Supplementary Material*


Supplement. Determination of Average Target HbA₁c Level Over Time

* This supplementary material was provided by the authors to give readers further details on their article. The material was reviewed but not copyedited.
## Supplement. Determination of Average Target HbA1c Level Over Time

<table>
<thead>
<tr>
<th>Major Comorbidity(6) or Physiologic Age</th>
<th>Microvascular Complications</th>
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<tbody>
<tr>
<td><strong>Absent</strong> (^*)</td>
<td>Absent or Mild (^7)</td>
</tr>
<tr>
<td>&gt; 10-15 years of life expectancy</td>
<td>6.0-7.0%(^{†})</td>
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<tr>
<td><strong>Present</strong> (^\text{10})</td>
<td>7.0-8.0%(^{†})</td>
</tr>
<tr>
<td>&lt;5 years of life expectancy</td>
<td>8.0-9.0%(^{‡})</td>
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</table>

\(^{†}\)Progression to major complications of diabetes is likely to occur in individuals with longer than 15-20 years of life expectancy. Therefore, goal ranges are more beneficial early in disease in younger individuals, or healthier older adults with a longer life expectancy.

\(^{‡}\)Without significant side effects, including but not limited to hypoglycemia.

\(^{‡}\)Further reductions may be appropriate, balancing safety and tolerability of therapy.

### HbA1c laboratory considerations:

1. Based upon the NGSP reference standard. Clinicians need to obtain information regarding the CV from the methodology used at their site. As an example, an HbA1c of 8.0% from a laboratory with a CV of 3% would be within a 7.76-8.24% range 13 out of 20 times (1 standard deviation), and would be between a 7.53-8.47% range 19 out of 20 times (2 standard deviations).

2. The HbA1c range reflects an “HbA1c average goal” over time. Intensification or relaxation of therapy should be undertaken based upon individual clinical circumstances and treatment options.

3. A medication change in response to a single HbA1c test that encompasses the "goal" is discouraged, especially if it is discordant with self-monitoring of blood glucose (SMBG) results.

4. African Americans, on average, have higher HbA1c levels than Whites and this difference cannot be explained by measured differences in glycemia. Caution is recommended in changing medication therapy based upon HbA1c results, especially for patients on insulin therapy, without correlation with SMBG results.

5. For all of the above reasons, the VA/DoD DM CPG does not recommend the use of estimated average glucose.

### Comorbid illness considerations:

6. Major comorbidity includes, but is not limited to, any or several of the following active conditions: significant CVD, severe CKD, severe COPD, severe chronic liver disease, recent stroke, and life-threatening malignancy.

7. Mild microvascular disease is defined by early background retinopathy, and/or microalbuminuria, and/or mild neuropathy.

8. Moderate microvascular disease is defined by pre-proliferative (without severe hemorrhage, intra-retinal microvascular anomalies [IRMA], or venous bleeding) retinopathy or persistent, fixed proteinuria (macroalbuminuria), and/or demonstrable peripheral neuropathy (sensory loss).

9. Advanced microvascular disease is defined by severe non-proliferative (with severe hemorrhage, IRMA, or venous bleeding), or proliferative retinopathy and/or renal insufficiency (serum creatinine level > 2.0 mg/dL), and/or insensate extremities or autonomic neuropathy (e.g., gastroparesis, impaired sweating, orthostatic hypotension).

10. Major comorbidity is present, but is not end-stage and management is achievable.

11. Major comorbidity is present and is either end-stage or management is significantly challenging. This can include mental health conditions and substance/opioid use.

### Social determinant considerations:

12. Social determinants of health, including social support, ability to self-monitor on insulin, food insufficiency, and cognitive impairment need to be considered. Additionally, side effects of medications and patient preferences need to be considered in a process of shared decision-making.