

# In This Issue of *Diabetes Care*

Edited by Helaine E. Resnick, PhD, MPH

## Substantial Progress in Meeting ABC Goals

In this issue of *Diabetes Care* (p. 2271), Stark Casagrande et al. examined four waves of data from the National Health and Nutrition Examination Survey to assess progress in meeting the ABC goals. These goals, which are a key aspect of the National Diabetes Education Program, include clinical recommendations for diabetic individuals related to control of A1C, blood pressure, and LDL cholesterol. The ABC goals are considered a foundation of diabetes management, and the extent to which these goals are achieved on a population level offers insight into the public health burden of diabetes, where progress has been made and where additional resources may be best allocated. These new data, which cover a 22-year period, indicated that there have been marked increases in the proportion of diabetic adults who meet ABC goals. For example, in 1988–1994, the prevalence of diabetic adults with A1C <7% was 43.1%, the percent with blood pressure <130/80 was 33.2%, and 9.9% of diabetic adults had LDL cholesterol <100 mg/dL. The corresponding proportions in 2007–2010 increased to 52.5%, 51.1%, and 56.2%, respectively, highlighting the substantial improvements in goal achievement that occurred during this interval. Despite this progress, the new data also showed persistent ethnic disparities in diabetes management. Mexican Americans were less likely than whites to meet A1C and LDL goals, and blacks were less likely to meet blood pressure and LDL goals. Thus, although forward movement is occurring overall, minorities with diabetes have not caught up with whites with regard to meeting the ABCs. Another issue to consider is the fact that although achievement of the ABC goals has improved considerably between 1988 and 2010, the overall numbers of diabetic individuals have increased substantially during the same period. Thus, while progress appears to have been made in meeting key diabetes management goals, the reduction in the public health burden associated with improved management may be offset by the marked increase in the number of diabetic individuals during the same period. — Helaine E. Resnick, PhD, MPH

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Stark Casagrande et al. The prevalence of meeting A1C, blood pressure, and LDL goals among people with diabetes, 1988–2010. *Diabetes Care* 2013;36:2271–2279

## Sustained Metabolic Benefits With Bariatric Surgery

A new study in this issue of *Diabetes Care* (p. 2175) highlights data showing that bariatric surgery provides sustained glycemic control over 2 years of follow-up. As the prevalence of overweight and obesity continues to rise, there has been growing interest in examining the safety and efficacy of surgical management of obesity. The STAMPEDE trial randomized 60 subjects with uncontrolled type 2 diabetes to intensive medical therapy (IMT) alone, IMT + Roux-en-Y gastric bypass, or IMT + sleeve gastrectomy and followed these patients for 12 months. Initial results showed that the primary end point, achievement of A1C  $\leq$ 6%, was more likely to occur in both bariatric surgery groups relative to IMT alone. The new data, based on 24 months of follow-up, provide novel insights into the long-term inter-relationships among reductions in body fat, increased insulin sensitivity, and improved  $\beta$ -cell function. A key observation in the new report is that although the amount of weight loss was similar in the two surgical intervention groups, the bypass group lost more truncal fat than the sleeve gastrectomy group, and insulin sensitivity was also higher in the bypass group. A second major finding concerns marked differences in  $\beta$ -cell function in the two surgical groups: between baseline and 24 months,  $\beta$ -cell function increased 5.8-fold in the bypass group, and this improvement differed significantly from both the sleeve gastrectomy and IMT groups. The authors report that as  $\beta$ -cell function improved, truncal fat decreased—a relationship that may offer some insight into the somewhat more favorable long-term outcomes in the bypass group compared to those who received sleeve gastrectomy. Extended follow-up of the STAMPEDE trial adds important information to a growing body of evidence about the long-term effect of surgical management of obesity among diabetic individuals with poor glycemic control. — Helaine E. Resnick, PhD, MPH

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Kashyap et al. Metabolic effects of bariatric surgery in patients with moderate obesity and type 2 diabetes: analysis of a randomized control trial comparing surgery with intensive medical treatment. *Diabetes Care* 2013;36:2175–2182

### Recognition of the Role of Social and Environmental Factors on Diabetes Risk

In this issue of *Diabetes Care* (p. 2430), an American Diabetes Association (ADA) scientific statement authored by Hill et al. examines diabetes risk from a socioecological perspective. This point of view focuses on the roles of social and environmental factors as mediators of individual-level diabetes risk factors. Historically, the vast majority of clinical research in diabetes focuses on risk that occurs at the individual level. An individual's BMI, level of physical activity, and daily caloric intake are examples of factors that are routinely considered in assessing risk for diabetes. It is also the case that interventions to prevent diabetes are also conceptualized at the individual level: effective methods to help people lose weight, engage in more physical activity, and reduce portion sizes have all been explored in clinical trials aimed at diabetes prevention. The new scientific statement is based on a conceptual model in which individual behaviors result in part from a trickle-down effect that is heavily influenced by factors as diverse as the media, schools, government programs, and the food and beverage industries. The statement examines the importance of worksites, communities, and public policy in influencing diet-related behaviors that ultimately impact diabetes risk, as well as how government, industry, the built environment, and other factors influence physical activity. The authors point out that the major diabetes prevention trials to date have focused on modification of diabetes risk factors on the individual level. They argue that this medical model, which has not resulted in significant reductions in either diabetes or obesity, must be combined with a public health approach to risk modification. The latter approach, which focuses on changing environment in which individual-level diabetes risk factors evolve, may offer opportunities to craft more effective prevention strategies in the future. — *Helaine E. Resnick, PhD, MPH*

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Hill et al. Scientific statement: socioecological determinants of prediabetes and type 2 diabetes. *Diabetes Care* 2013;36:2430–2439

### Marked Improvement in Success Rates With Pancreatic Transplant Alone

A new study in this issue of *Diabetes Care* (p. 2440) examines 45 years of data from the International Pancreas Transplant Registry and highlights significant improvements among patients receiving pancreas transplant alone (PTA). Although intensive insulin therapy is known to slow the rates of diabetes complications, hypoglycemia can occur with this approach and is sometimes life-threatening. Pancreatic transplant, although more invasive, restores normal glucose levels without the associated risk of hypoglycemia. Historically, the vast majority of pancreas transplants were conducted simultaneously with a kidney transplant (SPK), with a smaller proportion occurring after a kidney transplant. Relatively few PTAs have been conducted, in large part because the impact of immunosuppressive therapy has been viewed as acceptable in SPK, but less so in PTA, particularly given that many of these patients do not have advanced diabetes complications. The new report summarizes data from 1,929 diabetic patients who received PTA between 1966 and 2011. Survival among PTA patients at 1-year has exceeded 96% since the beginning of data collection, and since 2002, 5-year survival has exceeded 90%. The authors show that graft survival improved markedly since the period of data collection. During 1966–1987, graft survival was 23%, but jumped to more than 80% in 2007–2011. Finally, the authors demonstrate that kidney transplants occurring within 5 years of PTA dropped from 21% during 1966–1987 to 6% in 2002–2006. The authors underscore the marked improvements in key outcomes for PTA and propose an algorithm in which people with brittle diabetes and low surgical risk should be considered for PTA and those with high surgical risk should consider islet transplant. Given the new data on long-term PTA outcomes, a fresh look at surgical options for patients with brittle diabetes may be warranted. — *Helaine E. Resnick, PhD, MPH*

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Gruessner et al. A pancreas transplant alone: a procedure coming of age. *Diabetes Care* 2013;36:2440–2447

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