Challenges in Prescribing Medications for Type 2 Diabetes

The number of medications for Type 2 diabetes has significantly increased in the last 10 years. Patients and prescribers now have many options for oral and injectable therapies with new targets for glycemic control and insulin sensitivity. Many of these newer agents have lower risks for hypoglycemia and weight gain which were commonplace with many of the other diabetes medications. In fact, some of these agents can be associated with small, but significant weight loss, and some have been shown to reduce certain cardiovascular outcomes in high risk patients. The paradigm for Type 2 diabetes care is moving away from strict glycemic targets which reduce microvascular complications to focusing on agents that reduce cardiovascular outcomes in high risk patients.

As a prescriber, challenges in managing Type 2 diabetes with the new agents include the high costs of those agents and the lack of comparative data between the new agents. The two most widely used guidelines take different approaches to prescribing diabetes medications beyond metformin, which is the BEST medicine for MOST patients (even in those whose use was restricted previously). The American Diabetes Association's (ADA) guidelines encourage consideration of efficacy, risk of hypoglycemia, weight gain and costs when picking a second agent or an alternative to metformin for monotherapy in a patient with contraindications to its use. Alternatively, the American Academy of Clinical Endocrinology (AACE)/American College of Endocrinology (ACE) guidelines recommend agents with higher efficacy and weight loss, particularly the GLP-1 receptor agonists and SGLT-2 inhibitors. Despite high efficacy and lower costs, the sulfonylureas are relegated to last choice according to the AACE/ACE guidelines.

Cost

Another important factor and challenge to prescribing medications involves the cost of medications to both the patients and health insurers.

- Patients are paying a larger share of high prescription drug costs for diabetes care in the form of copays and deductibles.
- Patients with Medicare often approach the "donut hole" much earlier in the year with the new agents for diabetes.
- As an example the NMHS Health Plan spent more than $1.5 million last year on 10 of the newer agents for diabetes, compared to $23,000 for metformin and every other generic medication for diabetes.
- Adding to the complexity is the concept of the "copay card" or...
efforts by the drug manufacturers to reduce the costs to the patients with commercial insurances similar to the NMHS Health Plan (Medicare/Medicaid beneficiaries are specifically excluded from all manufacturer offers). These are effective incentives for patients to start these medications, and some programs last 12 months or more. These programs rarely last beyond two years while costing health plans each month.

**Best Practices**

How, then, do we continue to prescribe appropriately with the proper balance of efficacy, costs, new cardiovascular safety data and adverse effects? The following are a few pointers to help us as we work to deliver high quality and high value care:

Consider efficacy, adverse effects and costs in deciding the next agents to add to metformin.

<table>
<thead>
<tr>
<th>Class</th>
<th>A1c change</th>
<th>Total cost (mo)</th>
<th>Copay (mo)</th>
<th>With Copay Card (mo)</th>
<th>Total cost per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLP-1 Receptor agonists</td>
<td>(-0.5 to -1.1)</td>
<td>Bydureon</td>
<td>$600.00</td>
<td>$150.00 (weekly)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Victiza 1.2mg</td>
<td>$515.00</td>
<td>$120.19 (weekly)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Victiza 1.8mg</td>
<td>$771.00</td>
<td>$179.00 (weekly)</td>
<td></td>
</tr>
<tr>
<td>SGLT-2 Inhibitor</td>
<td>(-0.5 to -1)</td>
<td>Farxiga</td>
<td>$432.00</td>
<td>$108.00</td>
<td>$14.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Invokana</td>
<td>$408.00</td>
<td>$102.00</td>
<td>$13.63</td>
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<tr>
<td></td>
<td></td>
<td>Jardiance</td>
<td>$402.00</td>
<td>$101.00</td>
<td>$13.40</td>
</tr>
<tr>
<td>DPP IV inhibitors</td>
<td>(-0.5 to -0.8)</td>
<td>Januvia</td>
<td>$412.00</td>
<td>$103.00</td>
<td>$13.73</td>
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<tr>
<td></td>
<td></td>
<td>Tradjenta</td>
<td>$356.00</td>
<td>$88.00</td>
<td>$11.87</td>
</tr>
<tr>
<td>Biguanide</td>
<td>(-1 to -2)</td>
<td>Metformin</td>
<td>$8 (90 day supply)</td>
<td>$0.09 (for 90 day supply)</td>
<td></td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>(-1 to -2)</td>
<td>Glimipiride</td>
<td>$8 (90 day supply)</td>
<td>$0.09 (for 90 day supply)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glipizide</td>
<td>$8 (90 day supply)</td>
<td>$0.09 (for 90 day supply)</td>
<td></td>
</tr>
</tbody>
</table>

*Pharmaceutical cost accurate in Summer 2018--subject to change*

**Diabetes Drug Highlight**

Metformin HCl

- #1 recommended medicine for Type 2 diabetes
- Dose dependent Hemoglobin A1c reduction up to 2%
- Expanded labelling (may use in mild to moderate kidney disease - GFR >30)
- Costs less than 10 cents per day ($8 for a 90-day supply)

Promoting metformin use:

- Reassure patients that GI symptoms are often self-limited
- Start low and increase slowly to target dose of goal 2000mg/day
- Take with meals
- Consider alternative dose strategies: divided/bedtime/post meal
- Use extended release formulations
- Address concurrent GERD, lactose intolerance and gastroparesis
- Utilize drug holidays
For additional information, call (662) 377-7811.

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