Diabetes?

Diabetes is a disease that affects the body's ability to produce or respond to insulin, a hormone that allows blood glucose (blood sugar) to enter the cells of the body and be used for energy. Diabetes falls into two main categories: type 1, which usually occurs during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45.

How Does It Affect Women?

Approximately 8.1 million or 8.2% of all women in the United States have diabetes, however, about a third of them do not know it. With its complications -- blindness, kidney disease, amputations, heart attack and stroke -- diabetes is the seventh-leading cause of death (sixth-leading cause of death by disease) in the United States. Women with diabetes have an increased risk of vaginal infections and complications during pregnancy. For women who do not currently have diabetes, pregnancy brings the risk of gestational diabetes. Gestational diabetes develops in 2% to 5% of all pregnancies but disappears when a pregnancy is over. Women who have had gestational diabetes are at an increased risk for developing type 2 diabetes later in life.

Women and Diabetic Complications

- The risk of **diabetic ketoacidosis (DKA)** is **50 percent higher among women** than men. DKA, often called diabetic coma, is a condition brought on by poorly controlled diabetes and marked by high blood glucose levels and ketones (by-products of fat metabolism in the blood). Although it is accompanied by high blood glucose levels, DKA is not caused by high blood sugar; it is caused by lack of insulin. Before insulin therapy was available, DKA was the predominant cause of death from diabetes.
- Women with diabetes are **7.6 times as likely** to suffer **peripheral vascular disease (PVD)** than non-diabetic women. PVD is a disorder resulting in reduced flow of blood and oxygen to tissues in the feet and legs. The principal symptom of PVD is intermittent claudication (pain in the thigh, calf, or buttocks during exercise).
- Intermittent claudication is associated with a **three- to four-fold increased risk of coronary heart disease, stroke, or cardiac failure** in women with diabetes.

Pregnancy and Diabetes

- Pregnancy demands more insulin in the body than normal because of the increased production of hormones that can lead to insulin resistance. For women with diabetes,

excellent blood glucose control before conception and then throughout pregnancy is vital to the health of the baby and the mother.

- The rate of **major congenital malformations** in babies born to women with preexisting diabetes varies from 0 to 5 percent among women who receive preconception care to 10% among women who do not receive preconception care.
- Between **3 to 5 percent of pregnancies among women with diabetes** result in death of the newborn within 28 days. This compares to a rate of 1.5% for women who do not have diabetes.
- **Macrosomia**, large birth weight, occurs **2 to 3 times more often** in diabetic pregnancies as in the general population. Because of the increased risk of fetal macrosomia, women with diabetes are **3 to 4 times more likely to have a cesarean section**.
- Women with diabetes are up to **5 times as likely** to develop **toxemia** (a disorder of unknown cause usually marked by hypertension, protein in the urine, edema, headache, and visual disturbances) and **hydramnios** (excessive amounts of amniotic fluid) as women without diabetes.
- Approximately **2 to 5 percent of all non-diabetic pregnant women** develop gestational diabetes, a form of diabetes that occurs only during pregnancy.
- Approximately **40 percent of women with gestational diabetes who are obese before pregnancy develop type 2 diabetes within 4 years**. The chance of developing diabetes during this same period is lower if the women are less overweight.

Diabetes and Birth Control

- Birth control pills can affect blood glucose levels and diabetes control.
- The intrauterine device (IUD) may lead to infections. Because women with diabetes are already at a higher risk of infection, most should not use the IUD.

What Is Needed?

In ideal circumstances, women with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- **Patient education is critical.** People with diabetes, with the help of their health care providers, can reduce their risk for complications if they are educated about their

disease, learn and practice the skills necessary to better control their blood glucose levels as close as to the normal range as is possible for them, and receive regular checkups from their health care team.

- **Health care team education is vital.** Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring the complex facets of this systemic disease serves the best interests of the patient.
- **Non-diabetic pregnant women** should be checked for gestational diabetes between the 24th and 28th weeks of pregnancy unless they are in the low risk category. This category includes women who are less than 25 years of age, have no family history of diabetes, have a normal body weight and are not a member of an ethnic/racial group with high prevalence of diabetes (i.e., Latina, African American, Native American, and Asian.)

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DIABETES IN YOUTH

What Is Diabetes?

There are 15.7 million people (5.9% of the population) in the United States who have diabetes. Diabetes is actually a general term for a number of separate but related disorders. Type 1 diabetes results from the body's failure to produce insulin -- the hormone that "unlocks" the cells of the body, allowing glucose to enter and fuel them. Type 1 diabetes usually begins during childhood.

- Diabetes is a chronic disease that has **no cure**. It is the seventh-leading cause of death (**sixth-leading cause of death by disease**) in the United States; this year, **more than 190,000 will die** from diabetes and its related complications.
- There are an estimated **500,000 to 1 million** people with type 1 diabetes in the United States today.

Type 1 Diabetes in Youth

- The risk of developing type 1 diabetes is higher than virtually all other severe chronic diseases of childhood.

- Peak incidence occurs during puberty, around 10 to 12 years of age in girls and 12 to 14 years of age in boys.
- Type 1 diabetes tends to run in families. Brothers and sisters of children with type 1 diabetes have about a 10% chance of developing the disease by age 50.
- The identical twin of a person with type 1 diabetes has a 25-50% higher chance of developing type 1 diabetes than a child in an unaffected family.
- There is a higher incidence of type 1 diabetes in whites than in other racial groups.
- The symptoms of type 1 diabetes can mimic the flu in children.

Type 2 Diabetes in Youth

Type 2 diabetes is a metabolic disorder resulting from the body's inability to make enough or properly use insulin. A growing number of children and adolescents are developing type 2 diabetes – a form of diabetes that is generally diagnosed among adults. Type 2 diabetes commonly occurs in children who are:

- Overweight: as many as 80% may be overweight at the time of diagnosis.
- Older than 10 years of age and are in middle to late puberty; but cases of type 2 diabetes in children as young as four years old have been documented.
- Have a family history of type 2 diabetes.
- Are a member of a certain racial/ethnic group (African Americans, Latino and American Indian descent).
- As the U.S. population becomes increasingly overweight, researchers expect type 2 diabetes to appear more frequently in younger, pre-pubescent children.
- Since type 2 diabetes in children and adolescents is a relatively new phenomenon, accurate statistics regarding the number of cases have not been generated. However, recent reports indicate that 8-45% of children with newly diagnosed diabetes have type 2 diabetes.

What Are the Complications of Diabetes?

The complications of diabetes include heart disease, stroke, vision loss/blindness, amputation and kidney disease.

- **Cardiovascular disease** caused by atherosclerosis (excess buildup on the inner wall of a large blood vessel, restricting the flow of blood) accounts for approximately

25 percent of deaths among patients with onset of diabetes before 20 years of age.

- **Blindness** due to diabetic retinopathy. Diabetic retinopathy is a more important cause of **visual impairment** in younger-onset people than in older-onset people. Males with younger-onset diabetes develop retinopathy more rapidly than females with younger-onset diabetes.
- **Kidney disease** due to diabetic nephropathy. Ten to twenty-one percent of all people with diabetes develop kidney disease. Diabetic nephropathy is the most common cause of end-stage renal disease (ESRD), a condition where the patient requires dialysis or a kidney transplant in order to live. In people with type 1 diabetes who develop proteinuria (protein in the urine), **ESRD or death usually follows** after about 5-10 years.
- **Diabetic ketoacidosis (DKA)** is one of the most serious outcomes of poorly controlled diabetes, and primarily occurs in type 1 individuals. DKA is marked by high blood glucose levels along with ketones in the urine. DKA is responsible for about **10 percent of diabetes-related deaths** in individuals with diabetes under age 45.

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DIABETES AND SENIORS

What Is Diabetes?

Diabetes is a disease that affects the body's ability to produce or respond to insulin, a hormone that allows blood glucose (blood sugar) to enter the cells of the body and be used for energy. Diabetes falls into two main categories: type 1, which usually begins during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45. Diabetes is a chronic disease that has no cure.

- Diabetes is the seventh-leading cause of death (sixth-leading cause of death by disease) in the United States; this year, more than 190,000 will die from the disease and its related complications.
- Studies indicate that diabetes is generally under-reported on death certificates, particularly in the cases of older persons with multiple chronic conditions such as heart disease and hypertension. Because of this, the toll of diabetes is believed to be much higher than officially reported.

How Are Seniors Affected?

- Diabetes prevalence increases with age.
- Approximately half of all diabetes cases occur in people older than 55 years of age.
- The risk for type 2 diabetes increases with age. Nearly 18.4% of the United States population or 6.3 million people age 65 and older have diabetes.
- People with diabetes represent 18% of all nursing home residents and tend to be younger than non-diabetic residents.

What Are the Complications of Diabetes?

The complications of diabetes include heart disease, stroke, vision loss/blindness, amputations and kidney disease.

- Evidence of coronary heart disease is present in 7.5 to 20 percent of people with diabetes over age 45 and the prevalence increases with age.
- Diabetes is the leading cause of new cases of blindness in adults 20 to 74 years of age.
- People with diabetes who are over 65 years of age are twice as likely to be hospitalized for kidney infections compared with those without diabetes.

How Do You Prevent or Delay Diabetes?

It may be possible to prevent or delay the onset of type 2 diabetes by reducing lifestyle risk factors through weight loss and increased physical activity. A study sponsored by the National Institutes of Health (NIH), and partially funded by the American Diabetes Association, called the "Diabetes Prevention Program" is underway now to test this hypothesis.

What Is Needed for Seniors with Diabetes?

In ideal circumstances, people with diabetes will have their disease under good control and have access to quality diabetes care including frequent monitoring by a health care team knowledgeable in the management of diabetes.

- Access to quality treatment is important. People with diabetes need affordable health care. As of July 1, 1998, Medicare will reimburse all patients with diabetes, regardless of insulin treatment, for the cost of blood glucose monitors and testing strips and non-hospital based diabetes education as provided by a certified provider.
- Health care team education is vital. Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care

professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.

- Patient education is critical. People with diabetes can reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and receive regular checkups from their health care team.
- People with diabetes, with the help of their health care providers, should set goals for better control of blood glucose levels as close to the normal range as is possible for them.

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DIABETES AND KIDNEY DISEASE

What Kidney Problems Can Be Caused By Diabetes?

Kidney disease, or nephropathy, is a frequent complication of diabetes, both type 1 and type 2, and often ends in kidney failure, or end-stage renal disease.

- Ten to twenty-one percent of all people with diabetes have nephropathy.
- The single most common cause of end-stage renal disease is diabetic nephropathy. Diabetic nephropathy is a progressive disease that takes several years to develop. Many tiny blood vessels in the kidney act as filters to remove wastes, chemicals, and excess water from the blood. In diabetic nephropathy, these blood vessels are damaged, become leaky, and protein eventually spills into the urine (proteinuria). Eventually, the damaged filters are destroyed, putting more stress on the remaining filters and eventually causing them to become damaged. When the entire filtration system breaks down, the kidneys fail to function, and this is called end-stage renal disease (ESRD). ESRD is a condition where the patient requires dialysis or a kidney transplant in order to live.
- Approximately 40% of new cases of ESRD are attributed to diabetes.
- ESRD incidence attributed to diabetes is increasing more rapidly than ESRD due to other causes. From 1988 to 1991, diabetes accounted for 33.8% of new ESRD cases,

up from 23% of new cases in 1982.

- In the United States, the incidence of reported ESRD in people with diabetes is more than 4 times as high in African Americans, 4 to 6 times as high in Mexican Americans and 6 times as high in Native Americans than in the general population of diabetes patients.
- The risk of ESRD is 12 times as high in people with type 1 diabetes as in those with type 2 diabetes.
- In patients with type 1 diabetes who develop persistent proteinuria, ESRD or death usually follows after about 5-10 years.

Can Diabetes-Related Kidney Problems Be Prevented?

The key to preventing diabetes-related kidney problems begins with good control of blood glucose levels, control of blood pressure and regular screening by a health care professional.

- The Diabetes Control and Complications Trial (DCCT), a 10-year study which ended in June 1993, proved among type 1 patients that improved blood glucose control can prevent the onset and delay the progression of diabetic nephropathy. Therapy that keeps blood sugar levels as close to normal as possible reduced damage to the kidneys by 35-56%. (New England Journal of Medicine, September 30, 1993)
- Because a person with diabetes can develop nephropathy and not know it, a regular visit with a health care professional is essential. Regular visits with a health care professional can detect proteinuria early and possibly prevent ESRD.

Research has shown the efficacy of a class of antihypertensive drugs, ACE-inhibitors, in reducing the progression of diabetic kidney disease.

What Is Needed?

In ideal circumstances, patients with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- Health care team education is vital. Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.
- Patient education is critical. People with diabetes can

reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and receive regular checkups from their health care team.

- People with diabetes, with the help of their health care providers, should set goals for control of blood glucose levels, as close to the normal range as is possible for them.

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DIABETES AND EYE COMPLICATIONS

What Vision Problems Can Be Caused By Diabetes?

Vision impairment is a frequent complication of diabetes, both type 1 and type 2.

- The major cause of blindness in people with diabetes is diabetic retinopathy. Diabetic retinopathy is a term used for all the abnormalities of the small blood vessels of the retina caused by diabetes, such as weakening of blood vessel walls or leakage from blood vessels. Retinopathy progresses from non-proliferative or background retinopathy to proliferative retinopathy.
- Non-proliferative retinopathy is a common, usually mild form that generally does not interfere with vision. Abnormalities are limited to the retina and usually will only interfere with vision if it involves the macula, the area on the retina that gives us the sharpest vision. If left untreated it can progress to proliferative retinopathy.
- Proliferative retinopathy, the more serious form, occurs when new blood vessels branch out or proliferate in and around the retina. It can cause bleeding into the fluid-filled center of the eye or swelling of the retina, and lead to blindness.
- Nearly all patients who have type 1 diabetes for about 20 years will have evidence of diabetic retinopathy.
- Up to 21% of people with type 2 diabetes have retinopathy when they are first diagnosed with diabetes, and most will eventually develop some degree of retinopathy.
- In the United States, diabetes is responsible for 8% of legal blindness, making it the leading cause of new cases of blindness in adults 20-74 years of age. Each year, from 12,000 to 24,000 people lose their sight because of diabetes.

- Glaucoma, cataract, and corneal disease are more common in people with diabetes and contribute to the high rate of blindness.

Can Diabetes-Related Vision Problems Be Prevented?

The key to preventing diabetes-related eye problems is good control of blood glucose levels, a healthy diet and good eye care.

- The Diabetes Control and Complications Trial (DCCT), a 10-year study which ended in June 1993, proved among type 1 patients that improved blood glucose control prevents or delays diabetic retinopathy. Therapy that keeps blood sugar levels as close to normal as possible reduced damage to the eyes by 76%. (New England Journal of Medicine, September 30, 1993)
- Because a person with diabetes can have retinopathy and not know it, a regular checkup with an eye care professional is essential. Regular checkups with an eye doctor can detect retinopathy early and possibly prevent blindness.

What Should Diabetes Patients Do?

- Patients with type 1 diabetes should see their eye care professional annually for a dilated eye examination beginning five years after the onset of diabetes. Women with type 1 who are pregnant should have a comprehensive eye examination in the first trimester and close follow-up throughout pregnancy.
- Patients with type 2 diabetes should see their eye care professional for a dilated eye examination shortly after diagnosis of diabetes and annually thereafter.

What Is Needed?

In ideal circumstances, patients with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- Health care team education is vital. Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.
- Patient education is critical. People with diabetes can reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and

receive regular checkups from their health care team.

- Reimbursement for eye examinations and diabetes education is essential. To reduce the cases of blindness due to diabetes, early detection is important. Patient education, health care team education, and affordable eye care can make this possible.

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A MAJOR ADVANCE IN THE TREATMENT OF DIABETES

TYPE 1 DIABETES: BACKGROUND INFORMATION

Type 1 diabetes is an “autoimmune” disease in which the immune system attacks and destroys the insulin-producing islet cells of the pancreas.

- ~ 1 million individuals with type 1 diabetes in the United States; ~ 30,000 new cases diagnosed each year
- One of the most common chronic disorders in children; onset in early childhood and teens; costly, life-long disease
- The leading cause of kidney failure, blindness in adults, and amputations

CURRENT THERAPIES ARE INSULIN INJECTIONS AND PANCREAS TRANSPLANTS

The most common treatment for diabetes is insulin.

- Requires multiple daily injections and careful attention to diet and activity; blood sugar levels must be measured several times a day by finger pricks
- Insulin injections are essential for survival, but do not prevent severe complications of diabetes such as blindness, kidney failure, stroke, and amputations
- Extremely difficult for patients, especially children, to maintain “tight” control of their blood sugar

Transplantation: ~250 pancreas transplants and 1000 combined kidney-pancreas transplants are performed each year in US.

- Difficult surgical procedure with high rate of complications. More than 65% of pancreas recipients reject their transplant within 3 years; rejections are also common with pancreas-kidney transplants
- Shortage of donor organs severely limits the number of diabetics who can receive a transplant; >20% of patients awaiting a pancreas transplant die while on the waiting list
- Transplant recipients require a lifelong regimen of immunosuppressive drugs that increases risks of infections and malignancies

Pancreatic islet cells transplants are being performed on an investigational basis.

- Pancreatic islet cells are isolated from a donor pancreas and injected into one of the blood vessels supplying the liver, where they lodge and produce insulin; compared to whole pancreas transplantation, this is a minimally invasive procedure
- However, long-term success of this procedure has been disappointing; of ~ 300 islet transplants performed in the last 10 years, more than 90% of recipients still require insulin injections
- Islet recipients also require a lifelong regimen of immunosuppressive drugs, including steroids, to prevent rejection. These drugs, especially steroids, appear to damage newly transplanted islet cells

RECENT ADVANCES IN ISLET CELL TRANSPLANTATION – THE “EDMONTON PROTOCOL”

- An islet transplant study was recently conducted in Edmonton at the University of Alberta in a small number of patients with severe type 1 diabetes; not funded by NIH; to be published in the New England Journal of Medicine (July 27, 2000; made available on NEJM website June 6, 2000 due to medical urgency; <http://www.nejm.org/content/shapiro/1.asp>)
- 4-15 months after transplantation, none of the patients treated under the “Edmonton protocol” require insulin injections

What are the differences between the Edmonton protocol and earlier studies?

- A new regimen of immunosuppressive drugs that is designed to eliminate the need for steroids
- Uses an increased number of islet cells that are prepared to maximize viability and transplanted rapidly

FOLLOW-UP & EXPANSION OF THE EDMONTON PROTOCOL BY THE IMMUNE TOLERANCE NETWORK

An international consortium of NIH- and JDF-funded investigators, designated the *Immune Tolerance Network*, will conduct a new study to confirm the Edmonton results in a larger number of patients transplanted by clinical research teams at multiple sites.

- The expansion and validation of the Edmonton Protocol (see JDF briefing materials for details on this NIH/JDF funded clinical trial) will provide a platform for future trials of new drugs and approaches that may eventually allow islet transplantation without immunosuppression
- This is the long-range goal of the Immune Tolerance Network – to test new therapies being developed by NIH-funded researchers and the biotechnology/pharmaceutical industry that will: a) eliminate the need for chronic immunosuppression following transplantation; and b) treat or prevent autoimmune and allergic diseases, by selectively modulating immune responses to “foreign” or “self” antigens and allergens.

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DIABETES AMONG LATINOS

What Is Diabetes?

Diabetes is a disease that affects the body's ability to produce or respond to insulin, a hormone that allows blood glucose (blood sugar) to enter the cells of the body and be used for energy. Diabetes falls into two main categories: type 1, which usually occurs during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45. Diabetes is a chronic disease that **has no cure**.

How Does It Affect Latinos?

Prevalence

- The prevalence of type 2 diabetes is **2 times higher** in Latinos than non-Latinos whites.
- 1.2 million or 10.6% of all Mexican Americans have diabetes.
- Approximately **24%** of Mexican Americans in the United States and **26%** of Puerto Ricans between the ages of 45-74 have diabetes.
- Nearly **16%** of Cuban Americans in the United States between the ages of 45-74 have diabetes.

Latinos and Diabetic Complications

- **Diabetic retinopathy** is a term used for all abnormalities of the small blood vessels of the retina caused by diabetes, such as weakening of blood vessel walls or leakage from blood vessels. The prevalence of diabetic retinopathy in Mexican Americans is **32-40%**.
- Ten to twenty-one percent of all people with diabetes develop **kidney disease**. In 1995, 27,900 people initiated treatment for **end stage renal disease (kidney failure)** because of diabetes. Among people with diabetes, Mexican Americans are **4.5 to 6.6 times more likely** to suffer from end stage renal disease.

What Is Needed?

In ideal circumstances, Latinos with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- **Patient education is critical.** People with diabetes can

reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and receive regular checkups from their health care team.

- People with diabetes, with the help of their health care providers, should **set goals for better control of blood glucose levels, as close to the normal range as is possible for them.**
- **Health care team education is vital.** Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.

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DIABETES AMONG NATIVE AMERICANS

What Is Diabetes?

Diabetes is a disease that affects the body's ability to produce or respond to insulin, a hormone that allows blood glucose (blood sugar) to enter the cells of the body and be used for energy. Diabetes falls into two main categories: type 1, which usually occurs during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45.

Diabetes is a chronic disease that has no cure.

How Does It Affect Native Americans?

Prevalence

- Prevalence of type 2 diabetes among Native Americans in the United States is 12.2% for those over 19 years of age.
- One tribe in Arizona, has the **highest rate of diabetes in the world.** About 50% of the adults between the ages of 30 and 64 have diabetes.
- Today, diabetes has reached **epidemic proportions** among Native Americans. Complications from diabetes are major causes of death and health problems in most Native American populations.

Native Americans and Diabetic Complications

The serious complications of diabetes are **increasing** in frequency among Native Americans. Of major concern are increasing rates of kidney failure, amputations and blindness.

- Ten to twenty-one percent of all people with diabetes develop **kidney disease**. In 1995, 27,900 people initiated treatment for **end stage renal disease (kidney failure)** because of diabetes. Among people with diabetes, the rate of diabetic end stage renal disease is **six times higher** among Native Americans.
- Diabetes is the most frequent cause of non-traumatic lower limb **amputations**. The risk of a leg amputation is 15 to 40 times greater for a person with diabetes. Each year 54,000 people lose their foot or leg to diabetes. Amputation rates among Native Americans are 3-4 times higher than the general population.
- Diabetic retinopathy is a term used for all abnormalities of the small blood vessels of the retina caused by diabetes, such as **weakening of blood vessel walls or leakage from blood vessels**. Diabetic retinopathy occurs in 18% of Pima Indians and 24.4% of Oklahoma Indians.

What Is Needed?

In ideal circumstances, Native Americans with diabetes will have their disease under good control and be monitored frequently by a health care team knowledgeable in the care of diabetes.

- **Patient education is critical.** People with diabetes can reduce their risk for complications if they are educated about their disease, learn and practice the skills necessary to better control their blood glucose levels, and receive regular checkups from their health care team.
- People with diabetes, with the help of their health care providers, should **set goals for better control of blood glucose levels, as close to the normal range as is possible for them.**
- **Health care team education is vital.** Because people with diabetes have a multi-system chronic disease, they are best monitored and managed by highly skilled health care professionals trained with the latest information on diabetes to help ensure early detection and appropriate treatment of the serious complications of the disease. A team approach to treating and monitoring this disease serves the best interests of the patient.

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FAX TRANSMISSION

U.S. Department of Health and Human Services
Office of the Secretary

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TO: Deborah _____

FAX: _____ PHONE: _____

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HHS FACT SHEET

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

April 14, 2000

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HHS STRATEGIES FOR IMPROVING MINORITY HEALTH

Overview: *Life expectancy and overall health has improved in recent years for a large number of Americans, thanks to an increased focus on preventive medicine and dynamic new advances in medical technology. However, not all Americans are benefiting equally. For too many racial and ethnic minorities in our country, good health is elusive, since appropriate health care is often associated with an individual's economic status, race and gender. While Americans as a group are healthier and living longer, the nation's health status will never be as good as it can be as long as there are segments of the population with poor health status.*

The Clinton Administration has developed and implemented a number of strategies to improve the health of minority populations and help close these unacceptable health gaps. These strategies include a coordinated effort to eliminate racial and ethnic health gaps in six areas by the year 2010, enhanced resources for fighting HIV/AIDS in racial and ethnic minority communities, and the formation of a number of special work groups to review health status, determine research needs, and develop strategies that help improve minority health.

The elimination of health disparities will require a national effort - public and private sector, individuals, and communities. A better understanding of the relationships between health status and different racial and ethnic minority backgrounds will also require working more closely with communities to identify culturally-competent implementation strategies.

In September, Surgeon General David Satcher announced that the Centers for Disease Control and Prevention (CDC) awarded \$9.3 million to community coalitions in 18 states to help address racial and ethnic disparities in six key areas of health: infant mortality, diabetes, cardiovascular disease, cancer screening and management, HIV/AIDS and childhood and adult immunization. A total of 32 community coalitions received funding, and will spend the first year planning and developing activities to reduce the level of disparity in one or more of the priority areas. The following year, all of these organizations will compete for funding to implement these plans, utilizing clearly defined interventions in a geographically defined minority population.

In February 2000, as part of the departmental budget request, Secretary Shalala called for the establishment of a new Coordinating Center for Research on Health Disparities at the National Institutes of Health (NIH) for research among its institutes and centers that addresses racial and ethnic health disparities, and almost \$5 billion in funding for programs throughout HHS to improve minority health.

Highlights of the FY2001 Budget Request

Secretary Shalala recently unveiled HHS' budget request for fiscal year 2001, which includes \$4.6 billion in funding of activities that directly target improving the health of minorities, a net increase of \$375 million. Included is a request for \$20 million to establish a new Coordination Center for research on minority health at the NIH. The center would be in the Office of the NIH Director's Office of Research on Minority Health, and would help facilitate the development of an NIH-wide

Strategic Plan for Research on Health Disparities that would bring together each institute, center and programmatic unit of NIH in a collaboration to better understand the causes of health disparities.

Other highlights:

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- **Racial disparities.** A total of \$35 million is sought to support community-based research and demonstration projects that focus on eliminating health disparities among racial and ethnic minority populations. This would continue the work begun by President Clinton, Secretary Shalala and Surgeon General David Satcher two years ago to eliminate racial and ethnic health disparities in six areas by 2010: infant mortality, diabetes, cardiovascular disease, cancer screening and management, HIV/AIDS infection rates and adult and childhood immunization.
 - **Asthma Initiative.** For fiscal years 2001 and 2002, HHS is proposing to spend \$50 million to fund demonstration grants to states to test innovative asthma management techniques for children covered by Medicaid. These grants will be awarded on a competitive basis to selected state Medicaid programs to test and evaluate innovative approaches to identifying and treating pediatric asthma. The overall goal is to reduce emergency room visits and hospital stays and to improve quality of life for children with asthma and their families, many of whom are minorities.
 - **Improving Care for Native Americans.** HHS has requested \$3.1 billion for the Indian Health Service (IHS) in fiscal year 2001. This is an increase of \$229 million and is the largest request for IHS in more than two decades. Included in this budget request are an estimated \$405 million in Medicare, Medicaid and private health insurance collections to treat Native American populations. Tribes will control approximately 44 percent of the IHS budget proposed for fiscal year 2001. Funding is also provided to urban health grantees operating in 41 cities with large Native American populations.

Health Disparities Initiative. The department is two years into its signature effort to address minority health through the President's plan to eliminate racial and ethnic disparities in six key areas of health by the year 2010: infant mortality, diabetes, cardiovascular disease, cancer screening and management, HIV/AIDS, and childhood and adult immunizations.

Also, CDC has launched the Racial and Ethnic Approaches to Community Health (REACH 2010) demonstration project which awarded approximately \$9.3 million to community coalitions to help address racial and ethnic health disparities in the U.S. A total of 32 community coalitions have received REACH 2010 funding.

The Assistant Secretary for Health/Surgeon General and the Assistant Secretary for Planning and Evaluation are co-directing efforts in this area, including reviewing the status of the department's goals to eliminate health disparities, consulting with minority communities and the scientific and research communities, and reviewing and making recommendations about the department's resources and programs to attack racial and ethnic health disparities.

HHS has taken several steps to advance the racial and ethnic health disparities initiative, including:

- Publicized in March 2000 the first state-by-state look at risks for chronic diseases and injury for the five major racial and ethnic groups, which identifies wide disparities, even among members of the same racial and ethnic group living in different states;
- Collaborated with Grantmakers In Health last year on a national leadership conference to generate ideas and identify action steps for the racial and ethnic health disparities initiative;
- Developed an informational World Wide Web site for the Initiative to be used by interested

media and communities [<http://www.raceandhealth.hhs.gov>];

- Organized internal workgroups in each of the six areas that are looking at HHS' existing programs and making recommendations;
- Solicited public input about the Racial and Ethnic Disparities Initiative from a series of regional meetings regarding Healthy People 2010, a set of overarching disease prevention and health promotion goals being pursued by the department;
- and reviewed departmental data collection systems and made recommendations on how to improve data collection for racial and ethnic minorities.

Already, HHS has made notable progress in the following six health areas that are goals of the Initiative to Eliminate Racial and Ethnic Disparities in Health:

- **Diabetes** . The prevalence of diabetes in African-Americans is approximately 70 percent higher than whites and the prevalence in Hispanics is nearly double that of whites.

In 1998, the Indian Health Service (IHS) awarded 286 grants to Indian communities for programs focused on primary prevention of diabetes and promoting healthy lifestyle choices, including substance abuse prevention and treatment and mental health services. The programs will reach more than 100,000 American Indians and Alaska Natives suffering with diabetes as well as another 30,000-50,000 who are at risk or have undiagnosed cases. Comparing the 1994-96 Indian adjusted death rates with the overall U.S. population, the American Indian and Alaska Native population has a diabetes death rate that is 3.5 times greater than the overall population.

In addition, HRSA launched an intensive effort to help its community health centers prevent, diagnose and treat diabetes. The centers are the health care provider of choice for 10 million people, 65 percent of whom are racial and ethnic minorities.

Also, the Health Care Financing Administration (HCFA) announced in November that the Medicare program would be taking steps to ensure that all patients with renal failure, regardless of race or ethnicity, are being evaluated for transplantation. The purpose is to ensure equal opportunity for transplantation as part of the patient's long-term care plan. Diabetes complications like renal failure and lower extremities amputations are more pronounced in some minority populations.

CDC has awarded \$4.6 million in REACH grants for diabetes to entities in Charlotte, N.C., Cherokee, N.C., Chicago, Los Angeles, Detroit, Albuquerque, N.M., Charleston, S.C., Lower Rio Grande, Tex., Seattle, Lawrence, Mass., New York, N.Y., Lowell, Mass., Nashville, Tenn. and Oklahoma City, Okla.

- **HIV/AIDS** . While racial and ethnic groups account only for about 25 percent of the U.S. population, they account for more than 50 percent of all AIDS cases. While overall AIDS deaths are down dramatically, AIDS remains the leading killer of African-Americans age 25-44.

In response to the severe and ongoing problem of HIV/AIDS in racial and ethnic minority communities, HHS joined President Clinton and the Congressional Black Caucus in announcing a special package of initiatives on October 28, 1998. The comprehensive new initiative invested an unprecedented \$156 million in fiscal year 1999 to improve the nation's effectiveness in preventing and treating HIV/AIDS in African-American, Hispanic and other minority communities. This initiative is addressing physical and mental health needs as well as

issues related to substance abuse prevention and treatment.

On June 16, 1999, the Administration announced that Detroit, Philadelphia and Miami would be the first of 11 U.S. metropolitan areas to receive special technical assistance from federal Crisis Response Teams to help combat the spread of HIV/AIDS among racial and ethnic minority populations. The Crisis Response Teams will meet with local officials, public health personnel and community-based organizations and help them develop targeted strategies to curb the rapid spread of HIV/AIDS among minority populations in their communities.

Other components of the HIV/AIDS initiative for communities of color include:

- Funding for community-based organizations to provide new services, technical assistance and faith-based HIV prevention programs will be made available through CDC and SAMHSA;
- Supplemental funding under HRSA's Ryan White CARE Act is expanding service for some of the hardest hit minority communities and establishing AIDS Education and Training Centers at Historically Black Colleges and Universities to provide ongoing AIDS education to health care providers serving African-American communities;
- Through SAMHSA, HHS is providing funding for comprehensive mental health and substance abuse prevention and treatment programs for African-Americans and Hispanics with HIV/AIDS or at-risk for it; for community-based outreach to minority populations at risk for HIV; and for expanding HIV/AIDS and substance abuse prevention and treatment options for minority populations; and
- Resources for increasing the number of African-American principal investigators conducting HIV/AIDS research, and broadened research on HIV/AIDS and minorities, including an increased emphasis on behavioral research linking substance abuse and HIV infection rates in African-Americans are being made available through NIH.

The department received \$251 million from Congress in fiscal year 2000 to continue these expanded activities to combat HIV/AIDS in minority communities. An \$11 million grant program will also begin in May 2000 to support four five-year demonstration projects and one evaluation center to provide innovative health care and support services for people with HIV/AIDS living in the U.S.-Mexico border region. The grants will go to organizations in the border states of Arizona, California, New Mexico and Texas.

CDC has awarded \$12.6 million in REACH grants for HIV/AIDS to entities in Dorchester, Mass., Lower Rio Grande, Tex. and Miami.

- **Infant Mortality.** Mortality from Sudden Infant Death Syndrome (SIDS) continued to decline, and more Americans learned the importance of placing infants on their backs to sleep to prevent SIDS. Timely prenatal care also reached record levels in 1998 as an estimated 82.8 percent of women received care in their first trimester of pregnancy. The teen birth rate, associated with infant mortality and low birth weight, also fell two percent in 1998, continuing a seven-year trend. The birth rate for teenagers 15-17 years dropped five percent for 1998 to a record low of 30.4 per 1,000. From 1991-98, birth rates for non-Hispanic white and black teens 15-19 years dropped steeply; 19 percent and 26 percent, respectively.

Yet, there was no change in the preliminary infant mortality rate in 1998; the overall infant mortality rate was 7.2 infant deaths per 1,000 live births, the same as the record low reported in 1997. It is the first time there has been no improvement in this measure in nearly four decades, and the rate for African-American infants is still more than twice the rate for white and Hispanic infants (13.7 deaths per 1,000 births vs. 6 deaths per 1,000).

As HHS continues its efforts to reduce infant mortality and increase prenatal care through HRSA programs, the National Institute of Child Health and Human Development (NICHD) has also broadened its efforts to reduce SIDS. As part of the "Back To Sleep" campaign that encourages parents and caregivers to place children to sleep to prevent SIDS, NICHD distributed packages of "Back To Sleep" educational materials to all licensed daycare centers in the U.S., including many centers that serve African-American and Hispanic communities.

In conjunction with "SIDS Awareness Month" in October 1999, Secretary Shalala and Mrs. Tipper Gore announced a new initiative to develop and implement a community-based approach to eliminate the disparity in SIDS rates impacting African-American babies. The new campaign will be led by NICHD and will be carried out by a partnership with the National Black Child Development Institute, HRSA, the American Academy of Pediatrics, the SIDS Alliance and the Association of SIDS and Infant Mortality Programs.

CDC awarded \$1.3 million in REACH grants for infant mortality to entities in Salt Lake City, Tallahassee, Fla., Flint, Mich., Lower Rio Grande, Tex., St. Paul, Minn. and San Francisco.

- **Immunizations** . Immunization rates for the complete series of childhood immunizations has reached a record high of 80 percent, and rates for the most critical vaccines are nearly the same for children of all racial and ethnic groups - closing a gap that was as wide as 26 points a generation ago. But while 79 percent of white children have received the complete series by age two, only 74 percent of African-American children and 71 percent of Hispanic children are fully vaccinated. American Indians and Alaskan Native children, however, continue to be immunized at a rate of 88 percent, one of the best in the world.

In April, Secretary Shalala announced a new Spanish-language childhood immunization public awareness campaign to create and distribute culturally relevant and language appropriate educational materials. The Spanish-language theme, "Vacunelo A Tiempo ... Todo el Tiempo," ("Vaccinate Your Children On Time, every Time"), encourages parents and caregivers to talk with their child health care provider to make sure their child is up to date by age two. The Spanish-language PSA is narrated by popular Cuban-American musician Jon Secada.

As for adults, 1997 data show that only 65 percent of the elderly received their annual flu shot during the preceding year, and only 45 percent ever received a pneumococcal vaccine. Significant progress is still needed among certain populations with substantially lower coverage, including African-American and Hispanic persons. Among persons aged 65 years or more, influenza and pneumonia were the fifth leading cause of death for African-Americans and Hispanics as well as non-Hispanic whites.

In an effort to increase immunization rates among older adults, the Clinton Administration launched an initiative providing Medicare coverage for flu shots for the elderly in 1993. The shots are free for those enrolled in Medicare Part B from physicians who accept Medicare payment as full payment. Medicare also covers vaccinations against pneumonia. An aggressive outreach strategy by the Health Care Financing Administration (HCFA) to reach minority seniors about immunizations includes the mailing of some eight million postcards in four languages to Medicare beneficiaries as reminders, television and radio announcements in Spanish, and partnerships with Historically Black Colleges and Universities (HBCU).

CDC is studying factors influencing the use of vaccines by African American physicians and using feedback and assessment from immunization providers to improve vaccination levels among older African American women. Gospel star CeCe Winans joined HHS' flu shot public education campaign in November 1999 by recording a 60-second radio segment encouraging African-American seniors to get their flu and pneumonia shots this winter. The spots were heard on the 300-station American Urban Radio Network in November, including on "The Bev

Smith Show," which is also broadcast on the network.

CDC awarded \$1.3 million in REACH grants for immunization to entities in Salt Lake City, Torrance, Cal., Lower Rio Grande, Tex., Chicago and New York.

- **Cancer Screening and Management** . Many minority groups suffer disproportionately from cancer and disparities exist in both mortality and incidence rates. For men and women combined, African-Americans have a cancer death rate about 35 percent higher than that for whites (171.6 vs. 127.0 per 100,000). African-American women develop breast cancer less often than do white women, but they have a higher mortality rate (27 per 100,000), due most likely to later diagnosis and later entry into treatment. The death rate for lung cancer is about 27 percent higher for African-Americans than for whites (49.9 vs. 39.3 per 100,000). The prostate cancer mortality rate for African-American men is more than twice that of white men (55.5 vs 23.8 per 100,000). Also, Vietnamese women in the U.S. have a cervical cancer incidence rate that is five times greater than white women, and African-American and Hispanic women have higher cervical cancer death rates than the overall U.S.

During Breast Cancer Awareness Month in October 1998, Secretary Shalala announced new efforts to encourage mammography screening among special populations, especially to older, low income, and minority women, who tend to have the highest breast cancer mortality rates. The Health Care Financing Administration (HCFA) and the National Cancer Institute (NCI) co-sponsored an education campaign about the new annual Medicare mammography benefit and the importance of regularly scheduled screening mammograms. In addition, HCFA offered mammogram screenings to older African-American and Hispanic-American women in Atlanta, Chicago, Cleveland, Los Angeles, Philadelphia, San Antonio, and Washington, D.C. HCFA is also working with NCI to develop and disseminate culturally appropriate breast cancer materials geared toward Asian American and Pacific Islander women.

CDC's National Breast and Cervical Cancer Early Detection Program offers free or low-cost mammography screening to uninsured, low-income, elderly, minority and Native American women throughout the country. Funding for these screening services has risen from \$43 million in fiscal year 1993 to \$93 million in fiscal year 1999 and the program has gone from operating in just 18 states to all 50 states, the District of Columbia, six U.S. territories and 15 American Indian and Alaska Native organizations today. More than 2.2 million screening tests, including one million mammograms, have been conducted.

HHS is also addressing the cancer issue in minorities through its work to fight tobacco use, a key cause of lung cancer. CDC is funding 14 Prevention Research Centers to investigate explanations for differences in teen smoking rates among whites, African-Americans, Hispanics, Native Americans and Asian Americans and Pacific Islanders. The research project looks at such tobacco themes as reasons for smoking and not smoking; smoking images versus non-smoking images; youth messages; the social context of smoking; and an evaluation of communication strategies and policy approaches.

Also, through its Media Campaign Resource Center for Tobacco Control, CDC provides states and other organizations with top-quality broadcast, print and billboard messages for a variety of racial and ethnic minority groups: African-Americans, Hispanics, and a number of Asian American and Pacific Islander populations.

 The federal battle against minority cancer got a boost on April 6 when NCI announced a \$60 million program to address the unequal burden of cancer within certain special populations in the U.S. over the next five years. A total of 18 grants at 17 institutions will create or implement cancer control, prevention, research and training programs in minority and underserved populations. The cooperative relationships established by the networks will be used to foster cancer awareness activities, support minority enrollment in clinical trials, and encourage and

promote the development of minority junior biomedical researchers.

CDC awarded about \$1.8 million in REACH grants for breast and cervical cancers to entities in Boston, Chicago, Newark, Birmingham, San Francisco and Lower Rio Grande, Tex.

- **Cardiovascular Disease** . Major disparities exist among population groups, with a disproportionate burden of death and disability from cardiovascular disease in minority and low-income populations. Compared with rates for whites, coronary heart disease mortality was 40 percent lower for Asian Americans but 40 percent higher for African-Americans in 1995.

In December 1998, HHS released a landmark study showing that total cholesterol levels for Americans decreased in men and women in several racial groups. However, the study showed that African-American adolescents experienced a smaller decline compared to non-Hispanic whites and Mexican Americans within the same age range. Of all the groups, African-American females continued to have the highest total cholesterol and experienced the smallest decrease over time. The finding of higher total cholesterol levels in African-American adolescents differs from the pattern in adults, in which blacks have lower total cholesterol than whites. This will be an area of continued research at NIH.

Among NIH programs designed to address heart health in minorities is a five-year-old pilot program in Washington, D.C. called "Salud para su Corazon" ("For the Health of Your Heart"), which works through the Latino community using Latino traditions to provide science-based health messages, educational materials and action strategies to improve heart health in Latinos. Because of the programs' success in changing behaviors and increasing awareness, NIH's National Heart, Lung and Blood Institute is encouraging the use of this model in other Latino communities nationwide.

CDC awarded \$3.3 million in REACH grants for cardiovascular disease to entities in El Paso, Tex., Charlotte, N.C., Chicago, Los Angeles, Detroit, Atlanta, Lawrence, Mass., New York, Lowell, Mass., Nashville, Lower Rio Grande, Tex., Washington, D.C. and Oklahoma City, Okla.

Eliminating Disparities Through Civil Rights Enforcement. Part of eliminating racial and ethnic disparities in health status involves meeting a civil rights challenge. As a result, the Office for Civil Rights (OCR) will continue to play an important role in the department's overall effort to eliminate these health disparities. OCR's activities involve investigation, outreach, and technical assistance designed to root out and prevent discrimination. OCR has been actively involved in building partnerships with relevant stakeholders in various cities in an effort to develop and implement a comprehensive plan for eliminating health disparities. OCR also expends considerable resources addressing civil rights challenges confronting limited English proficient populations in the health context.

Fiscal Year 2000/Ongoing Activities to Improve Minority Health

In the first budget of the new millennium, Congress appropriated \$4.2 billion at HHS for activities which directly improve minority health in fiscal year 2000 to continue work already begun in the department to focus more attention in this area. These funds were being targeted to minority Americans for health education and disease prevention and treatment and included:

- \$2.4 billion for health care services delivery through the Indian Health Service;
- \$79 million for health professions diversity training through the Health Resources and Services Administration (HRSA);

- \$4 million for nursing workforce diversity, also through HRSA;
- \$119.7 million for the Centers for Disease Control and Prevention (CDC) to address such health areas as HIV/AIDS, REACH 2010 and Office of Minority Health.
- and \$1.4 billion for minority health research at the National Institutes of Health (NIH).

Health Care for Native Americans. In fiscal year 2000, HHS received an additional \$151 million from Congress to boost the budget of the Indian Health Service (IHS) to \$2.8 billion, an increase of about 6 percent over FY 1999. This increase meant more comprehensive clinical and environmental health activities, stronger injury prevention programs, increased, and more opportunities for Native Americans to visit doctors and dentists.

Medicaid Reimbursement for American Indian Facilities. In fiscal 2000, states were authorized to increase rates for IHS and IHS-funded tribal facilities. The rate increase provided an additional \$82 million in reimbursements under Medicaid for services provided from 1998-2000. Included in the authorized reimbursement rate increase were \$29 million in retroactive payments for services those facilities provided in 1998. The additional money resulted in more staff, improved training, the purchase of additional medical equipment and supplies, and improved facilities for IHS.

Addressing Departmental Committees on Minority Health. HHS has relied on a series of in-house committees representing a cross-section of agencies to look at health and customer service concerns that impact minority populations. These include:

Departmental Minority Initiatives Steering Committee . This broad, new committee has been designed to provide policy direction and guidance for key minority health initiatives: The Asian American and Pacific Islander Action Agenda, the Hispanic Agenda for Action, the Historically Black Colleges and Universities Initiative, and the Tribal Colleges and Universities Initiative. This steering committee is chaired by HHS Deputy Secretary Kevin Thurm and includes the Assistant Secretary for Health/Surgeon General, the Assistant Secretary for Management and Budget, and the heads or deputies of HHS divisions.

Departmental Minority Initiatives Coordinating Committee . This committee is comprised of senior agency staff who report directly to agency heads or their deputies. While the steering committee helps set department minority-related policy, this group helps draw together the actual work of all four minority initiatives to avoid duplication and foster interagency cooperation on strategies to improve the health status of minorities.

The following are the Minority Initiatives overseen by the Steering Committee and Coordinating Committee. These committees issue annual reports to identify the accomplishments of the minority initiatives, as well as areas for further development:

- **Hispanic Agenda For Action (HAA)** - Formed in spring of 1995, this initiative features a nine-point agenda for change, including the 1994 Executive Order on Educational Excellence for Hispanic Americans and strategies to enhance the department's ability to serve its Hispanic customers.
- **Historically Black Colleges and Universities (HBCU) Initiative** - Designed to strengthen the capacity of HBCUs to compete for and benefit from federal grants and participate in research.
- **Tribal Colleges and Universities (TCU) Initiative** - Designed to ensure that tribal higher education institutions are not impeded from funding opportunities and from participating in federal health programs like other colleges and universities. In January 1999, the department

sponsored a conference and exposition in Phoenix for tribal colleges and universities.

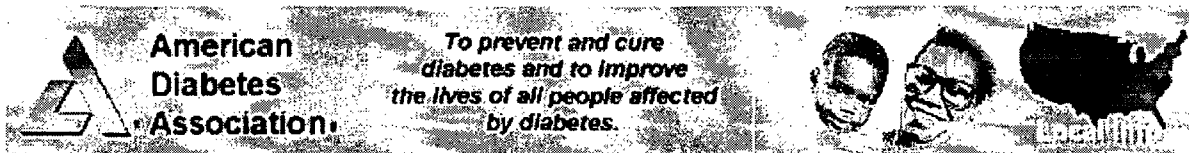
- **Asian American/Pacific Islander (AAPI) Action Agenda** -Designed to address health and mental health issues unique to AAPI as well as those shared by other racial and ethnic minority groups. In June 1999, President Clinton issued an Executive Order creating a White House Initiative on Asian Americans and Pacific Islanders, pledging a partnership among federal agencies to address health and quality of life issues for AAPI throughout the United States, especially those living in underserved areas.

Other Agency Projects:

- In February 2000, an important working conference, " Diversity and Communication in Health Care: Addressing Race, Ethnicity, Language, and Social Class in Health Care Disparities" was sponsored by HHS's Office of Minority Health and other governmental and non-governmental organizations. The purpose of the conference was to determine the state-of-the-art for improving provider-patient communication, to determine its adequacy to increase effectiveness of health care for racial and ethnic minorities and to develop a work plan to provide needed modifications. An action plan was generated at the meeting and will be disseminated to a broad audience including key departmental advisory groups and coordinating bodies. The plan is intended to serve as a basis of important policy initiatives.
- SAMHSA, in collaboration with HRSA and the Office of Minority Health, has produced a series of monographs that address issues related to cultural competence, which is the practice of being culturally aware and culturally relevant in delivering health and medical services to minority communities. Nine published or soon-to-be-published volumes address these issues from a variety of approaches, including guidelines for health professionals in community health settings dealing with various racial or ethnic communities on matters related to both general health care and substance abuse. HRSA has established an agency-wide steering committee to incorporate cultural competency into HRSA programs.
- SAMHSA's Center for Mental Health Services (CMHS) in partnership with the National Institute on Mental Health, developed the Surgeon General's Report on Mental Health. A major goal of the report is to raise public awareness to the importance of adequately addressing mental illness. The report discusses the similarities between mental health and physical health, the value of prompt and appropriate treatment intervention, and the growing consumer involvement in the recovery process. In December, Dr. David Satcher released the first-ever Surgeon General's Report on Mental Health. Later this year, he will release a supplement to that report concerning mental health issues related to race and ethnicity.
- SAMHSA's Center for Substance Abuse Treatment developed a four-page insert for six issues of the national Spanish language health magazine, Pro Salud, on mental health and substance abuse treatment and prevention issues.

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Note: For other HHS Press Releases and Fact Sheets pertaining to the subject of this announcement, please [click here](http://www.hhs.gov/news/press/) for our Press Release and Fact Sheet search engine at:
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Diabetes Facts and Figures

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The Dangerous Toll of Diabetes

Profile of the Diagnosed

Direct and Indirect Costs

Diabetes in Youth

Diabetes in Men

Diabetes in Women

Diabetes and Seniors

Diabetes Among African Americans

Diabetes Among Latinos

Diabetes Among Native Americans

Diabetes and Kidney Disease

Diabetes and Eye Complications

The Dangerous Toll Of Diabetes

There are 15.7 million people or 5.9% of the population in the United States who have diabetes. While an estimated 10.3 million have been diagnosed, unfortunately, 5.4 million people are not aware that they have the disease. Each day approximately 2,200 people are diagnosed with diabetes. About 798,000 people will be diagnosed this year.

Diabetes is the seventh leading cause of death (sixth-leading cause of death by disease) in the United States. Based on death certificate data, diabetes contributed to 198,140 deaths in 1996. Diabetes is a chronic disease that has no cure.

Diabetes is a Silent Killer

Many people first become aware that they have diabetes when they develop one of its life-threatening complications.

- **Blindness.** Diabetes is the leading cause of new cases of blindness in people ages 20-74. Each year, from 12,000 to 24,000 people lose their sight because of diabetes.
- **Kidney Disease.** Diabetes is the leading cause of end-stage renal disease, accounting for about 40% of new cases. In 1995, approximately 27,900 people initiated treatment for end stage renal disease (kidney failure) because of diabetes.
- **Nerve Disease and Amputations.** About 60-70 percent

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Nerve Disease and Amputations. About 60-70 percent of people with diabetes have mild to severe forms of diabetic nerve damage, which, in severe forms, can lead to lower limb amputations. In fact, diabetes is the most frequent cause of non-traumatic lower limb amputations. The risk of a leg amputation is 15-40 times greater for a person with diabetes. Each year, more than 56,000 amputations are performed among people with diabetes.

- **Heart Disease and Stroke.** People with diabetes are 2 to 4 times more likely to have heart disease which is present in 75 percent of diabetes-related deaths (more than 77,000 deaths due to heart disease annually). And, they are 2 to 4 times more likely to suffer a stroke.

Direct and Indirect Costs of Diabetes

Diabetes is one of the most costly health problems in America. Health care and other costs directly related to diabetes treatment, as well as the costs of lost productivity, run \$98 billion annually.

Definition

Diabetes is a disease in which the body does not produce or properly use insulin, a hormone that is needed to convert sugar, starches and other food into energy needed for daily life. The cause of diabetes is a mystery, although both genetics and environmental factors such as obesity and lack of exercise appear to play roles. There are two major types of diabetes:

- **Type 1.** An auto-immune disease in which the body does not produce any insulin, most often occurring in children and young adults. People with type 1 diabetes must take daily insulin injections to stay alive. Type 1 diabetes accounts for 5-10 percent of diabetes.
- **Type 2.** A metabolic disorder resulting from the body's inability to make enough, or properly use, insulin. It is the most common form of the disease. Type 2 diabetes accounts for 90-95 percent of diabetes. Type 2 diabetes is nearing epidemic proportions, due to an increased number of older Americans, and a greater prevalence of obesity and sedentary lifestyles.
- **Gestational** diabetes develops in 2 –5 percent of all pregnancies but disappears when a pregnancy is over. Women who have had gestational diabetes are at increased risk for developing type 2 diabetes later in life.
- **"Other specific types"** of diabetes result from specific genetic syndromes, surgery, drugs, malnutrition, infections, and other illnesses.

Who is at Greater Risk for Type 1 Diabetes?

- Siblings of people with type 1 diabetes

- Children of parents with type 1 diabetes

Who is at Greater Risk for Type 2 Diabetes?

- People over age 45
- People with a family history of diabetes
- People who are overweight
- People who do not exercise regularly
- People with low HDL cholesterol or high triglycerides
- Certain racial and ethnic groups (e.g., African Americans, Latinos, Asian & Pacific Islanders, and Native Americans)
- Women who had gestational diabetes, a form of diabetes occurring in 2-5 percent of all pregnancies, or who have had a baby weighing 9 pounds or more at birth

Type 2 diabetes is more common among these ethnic groups:

- **African Americans.** African Americans are 1.7 times as likely to have type 2 diabetes as the general population. An estimated 2.3 million African Americans, or 10.8%, have diabetes.
- **Latinos.** Latinos are almost twice as likely to have type 2 diabetes. For example, diabetes affects 1.2 million or 10.6% of the Mexican American population.
- **Native Americans.** Overall prevalence of type 2 diabetes in Native Americans is 12.2% vs. 5.2% of the general population. In some tribes, 50% of the population has diabetes.

Warning Signs of Diabetes

Type 1 Diabetes:

- Frequent urination
- Unusual thirst
- Extreme hunger
- Unusual weight loss
- Extreme fatigue
- Irritability

Type 2 Diabetes:

- Any of the type 1 symptoms
- Frequent infections
- Blurred vision
- Cuts/bruises that are slow to heal
- Tingling/numbness in the hands or feet
- Recurring skin, gum or bladder infections

* Often people with type 2 diabetes have no symptoms.

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Direct and Indirect Costs of Diabetes

- The total annual economic cost of diabetes in 1997 was

estimated to be \$98 billion. That includes \$44 billion in direct medical and treatment costs and \$54 billion for indirect costs attributed to disability and mortality.

- In 1997, total health expenditures incurred by people with diabetes amounted to \$77.7 billion including health care costs not resulting from diabetes. The per capita costs of health care for people with diabetes amounted to \$10,071, while health care costs for people without diabetes amounted to \$2,699 in 1997.

Direct Costs of Diabetes:

- Estimated at \$44 billion in 1997.
- Represents 5.8 percent of total personal health-care expenditures in the U.S.; however, diagnosed diabetes patients account for only 3.8 percent of the total U.S. civilian population.
- Approximately \$27.5 billion was spent for inpatient hospital care and \$5.5 billion for nursing home care.
- Diabetes-related hospitalizations totaled 13.9 million days in 1997. Rates of outpatient care were highest for physician office visits, which included 30.3 million visits to treat persons with diabetes.
- The mean length of stay for hospitalization was 5.4 days.

Indirect Costs of Diabetes:

- Estimated to be \$54 billion in 1997. Disability costs amounted to \$37.1 billion and mortality amounted to approximately \$16.9 billion.
- In 1997, diabetes accounted for a loss of nearly 88 million disability days. Of those, over 14 million work-loss days from jobs outside of the home were attributable to diabetes in 1997.
- A total of 74,927 workers were reported to be permanently disabled because of diabetes in 1997.
- On average, people with diabetes age 18-64 lost 8.3 days from work as compared with 1.7 days for people without diabetes.
- Based on death certificate data, diabetes was the underlying cause of death for more than 187,000 people in 1995.

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PROFILE OF THE DIAGNOSED

There are 15.7 million people in the United States who have diabetes. There are two main types of diabetes. Type 1, which usually occurs during childhood or adolescence, and type 2, the most common form of the disease, usually occurring after age 45.

What Is Type 1 Diabetes?

Type 1 diabetes is a disease which results from the body's failure to produce insulin -- the hormone that "unlocks" the cells of the body, allowing glucose to enter and fuel them. There are two forms of type 1. Immune-mediated diabetes mellitus results from an autoimmune process in which the body's immune system attacks and destroys the insulin producing cells of the pancreas. Since glucose cannot enter the cells, it builds up in the blood and the body's cells literally starve to death. The second, Idiopathic type 1, refers to rare forms of the disease that have no known cause. People with type 1 diabetes must take daily insulin injections to stay alive.

- There are an estimated **500,000 to 1 million** people with type 1 diabetes in the United States today.
- The risk of developing type 1 diabetes is **higher** than virtually all other severe chronic diseases of childhood.
- **Peak incidence occurs during puberty**, around 10 to 12 years of age in girls and 12 to 14 years of age in boys.
- The symptoms for type 1 diabetes can **mimic the flu** in children.
- Type 1 diabetes tends to run in families. Brothers and sisters of children with type 1 diabetes have about a **10%** chance of developing the disease by age 50.
- The identical twin of a person with type 1 diabetes has a **25 to 50 percent** chance of developing type 1 diabetes.
- There is a higher incidence of type 1 diabetes in whites than in other racial groups.

What is Type 2 Diabetes?

Type 2 diabetes results from insulin resistance (a condition in which the body fails to make enough or to properly use insulin), combined with relative insulin deficiency. Often type 2 diabetes can be controlled through losing weight, improved nutrition and exercise alone, but many people may need oral medications and/or insulin to control their diabetes.

- Of the nearly 16 million Americans with diabetes, **90-95%** (14.9 million) have type 2 diabetes. Of these, roughly a third are unaware they have the disease.

SUNNY
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The Washin

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WEDNESDAY, JUNE 14, 2000

Diabetes therapy cuts need for shots

Doctors see cure as real possibility

By August Gribbin
THE WASHINGTON TIMES

A team of Canadian researchers has succeeded in eliminating the need for insulin-dependent diabetics to take the drug — a remarkable breakthrough that signals a cure for the disease is possible.

Scientists at the University of Alberta in Edmonton, led by Drs. James Shapiro and Jonathan Lakey, transplanted insulin-producing cells harvested from donated pancreases into seven severely diabetic patients. Almost as soon as a sufficient number of cells was injected into the patients' bloodstreams, they settled in the patients' livers and started producing life-preserving insulin.

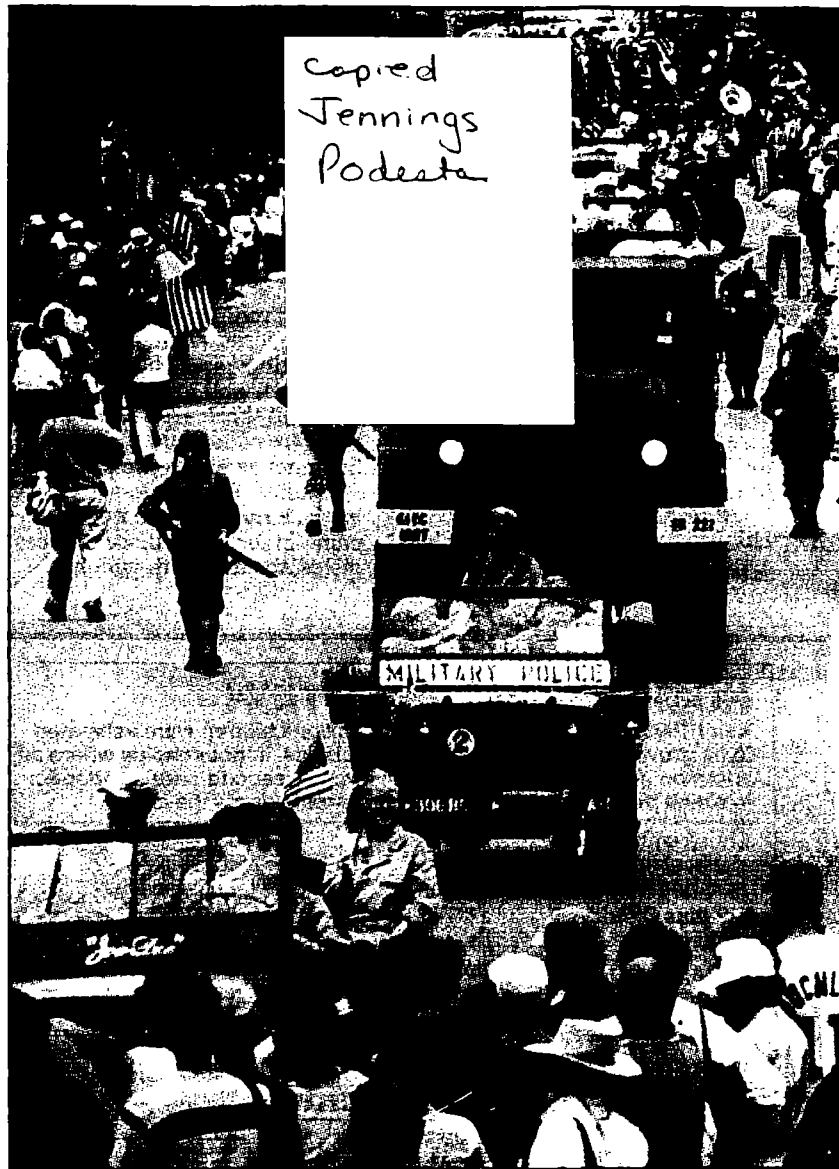
The seven patients then stopped their insulin injections. They began eating normal diets and discarding the rigid regimes that dominated their lives as Type 1 diabetics.

In a phone interview, Dr. Shapiro said he considered the team's results "a truly major step forward. They show transplant works — works effectively and controls many of the difficulties diabetics experience. These patients were having devastating comas. The transplant completely eliminated them. It reversed the disease's complications."

The New England Journal of Medicine reported the experiment's results and details of the Canadians' achievement yesterday. In arresting fashion, it announced the article was being presented almost two months before its July 27 publication date because of its "potential therapeutic implications."

see DIABETES, page A10

INVASION HEROES



Servicemen who braved German gunfire and artillery bombardments are honored in a parade through New Orleans and the opening of the National D-Day Museum.

District continues buy

By Jim Keary
THE WASHINGTON TIMES

The District's collection of expensive but seldom-used vehicles has grown significantly despite Mayor Anthony A. Williams' promise to manage the fleet better, city documents show.

Since Mr. Williams took office in January 1999, city officials have bought 74 sport utility vehicles at a cost of more than \$20,000 each,

Cars with luxuries, often

increasing the District's tally of gas-guzzling SUVs to 308.

Yet many of the SUVs merely sit in lots most days — like the new red Ford Explorer, which still has its sticker lying in its cargo area and remains unmoved in the parking space for the director of the Child and Family Therapy Center. And at least 24 of the city's SUVs

Palestinian refugee fund eyed

Peace Accord and another

DIABETES

From page A1

Still, says Dr. Stephen Clement, director of Georgetown University's Diabetes Center: "It is not a cure. It's close, and it's a big, dramatic leap, but it's not a cure. It doesn't translate into a therapy we can do in every medical center in the United States overnight. And there are issues to overcome."

Dr. David M. Harlan, a National Institutes of Health specialist in transplantation and immunology, says Drs. Shapiro and Lakey have us "sailing beyond the horizon. We

don't know what's out there. We don't know if we have a cure."

Dr. Harlan says: "It's important to realize that diabetes rules the diabetic's life, and victims are desperate for a cure. Yet they shouldn't be unduly enthusiastic at this important development. The cure isn't there yet. The Edmonton group's breakthrough is experimental with risks and costs."

Physicians explain that the transplant therapy raises several issues yet to be resolved. It could be, for instance, that the transplanted cells could fail in months to come, necessitating renewed insulin injections until a new supply

of cells becomes available.

That's a significant factor because it takes two pancreases — the donated organs from two recently deceased persons — to supply enough cells to treat one diabetic, and donated organs are notoriously difficult to come by.

Also, diabetics receiving the transplanted cells must take drugs to prevent their bodies from rejecting the foreign cells. The drugs suppress the patients' immune systems. That might stop the rejection, but it makes the patient susceptible to infection.

It's a risk many diabetics would be willing to take. Moreover it's a risk that is gradually dissipating.

Type 1 diabetes is the most severe form of the ailment. It normally strikes before 35 years of age, often between the ages of 10 and 16. It hampers the pancreas' ability to produce insulin, which the body must have in sufficient amounts at the appropriate time. The insulin enables glucose (a type of sugar) to move from the bloodstream into the body's cells, where it is needed to provide energy.

The disease is a leading cause of death in the United States. It affects the patient's heart, eyes, kidneys, circulatory system, nerves, liver and skin. The afflicted can experience excessive urination, thirst, vomiting, stomach pain,

trembling, sweating, headache, confusion, fainting and coma.

Most, if not all, of the symptoms can be controlled through medication plus relentless, wearying adherence to dietary and exercise programs that are especially hard on children.

Thus researchers for decades have been striving to find a diabetes cure.

"I personally have been working on this problem for 16 years," said Dr. Shapiro. "I stopped for a time and came back at it in 1993 and almost gave up."

Now, almost suddenly, explains Dr. Clement, a number of breakthroughs are occurring.

"There is research coming out next week that reports researchers have developed ways to produce pancreatic cell lines in the lab. A lot of things are coming together all at once."

Lab-produced cells would eliminate the need for donor pancreases and could alter the body's tendency to reject the transplanted cells.

The point is, Dr. Clement concludes, "it is possible to cure diabetes. There is no question about that. What we don't know is when we'll be confident enough that the cure is completely safe for a large number of folks. That might be a matter of a few years."

her tenants.

"They just patched a little area right in front of the curb — it's real tricky to drive on it and it's a real problem for our parkers," Ms. Ragans said.

Ms. Ragans said utility cuts were made three months ago, just before the city placed a moratorium on new cuts. But because of the moratorium, the company was unable to complete the work, which is why permanent repairs had to be made on the block, Mr. Langherlini said.

On April 23, Mr. Williams re-



Still, there was paid to cause chest pains for Charles Mayberry, who lives on disability payments from Social Security because he has heart disease and diabetes. Mr. Mayberry, who previously lived in a cramped trailer with his wife and five of their children, became especially anxious when he was informed last week he was being evicted by Gore Realty.

"I don't want to move back to a trailer," Mr. Mayberry said yester-

would soon receive vice president will use whenever he calls.

Mrs. Mayberry has received plenty of other calls since the story broke over the weekend. One man accused her of helping Mr. Gore look good by providing him with a chance to fix her house.

"I've been offered homes if I moved to New York City. I've been offered a Republican attorney to sue Al Gore for \$10 million," said