by Berkley Bedell, Foundation for Alternative and Integrative Medicine (www.faim.org)

Diabetes

Diabetes is a lifelong (chronic) disease in which there are high levels of sugar in the blood. Diabetes can be caused by too little insulin (generally type 1), resistance to insulin (generally type 2), or both. Currently, 20.8 million people--7% of the population--have diabetes. Type 2 diabetes accounts for close to 95% of all diabetes cases in the U.S. and most cases of undiagnosed diabetes. An additional 54 million people are estimated to have pre-diabetes, a condition where blood glucose levels are abnormally high-- but not yet high enough to be considered diabetes. The most disturbing statistic is that 1 in 3 Americans will develop diabetes over the course of his/her lifetime.

The estimated cost of diabetes in 2007 was \$174 billion.⁵ The actual national burden of diabetes exceeds this number because it omits the social cost of intangibles such as pain and suffering, care provided by unpaid caregivers, excess medical costs associated with undiagnosed diabetes, and other health care expenditures.⁶ Indirect costs of diabetes include increased absenteeism (\$2.6 billion) and reduced productivity while at work (\$20.0 billion) for the employed population, reduced productivity for those not in the labor force (\$0.8 billion), unemployment from disease-related disability (\$7.9 billion), and lost productive capacity due to early mortality (\$26.9 billion).⁷

The cost of treating diabetes is tremendous. Diabetes consumes 25% of Medicare's annual budget.⁸ The 2007 estimated cost of \$174 billion plus the indirect cost of \$58.2 billion totals \$232.2 billion annually. Americans with diagnosed diabetes incur average expenditures of \$11,744 per year.⁹

¹ Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. "National Center for Chronic Disease Prevention and Health Promotion Home Page"

² Cowie, Catherine, Keith Rust, Earl Ford, Mark Eberhardt, Danita Byrd-Holt, Chaoyang Li, Desmond Williams, Edward Gregg, Kathleen Bainbridge, Sharon Saydah and Linda Geiss. "Full Accounting of Diabetes and Pre-Diabetes in the U.S. Population in 1988–1994 and 2005–2006". Diabetes Care. Vol. 32, pp. 287-94.

³ American Diabetes Association. "<u>American Diabetes Association Home Page</u>".

⁴ Narayan, Venkat K.M., James P. Boyle, Theodore J. Thompson, Stephen W. Sorensen, and David F. Williamson. "<u>Lifetime Risk for Diabetes Mellitus in the United States</u>". Journal of the American Medical Association. Vol. 290, No. 14, pp. 1884-1890.

⁵ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <u>National Diabetes</u> <u>Fact Sheet, 2007</u>. Centers for Disease Control and Prevention. June 2008

⁶ American Diabetes Association. "<u>Economic Costs of Diabetes in the U.S. in 2007</u>". Diabetes Care. Vol. 31, No. 3, pp. 1-20.

⁷ American Diabetes Association. "<u>Economic Costs of Diabetes in the U.S. in 2007</u>". Diabetes Care. Vol. 31, No. 3, pp. 1-20.

⁸ Research!America. "Investment in Research Saves Lives and Money". 2005.

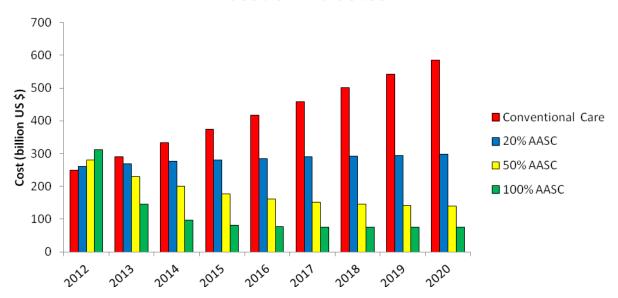
⁹ American Diabetes Association. "<u>Economic Costs of Diabetes in the U.S. in 2007</u>". Diabetes Care. Vol. 31, No. 3, pp. 1-20.

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Clinics in other countries are having remarkable success with the resolution of diabetes 2 with AASCs being introduced into the pancreatic ducts. The cost for autologous adult stem cell (AASC) therapy is similar to that of conventional care. However, people treated with AASC would likely resolve their diabetes issue, thus lowering the total numbers of people suffering chronically from the disease. The long term savings of treating diabetes with AASC's would be determined by the number of people receiving treatment. Once patients can be treated with AASCs and experience resolution of the disease the savings will begin to mount as they will no longer be in the pool of chronic sufferers requiring care. The annual savings averaged over 9 years is as follows: 20% of patients receiving AASC would be an annual savings of \$103 billion; 50% of the patients receiving AASC would be \$238 billion annually; and 100% of the patients receiving AASC would be \$305 billion in savings annually. (Calculated using a cost for conventional care of \$12,000 annually and a cost for AASC of \$15,000 and figuring an increase in diabetic diagnosis of 3.5 million per year and calculating in a 70% success rate with AASC)

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Cost of Diabetes



		20% receiving	50% receiving	100% receiving		
Year	Conventional Care	AASC	AASC	AASC		
2012	249	261.1	280.8	312		
2013	291	269.7	229.5	146.1		
2014	333	275.8	199.8	96		
2015	375	281.4	176.8	81		
2016	417	284.8	162	76.5		
2017	459	289.25	152.5	75		
2018	501	292.4	146.1	75		
2019	543	295.1	141.7	75		
2020	585	298	139.6	75		
total cost	3753	2825	1629	1012		

*all numbers in billion dollars

Calculated: conventional care \$12,000 per patient

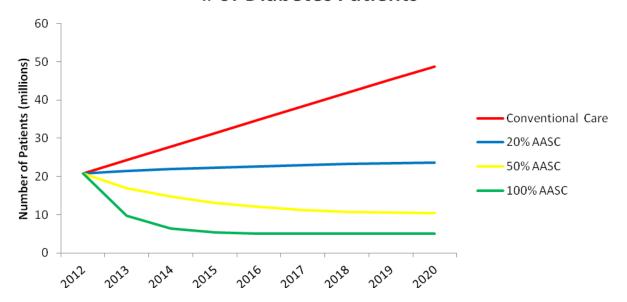
AASC treatment \$15,000 per patient

AASC success rate: 70%

Increase of 3.5 million cases per year

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of Diabetes Patients



Year	Conventional Care	20% receiving AASC	50% receiving AASC	100% receiving AASC
2012	21	21	21	21
2013	24	21	17	10
2014	28	22	15	6
2015	31	22	13	5
2016	35	23	12	5
2017	38	23	11	5
2018	42	23	11	5
2019	45	23	11	5
2020	49	24	10	5

*all numbers in millions of patients AASC success rate of 70%