Physicians’ Prescribing Patterns for Patients with Diabetes Are Changing for the Better

To the Editor:

Desai et al\(^1\) reported that 35% of patients with type 2 diabetes initiating oral hypoglycemic therapy did not receive the initial therapy with metformin recommended by the 2009 algorithm of the American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD). The 2009 ADA/EASD Algorithm\(^2\) has recently been superseded by a new Position Statement from those 2 organizations.\(^3\) The 2012 statement also recommends metformin as the drug of first choice when initiating monotherapy and as part of dual or triple therapy. The American Association of Clinical Endocrinologists (AACE)/American College of Endocrinology (ACE) algorithm of 2009,\(^4\) not discussed by Desai et al\(^1\), also recommended metformin as the preferred modality of therapy both for monotherapy and combination therapy. However, metformin is contraindicated in a variety of situations, and it is not well tolerated by many patients, so multiple options are needed. The AACE/ACE Algorithm considered 4 alternative forms of initial monotherapy (DPP-4 inhibitors, GLP-1 analogs, thiazolidinediones, and alpha-1-glucosidase inhibitors), and also noted that it may be necessary to use insulin as the initial form of therapy (Figure). In contrast to the ADA/EASD algorithm\(^2\) and position statement,\(^3\) the AACE/ACE algorithm\(^4\) recommended avoiding the use of sulfonylureas (SUs) or glinides for monotherapy. AACE/ACE\(^4\) recommended initiating therapy with dual therapy if the presenting A1C is above 7.5%, and dual or triple therapy or insulin therapy if the A1C is above 9.0%. Thus, it is not surprising that Desai et al\(^1\) reports that 35% of patients do not receive metformin monotherapy as their initial therapy in view of the multiple treatment options available, the fact that the 2009 ADA/EASD algorithm is only 1 of many available algorithms and guidelines, and because metformin often is not appropriate due to patient age (> 80 y), impaired renal function, other risk factors for lactic acidosis, and other situations.

Combining the data of Desai et al\(^1\) with those of a previous study,\(^5\) one can identify systematic changes in patterns of medication use from 1996 to 2008 (Figure). Metformin use has increased from 21% to 65%. Sulfonylurea (SU) use decreased from 50% to 20%. Thiazolidinediones (TZDs) reached a peak and then declined. Dipeptidyl-peptidase-4 (DPP-4) inhibitors began with the introduction of sitagliptin in 2006 and continue to grow. AACE/ACE recommends that SUs be avoided due to their high risk of hypoglycemia, weight gain, limited duration of effectiveness,\(^4\) and possible accelerated loss of beta cell function. AACE/ACE recommended minimizing the use of TZDs in view of weight gain, fluid retention, risk of fractures,\(^4\) and reported association with bladder cancer. AACE/ACE recommends DPP-4 inhibitors and glucagon-like-peptide-1 (GLP-1) receptor agonists because of their low risk of hypoglycemia, weight neutrality and weight loss (respectively), and potential improvement of beta cell function.\(^4\) We have recently compared more than 25 aspects of the 2009 ADA/EASD algorithm, the 2009 AACE/ACE algo-

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rithm, and the 2012 ADA/EASD Position Statement in detail.5

Medication cost represents only 10% of the total cost of management of patients with diabetes. Eighty percent of the cost of diabetes is related to hospitalizations and complications. Use of more expensive but safer incretin-based medications such as DPP-4 inhibitors and GLP-1 analogs can reduce the total cost of management. One emergency department visit for a hypoglycemic episode can eradicate the cost savings of “inexpensive” medications such as sulfonylureas. Physicians’ prescribing patterns are changing (Figure).1,6 The reduced usage of SUs and TZDs and increasing use of metformin, DPP-4 inhibitors, and GLP-1 agonists are highly desirable and consistent with the AACE algorithm.4,5

Physicians should minimize the overall cost of care by selecting medications that are both efficacious and safe. Physicians must avoid clinical inertia and adjust therapy as frequently as needed to achieve appropriate goals—carefully customized for each individual.3-5

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References