Juvenile Diabetes Cure Research Tax Check-Off Program Annual Report

January 1 - December 31, 2008

pennsylvania
DEPARTMENT OF HEALTH

Edward G. Rendell, Governor

Juvenile Diabetes Cure Research Tax Check-Off Program

Created in September 2004 with the passage of Act 133, Juvenile Diabetes Cure Research, the Juvenile Diabetes Cure Research Tax Check-Off Program (Program) provides a state income tax check-off option for individuals to contribute a portion of their state tax refund to support research for juvenile diabetes, more commonly known as Type 1 diabetes. The Program funds research grants focused on restoring normal blood levels, preventing and reversing complications of the disease and/or prevention of juvenile diabetes.

The research funds are collected by the Pennsylvania Department of Revenue and administered through the Diabetes Prevention and Control Program, Pennsylvania Department of Health (Department). The Department also accepts contributions for the Program (see page 4 for information on contributing to the Program). This report highlights the activities of and contributions to the Program for calendar year 2008.

Type 1 Diabetes Overview

Type 1 diabetes, previously known as insulin-dependent diabetes mellitus (IDDM), or juvenile-onset diabetes, is an autoimmune disease in which the immune system destroys the insulin-producing beta cells of the pancreas that regulate blood glucose. As a result, the pancreas no longer produces insulin, the hormone needed to convert sugar (glucose), starches and other foods into energy needed for living. Although the disease can be diagnosed at any age, it is most often diagnosed in children, adolescents and young adults, but lasts a lifetime.

In 2007, Type 1, Type 2, gestational and rare types of diabetes, accounted for $174 billion in health-care costs in the United States.[4] The nation spends $11,744 on each person with diabetes, compared to $2,935 on those who don't have diabetes, as of 2007.[4]

Type 1 diabetes is the third most prevalent severe chronic disease of childhood in the United States. People with diabetes diagnosed before the age of 20 years have a life expectancy that is 15-27 years shorter than people without diabetes.[5] The exact cause of Type 1 diabetes is unknown, with no known way to prevent it. Currently there is no cure. To survive, people with Type 1 diabetes are dependent on injected or pumped insulin for life. Proper management of the disease through healthy eating, physical activity, close monitoring of blood glucose and daily use of insulin is essential to preventing related complications, such as damage to eyes, kidneys, cardiovascular system, nerves, blood vessels, gums and teeth. Research focused on Type 1 diabetes provides hope to detect its causes and to find a cure.

Type 1 Diabetes Statistics

According to the Centers for Disease Control and Prevention, it is estimated that 23.6 million people of all ages in the United States have diabetes (with 17.9 million diagnosed and 5.7 million undiagnosed).[3] It is estimated that five to ten percent of diabetic adults have Type 1.[3] It is estimated that about one in every 400 to 600 children and adolescents has Type 1 diabetes.[1] Diabetes is the single most costly chronic disease.[4] Diabetes was the seventh leading cause of death listed on U.S. death certificates in 2006.[3]

In an effort to gain a better understanding and a better statistical picture of diabetes in children, the Centers for Disease Control and Prevention and the National Institute of Diabetes, Digestive and Kidney Diseases funded the SEARCH study, a multi-center study focusing on children and youth in

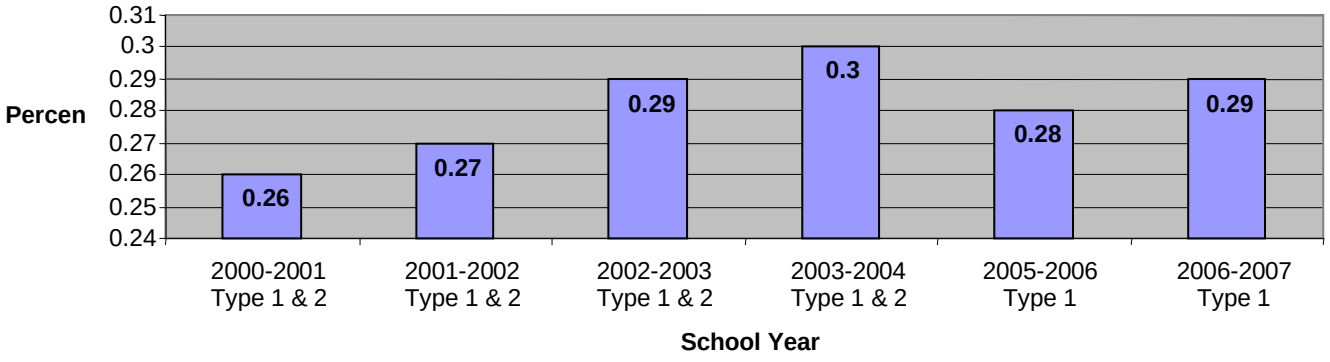
the United States who have diabetes. This five-year study was a national effort to identify the number of children and youth under the age of 20 who have diabetes, both Type 1 and Type 2, and to provide the opportunity to learn more about the disease, its complications and its effects on the everyday lives of those who have it. A diverse population of children and youth under age 20 from six geographic locations across the country was studied. While data from the study is still being analyzed, the published findings so far indicate:

- The majority of new cases of diabetes in kids are Type 1, and most diagnoses in children under age 10 are Type 1 diabetes.
- Of participants with Type 1 diabetes, 56 percent had a first degree relative—a parent, sibling or grandparent—with the disease.
- Children diagnosed with Type 1 diabetes had higher rates of obesity than children without diabetes.

The Department collects information regarding students with the medical diagnosis of Type 1 and Type 2 diabetes, as well as other chronic diseases. School districts complete the information based on their current grade configurations. Consequently, the numbers could include a pre-kindergarten class, if the school district provides such a class. Thus, age ranges could include those from four to 21 years of age for children with special needs.

The data in Figure 1 displays the total number of students who were reported as having been previously diagnosed with diabetes or diagnosed with diabetes within the indicated school year. The data does not display a differentiation between students with Type 1 versus Type 2 diabetes for the 2000-2001 to 2003-2004 school years. Beginning in the 2005-2006 school year, the data collection process was revised to differentiate between Type 1 and Type 2. The chart below displays only Type 1 diabetes reported by Educational Institutions for school years 2005-2006 and 2006-2007. Therefore, it is important to note that slight decreases in 2005-2006 and 2006-2007 may be due to the removal of Type 2, not necessarily decreasing incidence.

Figure 1 Reported Prevalence of Diabetes among School Children in Pennsylvania



Source: Division of School Health, Pennsylvania Department of Health

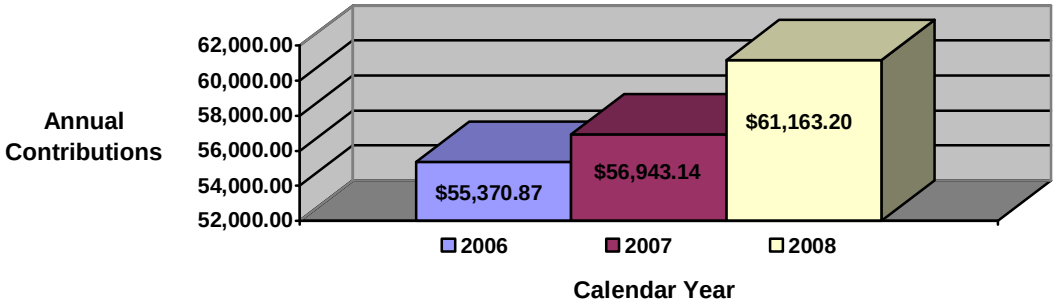
Disclaimer:

Data is reported annually by Educational Institutions to the Pennsylvania Department of Health. Responsibility for data accuracy lies with individual Educational Institutions. The Department specifically disclaims responsibility for any analysis, interpretations or conclusions made by the user.

Tax Check-Off / Private Contributions

Tax year 2007 (calendar year 2008) was the third year in which contributions were collected for this fund. Contributions to the fund in 2008 totaled $61,163.20. The cumulative balance as of December 31, 2008, was $173,477.21.

Figure 2 Contributions in calendar years 2006, 2007 and 2008



Administration of the Program

The Diabetes Prevention and Control Program is responsible for the administration of the Program. In March 2008, a Request for Application (RFA) was released for researchers to apply for grants under the Program. A summary of the RFA guidelines are as follow:

- Research is to focus on addressing juvenile diabetes related to restoring normal blood levels, preventing and reversing complications and/or preventing juvenile diabetes.
- Only researchers from Pennsylvania-based for-profit and non-profit institutions and organizations in either the public or private sector (such as universities, colleges, hospitals, laboratories and agencies of local governments) are eligible to apply.
- Only researchers who have previously applied for funding in the past three years from national organizations (such as the American Diabetes Association, Centers for Disease Control and Prevention, National Institutes of Health, Juvenile Diabetes Research Fund, American Heart Association and the National Kidney Foundation) who have had their proposals peer-reviewed and have successfully passed technical review, but were not funded are eligible to apply.
- Research funds from the Program will allow researchers to initiate their research with the intention of seeking sustainable funding for the research through national funding and improving their chances at being funded at a higher level.
- The number of grants awarded will depend on the amount of contributions received, i.e., grants will not be awarded until an adequate balance is available in the fund.
- Each grant will be awarded for a two-year period with a maximum amount of $50,000 per year for a total maximum award of $100,000 throughout the grant period.

Plans for Fiscal Year 2009-2010

The $100,000 grant was awarded to The Pennsylvania State University's College of Medicine to conduct vision impairment diabetic retinopathy research for patients with Type 1 diabetes. Research began January 1, 2009.

The fund account balance will continue to be monitored and efforts made to continue to increase contributions to the fund. If an adequate balance is available in the fund, the Diabetes Prevention and Control Program plans to prepare and release another research Request for Application in 2010.

In 2008, at the recommendation of the Diabetes Prevention and Control Program, a question was added to the Behavioral Risk Factor Surveillance System (BRFSS) to collect data regarding the specific type of diabetes an individual has, in addition to information on the numbers and demographics of those with diabetes. The BRFSS is a state-based telephone health survey system that collects information on health risk behaviors, preventive health practices and health care access, primarily related to chronic diseases like diabetes in adults. Data collected through the annual BRFSS survey serves as the primary source of Pennsylvania diabetes statistics for the Department.

To contribute to the Program Fund:

Individuals may indicate the amount of their state tax refund they wish to contribute to the Juvenile (Type 1) Diabetes Cure Research Fund; or contributions may be payable to the Juvenile (Type 1) Diabetes Cure Research Fund and sent to:

Pennsylvania Department of Health
Bureau of Administrative & Financial Services
Division of Budget
625 Forster Street
Health and Welfare Building
Harrisburg, PA 17120

This report was prepared by the Diabetes Prevention and Control Program, Division of Nutrition and Physical Activity, Bureau of Health Promotion and Risk Reduction, Pennsylvania Department of Health. To contact the Program:

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(717) 787-5876
www.health.state.pa.us/diabetes

For Additional Information

For additional information regarding Type 1 diabetes, including managing the disease and current research being conducted, please visit the following:

- Centers for Disease Control and Prevention, http://www.cdc.gov/diabetes
- American Diabetes Association, http://www.diabetes.org
- Juvenile Diabetes Research Foundation, http://www.jdrf.org
- SEARCH for Diabetes in Youth, http://www.searchfordiabetes.org/patient/index.cfm

References

1. American Diabetes Association. Total Prevalence of Diabetes & Pre-diabetes. Retrieved February 3, 2009, http://www.diabetes.org/diabetes-statistics/prevalence.jsp.

2. Cavallo, Jo. Who Has Diabetes? Juvenile Diabetes Research Foundation Countdown, Spring 2006.

3. Centers for Disease Control and Prevention. National Diabetes Fact Sheet: general information and national estimates on diabetes in the United States, 2007. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008. http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2007.pdf.

4. Juvenile Diabetes Research Foundation. Fact Sheets: General Diabetes Facts, Type 1 Diabetes (Juvenile Diabetes) Facts. (November 2008). http://www.jdrf.org.

5. Myer-Davis and Associates. The Many Faces of Diabetes in American Youth: Type 1 and Type 2 Diabetes in Five Race and Ethnic Populations: The SEARCH for Diabetes in Youth Study. (March 2009). Diabetes Care, Volume 32, Supplement 2.

6. National Institute of Diabetes and Digestive and Kidney Diseases. National Diabetes Statistics, 2007 fact sheet. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, 2008.