ICSI
Institute for Clinical Systems Improvement

Executive Summary – July 2014

Diagnosis and Management of Type 2 Diabetes Mellitus in Adults Guideline

Scope and Target Population:

This guideline provides a comprehensive approach to the diagnosis and management of T2DM in adults ages 18 and older. Management recommendations will include nutrition therapy, physical activity, self-management approaches and pharmacologic therapy, as well as the prevention and diagnosis of diabetes-associated complications and risk factors.

The management of gestational diabetes and T2DM in patients who are pregnant is excluded from the scope of this guideline. Oral agents do not have Food and Drug Administration approval for use in pregnancy. Additionally, the glycemia goals used are different in pregnancy and require more aggressive treatment. Please refer to the ICSI Routine Prenatal Care guideline for information relating to gestational diabetes and T2DM in patients who are pregnant.

The diagnosis and management of type 1 diabetes is not included in this guideline.

Aims:

Note: a multifactorial intervention targeting hyperglycemia and cardiovascular risk factors in individuals with diabetes is most effective. Both individual measures of diabetes care, as well as comprehensive measures of performance on broader sets of measures, are recommended. A randomized controlled trial has shown a 50% reduction in major cardiovascular events through a multifactorial intervention targeting hyperglycemia, hypertension, dyslipidemia, microalbuminuria, aspirin and ACE inhibitor use in individuals with microalbuminuria.

Goals for A1c, low-density lipoprotein and other diabetes measures should be personalized, and lower goals for A1c and low-density lipoprotein than those included here in the priority aims and measures may be clinically justified in some adults with T2DM. However, efforts to achieve A1c below 7% may increase risk of mortality, weight gain, hypoglycemia and other adverse effects in many patients with T2DM. Therefore, the aims and measures listed here are selected carefully in the interests of patient safety.

Outcome Measures

1. **Diabetes Optimal Care:** Increase the percentage of patients ages 18-75 years with T2DM mellitus who are optimally managed.
2. Management of T2DM in high-risk patients (Trial measure): Decrease the percentage of adult patients ages 18-75 with T2DM mellitus with poorly controlled glucose and cardiovascular risk factors.
3. Lifestyle modification and nutrition therapy – increase the percentage of patients ages 18-75 years newly diagnosed with T2DM who are advised about lifestyle modification and nutrition therapy.
4. Medication Management – increase the percentage of patients with T2DM who are on appropriate medication management.

Clinical Highlights:

- Education and self-management support is necessary for people with prediabetes and T2DM to manage his/her disease.
- Focus on cardiovascular risk reduction (blood pressure control, low-density lipoprotein cholesterol lipid control primarily with statin use, aspirin use and tobacco cessation).
- A1c levels should be individualized to the patient.
- Aggressive blood pressure control is just as important as glycemic control. Systolic blood pressure level should be the major factor for detection, evaluation and treatment of hypertension. The use of two or more blood pressure-lowering agents is often required to meet blood pressure goal.
- Prevent microvascular complications through annual or biannual eye exams, foot risk assessments and foot care counseling, and annual screening for proteinuria.
- Initial therapy with lifestyle treatment and metformin is advised, unless contraindicated.

Additional Background:

Diabetes is a chronic disease, that afflicts approximately 26.9% of U.S. residents aged 65 years and older. 1.9 million are diagnosed with diabetes every year, and an additional 7.0 million go undiagnosed and untreated. More than 1 in 5 health care dollars in the U.S. goes to the care of people with diagnosed diabetes, costing $245 billion dollars annually.

Appropriate medication management targeting glycemic control, hypertension, and lipid management is important for reducing morbidity and mortality, and improving long-term quality of life for patients diagnosed with type 2 diabetes mellitus (T2DM). Lifestyle changes such as nutrition therapy, weight loss, increased exercise, and appropriate education and self-management strategies are pivotal to improved outcomes. Inadequate access to care for chronic disease management as well as the cost of medication can contribute to poor control of T2DM and associated cardiovascular risk factors.

In the current iteration of this guideline, we have focused on the importance of appropriate identification and diagnosis, followed by effective approaches to lifestyle management and pharmacologic therapy. Due to the high percentage of the U.S. population that is diagnosed with diabetes and the effect diabetes has on other co-morbidities, appropriate management will improve the patient's experience of care and the health of the population, reducing office visits, emergency department visits, cardiovascular complications. Other related conditions will in turn reduce the total cost of care.