

MEDICAL CONDITION	SUGGESTED SOLUTIONS	DISEASE MANAGEMENT/ SCREENING GUIDELINES IN THE UNITED STATES
<p><u>DIABETES MELLITUS</u></p> <ul style="list-style-type: none"> • Total estimated cost of diabetes mellitus in 2007: \$174 billion. • Excess medical expenditures: \$116 billion. • Reduced national productivity: \$58 billion. • Direct Medical care: \$27 billion (about 15% of total cost). • Diabetes-related chronic complications: \$58 billion. • Excess general medical costs: \$31 billion. <p><u>Health Care Expenses Attributed to Diabetes Mellitus in the United States in 2007 (In millions of dollars):</u></p> <p>Hospital Inpatient Care: \$58,344 (50% of total cost) Nursing/Residential Facility: \$7,486 Outpatient Care: Physicians Office: \$9,897 (9% of total cost) Emergency Room Care: \$3,870 Ambulance Cost: \$103 Hospital Outpatient: \$2,985 Home Health: \$5,586 Hospice: \$28 Podiatry: \$273 Outpatient medication and supplies (12% of total cost): Insulin \$3,733 Diabetic Supplies \$1,783 Oral Agents: \$8,586 Retail Prescriptions: \$12,692 (11% of total cost) Other Equipment and Supplies: \$890 Total \$116,257 <i>Diabetes Care, 31; 3: 596-615; 2008</i> http://care.diabetesjournals.org/cgi/content/abstract/31/3/596</p>	<p>With ideal or optimal care for people with diabetes, i.e. everybody achieving A1C goal of less than 7%, blood pressure less than 130/80mm/Hg, LDL cholesterol less than 100mg/dl, HDL cholesterol greater than 40 mg/dl in men and greater than 50 mg/dl in women, triglycerides less than 150 mg/dl, daily aspirin use for those over 40 years of age, smoking cessation, and BMI less than 25 kg/m², there could be \$325 billion estimated cost savings in 30 year total medical cost i.e. 20% cost reduction.</p> <p>Optimal care (100% compliance and performance on 100% of the population) could lead to:</p> <ul style="list-style-type: none"> • 92% reduction in risk of myocardial infarction. • 20% reduction in amputations. • 75% reduction in end stage renal disease. • 75% reduction in complications of the eye. • Reduction in medical cost of diabetes and complications by \$325 billion <p>With committed care (100% compliance and performance on 80% of the population) the cost reduction would be \$184 billion for a 30 year total medical cost. (About 13% reduction)</p> <p><i>Robert Rizza M.D. et al. Diabetes Care, 31; 5: 1051-1059, 2008.</i> http://care.diabetesjournals.org/cgi/content/abstract/31/5/1051</p>	<ul style="list-style-type: none"> • Consider being tested for diabetes mellitus. Early diagnosis and treatment may prevent further loss of pancreatic islet function and complications. • If you have diabetes mellitus, check your blood glucose levels regularly. • If you have diabetes mellitus, maintain a healthy HbA1C level, blood pressure and lipid levels, along with appropriate monitoring to prevent damage to your eyes, nerves, kidneys, strokes and heart attacks. • Have your kidney function tested, especially if you have risk factors such as diabetes mellitus, high blood pressure, etc. to prevent dependence on dialysis or kidney transplants. • Get routine recommended eye examinations to help prevent vision loss or impaired vision. • Maintain a healthy blood pressure to protect from future heart attacks, strokes, vision loss and abnormal kidney function. • Maintain healthy blood lipid levels to prevent future heart attacks and strokes. (cholesterol, triglycerides, HDL, LDL) • Achieve and maintain a healthy body weight through an ad lib low glycemic diet, to try and prevent complications from further weight gain i.e. increased risk for higher blood glucose levels, higher blood pressure, joint pains, strokes, heart attacks, kidney damage, and cancer. • Get recommended amounts of exercise to help reduce weight, blood pressure, LDL cholesterol, raise HDL

Success in achieving ABC goals in the United States

In a survey of 7114 patients over 2 years in a managed care organization, Lovelace Clinic Foundation, Albuquerque, New Mexico, the percentage of patients achieving goal for A1C were 37%; LDL cholesterol: 23%; systolic blood pressure: 41%.
Sarah J. Beaton, Ph.D. et al. Diabetes Care, 27: 694-698, 2004.

<http://care.diabetesjournals.org/cgi/content/abstract/27/3/694>

A 2001-2002 a cross-sectional survey of 532 adults greater than 18 years of age (projected to 15.2 million) from the National Health and Nutrition Examination Survey 2001-2002, showed that 50.2% did not achieve HbA1C goal (less than 7%), 64.6% did not achieve LDL goal (less than 100 mg/dL), and 53% did not achieve blood pressure goal (less than 130/80 mm/hg), 48.6% did not achieve triglyceride goal (less than 150 mg/dL). 5.3% of men and 12.7% of women were at goal for HbA1C, LDL cholesterol, and blood pressure.

Malik S et al, Diabetes Research and Clinical Practice 2007; Volume 77, 126-133: Treatment of Cardiovascular Risk Factors Among Persons with Diabetes in the United States.

[http://www.diabetesresearchclinicalpractice.com/article/S0168-8227\(06\)00487-6/abstract](http://www.diabetesresearchclinicalpractice.com/article/S0168-8227(06)00487-6/abstract)

In our community-based endocrinology practice (CBEP) a retrospective chart audit of 395 consecutive patients seen for diabetes mellitus over 5 years, 2000-2004, revealed that 47.1% achieved HbA1C goal of <7% vs. NHANES 1999-2000: 37%, p = 0.003; blood pressure goal of <130/80 53.2% vs. NHANES

cholesterol, increase insulin sensitivity, and lower the risk of coronary heart disease.

- Avoid tobacco smoke exposure to delay and prevent the development of heart and lung disease and various cancers.

Treating abnormal blood pressure, blood lipid levels (cholesterol, triglycerides, HDL, LDL), and sugar levels early on can delay or prevent heart attacks, stroke, limb loss, vision loss, loss of kidney function, and nerve damage, and may decrease health care cost by 20%.

1999-2000: 35.8%, $p < 0.0001$; total cholesterol $<200\text{mg/dL}$ 82% vs. NHANES 1999-2000: 48.2%, $p < 0.0001$, and all three ABCs CBEP: 22% vs. NHANES 1999-2000 7.3%, $p < 0.0001$. The proportion of patients meeting all 3 ABCs goals in our practice significantly increased from 12.4% in 2000 to 23.6% in 2004 ($p < 0.0001$). When NHANES was updated for 1999-2002 similar results were observed for blood pressure (CBEP: 53.2% vs. NHANES 1999-2002 39.6% $p < 0.0001$), LDL cholesterol (CBEP: 68.8% vs. NHANES 1999-2002: 36% $p < 0.0001$). The proportion of patients achieving A1C goals was similar (CBEP: 47.1% vs. NHANES 1999-2002: 49.8%)

Swarna Varma, MD et al, 2008; Diabetes Research and Clinical Practice: 80; 89-95: Controlling the ABCs of Diabetes in Clinical Practice: A Community Based Endocrinology Practice Experience
[http://www.diabetesresearchclinicalpractice.com/article/S0168-8227\(07\)00572-4/abstract](http://www.diabetesresearchclinicalpractice.com/article/S0168-8227(07)00572-4/abstract)