

COMPdata Monthly Monitor - Montana
July 2004
Diabetes

Diabetes is a complex, serious, and increasingly common disease affecting more than 18 million Americans and impacting the healthcare delivery system in Montana.

Montana hospitals have seen a major increase in the number of patients with a primary or secondary condition of diabetes. In order to care for the increasing number of patients with diabetes, hospitals have had to increase staff education on diabetes care and management and also have had to make adjustments in resources as the diabetic patient typically has longer lengths of stay and consumes more resources.

The impact of managing a patient with diabetes cannot be underestimated.

- ✓ Diabetic patients tend to have higher costs associated with their care due to the clinical requirements involved in managing the diabetic while taking care of the principal reason for the hospitalization.
- ✓ Many patients learn for the first time during their stay that they have diabetes thereby requiring hospital personnel to provide more patient care management to diagnose, educate, and expend time in setting up follow-up care plans for the patient.

Type 1 and Type 2 Diabetes in Montana Inpatients

In Montana, the percent of the adult population (18 years and older) with diagnosed diabetes increased from 2.7 in 1994 to 5.5 in 2002. The attached Appendix has more detail and information sources on various topics related to diabetes as well as an explanation of the different types of diabetes and their impact on the patient and resources needed to support them.

Much like the dramatic increases in the overall population, Montana hospitals in 2003 found that 12.5% of their inpatients had Type 1 or Type 2 diabetes as a primary or secondary disease. If one looks at hospitalized patients and excludes deliveries and newborns, the percent of all patients with a Type 1 or Type 2 primary or secondary condition of diabetes increased from 13.8% in 1999 to 15.8% or one out of six inpatients in 2003.

General statistics. The following Montana hospital statistics illustrate the depth of the inpatient disease for patients discharged in calendar year 2003:

- Type 1 diabetes was diagnosed as a principal or secondary condition in 1.3% of all inpatients.
 - Of all patients with Type 1 diabetes as a principal or secondary condition, 41.1% of the patients were of the Medicare population.
 - As a principal diagnosis for hospitalization, Type 1 diabetes occurred in less than half of a percent of all the inpatient hospitalizations.
- Type 2 diabetes was diagnosed as a principal or secondary condition in 11.2% of all inpatients.

- Of all inpatients with Type 2 diabetes as a principal or secondary condition, 63.3% of the patients were of the Medicare population.
 - Typically Type 2 diabetes is found as a secondary condition as 10.8% of all inpatient hospitalizations had Type 2 diabetes as a secondary condition.
 - Ninety-six percent of all Type 2 inpatient diabetics had Type 2 as a secondary disease condition.
- The average charges and lengths of stay for patients with diabetes tend to be higher due to the resources involved and any complicating factors that arise as a result of the diabetes.
 - For example, in reviewing two DRGs (DRG 088 – Chronic Obstructive Pulmonary Disease and DRG 089 – Simple Pneumonia and Pleurisy Age > 17 with complications and comorbidities) that contain 6.1% of all Type 1 and 2 diabetic inpatients for 2003, the average charges and lengths of stay are higher for the diabetic patients. The average charges for these select DRGs for diabetic patients was 10.9% higher than for non-diabetics. The average length of stay for these select DRGs for diabetic patients was 7.1% higher than for non-diabetic patients.

Gestational Diabetes in Montana Inpatients

It is important to address gestational diabetes that is common to only pregnant women and affects on average about 135,000 pregnant women in the United States every year. The good news is that gestational diabetes typically goes away after the baby is born but it is important for a pregnant woman to get diagnosed and follow a treatment plan as babies are at a higher risk for developing Respiratory Distress Syndrome (RDS) and are at higher risk to be obese or to get diabetes as they get older.

In Montana, as in other states, of the total number of women hospitalized for delivery or pregnancy related conditions in 2003, approximately 3.0% had gestational diabetes as a disease condition. These and other pregnant women with Type 1 or Type 2 diabetes are considered to be in a higher risk population.

Montana Inpatient Statistics from COMPdata

All of the Montana inpatient statistics were derived from the MHA/AMR COMPdata. We encourage you to use COMPdata to examine your hospital community area(s) regarding diabetic patients so that you might better understand the impact of diabetes on your care and treatment of your changing patient population and the resources needed to diagnose, treat, and manage the increasing diabetic population.

Additional Information

For information on how to develop similar statistics for your hospital or community, the diabetes codes and listings are available at

<http://www.ihatoday.org/compdata/news/monitortool.pdf>. For additional questions and suggestions regarding the *COMPdata Monthly Monitor*, please contact: Karen Kiner of IHA/AMR COMPdata by e-mail at kkiner@ihastaff.org or the COMPdata Hotline at compdata@ihastaff.org.

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APPENDIX

As of 2002, an estimated 18.2 million people in the United States, 6.3 percent of the population, have diabetes. Of those, 13 million have been diagnosed, and more than 5 million have not yet been diagnosed. About 1.3 million new cases are diagnosed each year among adults aged 20 years or older.¹

Types of Diabetes

Diabetes is a disease that affects the body's ability to produce or respond to insulin. Diabetes falls into three main categories: type 1, which usually occurs during childhood or adolescence and accounts for 5%-10% of all diagnosed diabetes; type 2, the most common form of the disease, usually occurring after age 45, but is increasingly being diagnosed in children and adolescents; and gestational, which develops only during pregnancy but significantly increases the likelihood of developing type 2 diabetes within 5 to 10 years. In general, type 2 diabetes is associated with older age, obesity, family history of diabetes, previous history of gestational diabetes, physical inactivity, and ethnicity. About 80 percent of people with type 2 diabetes are overweight.^{2,3,4}

Diabetes is widely recognized as one of the leading causes of death and disability in the U.S. In 2000, it was the sixth leading cause of death. However, diabetes is a significant factor in many more deaths. It is estimated that 65% of deaths among those with diabetes are attributed to heart disease and stroke.¹

Type 1 diabetes is more common in whites than in nonwhites, with similar numbers among males and females. Type 2 diabetes, however, occurs more often in African Americans, American Indians, some Asian Americans, Native Hawaiians and other Pacific Islander Americans, and Hispanic Americans. Type 2 diabetes is more common among older people, especially those who are overweight.⁴

Economic Impact

The economic impact of diabetes is considerable as well. The total U.S. cost due to diabetes was estimated at \$132 billion in 2002. The average annual medical expenditure for a person with diabetes (\$13,243) was 2.4 times that for a person without diabetes.⁵

Health Complications of Diabetes

Major health complications as a result of diabetes are myriad:¹

- The death rate from heart disease among adults is 2-4 times higher for diabetics.
- The risk for stroke is 2 to 4 times height among people with diabetes.

- Hypertension is a problem for about 73% of all adults with diabetes.
- Among adults aged 20-74 years, diabetes is the leading cause of new cases of blindness.
- Diabetic retinopathy causes up to 24,000 new cases of blindness each year.
- Diabetes is the leading cause of end-stage renal disease, accounting for 44 percent of new cases. More than 140,000 people with end-stage renal disease due to diabetes were living on chronic dialysis or with a kidney transplant in 2001.
- About 60% to 70% of people with diabetes have mild to severe forms of nervous system damage. The results of such damage include impaired sensation or pain in the feet or hands, slowed digestion of food in the stomach, carpal tunnel syndrome, and other nerve problems. Severe forms of diabetic nerve disease are a major contributing cause of lower-extremity amputations.
- More than 60% of non-traumatic lower-limb amputations occur among people with diabetes.
- Poorly controlled diabetes before conception and during the first trimester of pregnancy can cause major birth defects in 5% to 10% of pregnancies and spontaneous abortions in 15% to 20% of pregnancies.

Increased Prevalence Forecasted

The prevalence of diabetes in the U.S. is expected to grow to 8.9 percent of the population by 2025. This growth is due in part to the aging population, but also the fact that Hispanic Americans and other minorities make up the fastest-growing segment of the U.S. population. Unfortunately, an increasingly overweight and sedentary population will contribute to much of this growth, especially among children.

Intervention Strategies

Recent activities in the public policy arena are attempting to address some of challenges posed by diabetes and other chronic diseases. At the 2nd national *Steps to a Healthier US Summit* held in April, Health and Human Services Secretary Tommy Thompson announced that pre-diabetes, a condition that raises a person's risk of developing type 2 diabetes, heart diseases and stroke, is far more common in the U.S. than previous believed. In response to these and other findings, Secretary Thompson announced a "Blueprint for Action" to reduce and prevent chronic diseases.

Going even further, newly appointed director of the Centers for Medicare & Medicaid Services, Mark McClellan announced a pilot program to improve the health of elderly people with chronic diseases – specifically chronic heart failure, complex diabetes, and chronic obstructive pulmonary disease. The pilot program will cover 10 regions throughout the country and last for three years. Proposals by organizations wishing to participate in the program are due to CMS by August 6th, with the first agreements expected to be signed before the end of 2004.

References

¹ Centers for Disease Control and Prevention

(<http://www.cdc.gov/diabetes/pubs/estimates.htm>)

² American Diabetes Association (<http://www.diabetes.org/diabetes-statistics/heart-disease.jsp>)

³ Centers for Disease Control and Prevention

(<http://www.cdc.gov/diabetes/pubs/general.htm>)

⁴ National Diabetes Information Clearinghouse

(<http://www.diabetes.niddk.nih.gov/dm/pubs/overview/index.htm>)

⁵ Centers for Disease Control and Prevention

(http://www.cdc.gov/nccdphp/pe_factsheets/pefs_ddt.pdf)

Resources for Additional Information

For information about Montana-based diabetes prevention and control programs, click here: <http://www.cdc.gov/diabetes/states/mt.htm>

For information on managing the care of patients with diabetes, evidence-based clinical practice guidelines are available from the National Guideline Clearinghouse of the Agency for Healthcare Research and Quality at www.guideline.gov.

Additional resources for information on diabetes:

Centers for Disease Control and Prevention: <http://www.cdc.gov/diabetes/>

National Institute of Diabetes and Digestive and Kidney Diseases:

<http://diabetes.niddk.nih.gov/index.htm>

American Diabetes Association: www.diabetes.org