Together2Goal
AMGA Foundation

CAMPAIGN TOOLKIT
Welcome to the Diabetes: Together 2 Goal® campaign!

We look forward to working with you and your organization—as well as your fellow AMGA members—to collectively improve care for 1 million people with Type 2 diabetes by 2019.

Together 2 Goal® is all about working together to achieve this shared goal. Together, we can help people with Type 2 diabetes live longer, healthier lives—meaning better quality of life, greater productivity, and significant cost savings.

To help you implement best practices and address many of the common challenges associated with effectively managing Type 2 diabetes, AMGA Foundation has produced this Together 2 Goal® Campaign Toolkit. Toolkit highlights include:

- **Getting Started:** The Getting Started section provides simplified steps meant to help medical groups organize their approach, particularly if Together 2 Goal® is one of your first major quality initiatives. The steps are not meant to be prescriptive, but helpful to your group in developing a systematic, logical method to improve the health care you deliver.

- **Implementing the Campaign Planks:** The “campaign planks” are evidence-based care processes that can be implemented in your practice. Together 2 Goal® offers 11 campaign planks—organized by three domains—for improving the care of people with Type 2 diabetes. For each plank, you will find concise one-pagers with guidance and actionable steps for adoption, as well as tools used by some of the nation’s leading healthcare organizations.

This Toolkit is a living document and will be updated throughout the campaign. A downloadable version can be accessed at [www.Together2Goal.org](http://www.Together2Goal.org). We hope you find the Toolkit useful and consider sharing it with your colleagues.

Other campaign resources, including our monthly campaign webinars, data reporting portal, and additional patient and provider resources, are also available at the campaign website.

Best,
The Together 2 Goal® Team
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ONE PREVALENT AND COSTLY CONDITION.
ONE POWERFUL, NATIONAL CAMPAIGN.
INTRODUCTION TO TOGETHER 2 GOAL®

THE ISSUE

Your organization sees people with Type 2 diabetes every day. This chronic disease impacts approximately 28 million Americans and this figure is expected to rise. Two in every five U.S. adults are expected to develop Type 2 diabetes throughout their lifetime. Cases of diagnosed diabetes account for $1 of every $10 spent on medical care in the United States. Most people with diabetes have at least one comorbidity that complicates care, treatment, and outcomes.

Improving diabetes management will require an expanded effort and an increased focus from healthcare systems, clinicians, patients, employers, and the entire nation.

THE CAMPAIGN

Created by AMGA Foundation, Together 2 Goal® is a three-year national campaign to improve care for 1 million people with Type 2 diabetes by leveraging the coordinated care delivery systems of members of AMGA, which collectively deliver care to 1 in every 3 Americans.

As of February 2016, more than 100 medical groups and health systems delivering care to more than 26.2 million patients have joined the campaign. In addition to working with AMGA members, Together 2 Goal® has also teamed up with nonprofit partners and supporting organizations, as well as corporate collaborators in a wide-reaching effort to raise awareness and empower individuals and communities to tackle one of the nation’s most important public health challenges. A comprehensive list of these organizations is available at www.Together2Goal.org.

To achieve this ambitious goal by 2019, medical groups and health systems joining the campaign will:

1. **Adopt one or more evidence-based care processes (“campaign planks”) known to improve care and patient outcomes.** The campaign planks (see page 8) are based on best practices derived from our Best Practices in Managing Diabetes Collaboratives, and in consultation with the campaign’s National Advisory Committee and Scientific Advisory Committee. Participating medical groups and health systems commit to implementing at least one campaign plank, although we anticipate many will address multiple planks and some with adopt all 11. The campaign planks are organized by domain.

2. **Report data on a quarterly basis.** With Together 2 Goal®, participating organizations will always know how they’re doing. By reporting diabetes-related data on a quarterly basis, medical groups and health systems measure progress towards their organization’s goals for diabetes and our shared campaign goal of improved care for 1 million people with Type 2 diabetes. We provide multiple data reporting tracks:
   - Basic Track: A1c control only
   - Core Track: A1c control, blood pressure control, lipid management, and testing for renal disease (reported both individually and as a “bundle”)
   - Innovator Track: Core Track and additional measures to be determined

More information about data reporting, including access to the data portal, data specifications, and data reporting schedule, is available in Appendix D: Data Reporting.
(3) **Use free campaign resources to help you get to goal.** Throughout the three-year campaign, you’ll be supported by powerful tools and resources that have been developed by AMGA members and are proven to deliver the best outcomes. These resources include:

- *Together 2 Goal® Campaign Toolkit*
- Monthly campaign webinars
- Educational resources for patients
- Online discussion forum
- National Day of Action

These resources can be accessed at [www.Together2Goal.org](http://www.Together2Goal.org).
OUR HISTORY
Together 2 Goal® is the second campaign in AMGA Foundation’s Chronic Care Challenge. In the first campaign, Measure Up/Pressure Down®, nearly 150 AMGA members worked together to improve blood pressure detection or control for more than half a million Americans.

Through this effort, we’ve learned how to leverage our collective strengths to transform care. Now it’s time to build on this momentum and join forces in the fight against the next chronic condition: Type 2 diabetes.

ABOUT US
AMGA Foundation is AMGA’s nonprofit arm that enables medical groups and other organized systems of care to consistently improve health and health care. AMGA Foundation serves as a catalyst, connector and collaborator for translating the evidence of what works best in improving health and health care in everyday practice.

AMGA is a 501(c)(6) trade association representing medical groups, health systems, and other organized systems of care, including some of the nation’s largest, most prestigious integrated delivery systems. AMGA is a leading voice in advocating for efficient, team-based, and accountable care. AMGA members encompass all models of organized systems of care in the healthcare industry, including: physician-owned, independent group practices, integrated delivery systems, hospital-affiliated medical groups, independent practice associations (IPAs), academic and faculty practices, accountable care organizations, and high-performing health systems. Approximately 165,000 physicians practice in AMGA member organizations, providing healthcare services for 133 million patients (approximately one in three Americans). Headquartered in Alexandria, Virginia, AMGA is the strategic partner for these organizations, providing a comprehensive package of benefits, including political advocacy, educational and networking programs, publications, benchmarking data services, and financial and operations assistance.
GETTING STARTED
GETTING STARTED

No matter where you are on your journey, Together 2 Goal® provides a tailored pathway for diabetes improvement. This Getting Started section provides a checklist and quick wins to jumpstart your Together 2 Goal® campaign efforts.

The steps are not meant to be prescriptive, but helpful to your group in developing a systematic, logical method to improve the health care you deliver.

CHECKLIST

The Together 2 Goal® Getting Started Checklist will assist in preparing for your diabetes improvement journey ahead. For each step, consider if your team has completed the potential activities. If not, weigh the most important items and create a plan to accomplish each.

STEP 1: SECURE BUY-IN FROM ALL RELEVANT KEY STAKEHOLDERS.

Ensure Together 2 Goal® is seen as a top priority at your organization, by fostering support and commitment from key leaders and stakeholders. This buy-in will be important as your team works to secure the resources and attention needed for the project (e.g., data, staff time, budget). To do so:

- Meet with the campaign’s most prominent supporter at your organization (e.g., Chief Executive Officer, Medical Director, Board of Directors).
- Talk with key Division Chiefs, Department Chairs, and administrative leaders in person to share information about the campaign and address any concerns they may have (e.g., staffing, resources).

STEP 2: ASSEMBLE YOUR TOGETHER 2 GOAL® TEAM.

It truly takes a team to improve diabetes management for your patient population. From care process modifications and data reporting to project management, different team members can be responsible for different roles. As you assemble your team:

- Identify 8-10 team members to lead your Together 2 Goal® campaign efforts (refer to Build an Accountable Diabetes Team on page 19). These team members will be critical to your success, so be strategic and select colleagues with relevant skills, enthusiasm, and influence to engage others across the organization.
- Ensure your team includes Champions that can drive the involvement and support of their peers.
- Conduct internal team kick-off meeting. Consider using the initial meeting to:
  - Orient team members to campaign goals, timeline, measures, and reports.
  - Define specific roles and responsibilities for each team member.
  - Review and document current diabetes processes, protocols, and education materials for patients and providers.
- Build accountability for senior leaders, physicians, and staff by creating plans that specify how you will monitor the implementation of campaign planks and measure campaign successes.
- Schedule regular team meetings for the duration of the campaign to develop and monitor your plan. Together 2 Goal® suggests monthly meetings initially.
STEP 3: ENSURE ACCESS TO ACCURATE AND TIMELY DATA.

Participating medical groups and health systems should determine your organization's approach to data collection, such as a clinical data repository or data warehouse that includes diabetes clinical measures. These data will be utilized throughout the campaign for internal and external reporting as well as measuring progress over the three-year effort.

☐ Schedule a meeting with your data analytics/information technology team and/or vendor. In this meeting:
  • Confirm if data is readily available or new processes will need to be developed
  • Determine how data will be extracted
  • Discuss and address any potential barriers
  • Review the Together 2 Goal® measure specifications and data reporting schedule (refer to Appendix D: Data Reporting for more information) to guide programming and planning.

☐ Share the campaign's webinar on Data Reporting with the data team as a resource. To access the recording, visit [www.Together2Goal.org](http://www.Together2Goal.org) and select “Improve Patient Outcomes” and then "Webinars."

STEP 4: UNDERSTAND BASELINE PERFORMANCE AND OUTLINE IMPROVEMENT GOALS.

A baseline measurement of performance is a critical step for quality initiatives. Once you have your baseline rates, you will want to begin to understand and prioritize areas for improvement.

☐ Run a report on baseline diabetes performance using the campaign measure specifications. If available, segment the results by care site and providers.

☐ Create a flowchart of current processes to better understand how diabetes is managed and treated in your system. The resulting diagram will allow the team to visualize patient flow, as well as discover and address opportunities of improvement such as redundancies, bottlenecks, and/or gaps in care to achieve greater efficiency.
  • Document the step-by-step actions experienced by a typical patient and by a typical care team. This should include activities before the visit (e.g., scheduling, lab tests, reminders), during the visit (e.g., arrival, rooming, decision-making, after-visit summary) and after the visit (e.g., education, follow-up calls, home monitoring).
  • Include information about who is responsible, time constraints, and necessary resources.

☐ Use baseline data to identify high-performing providers and sites of care. Meet with the physicians, care teams, and leaders to discover their best practices and create a plan to disseminate these across the organization.

☐ Begin to understand and prioritize at least two tactics for improvement—with a balance of short-term, less-resource intensive interventions and long-term, more-resource intensive ones.

Note: For additional support in creating a flowchart of current processes, we recommend watching the Institute for Healthcare Improvement’s related video, available at [http://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/Whiteboard11.aspx](http://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/Whiteboard11.aspx).
STEP 5: PICK CAMPAIGN PLANK(S) FOR IMPLEMENTATION.

Implementation of at least one “campaign plank” (evidence-based care process) is at the heart of Together 2 Goal®—and how the campaign aims to improve care for 1 million people with Type 2 diabetes. Learn more about the campaign planks in Introduction to Together 2 Goal® (page 7) and Implementing the Campaign Planks (pages 19-110).

- Review each of the plank overviews and accompanying tools available in the “Implementing the Planks” section. Find the best match for the areas of improvement you have chosen.
- Start with one plank before adopting the next, but plan on implementing additional planks over time.
- Create an action plan to implement the plank(s). The plan should address:
  - Key areas for improvement
  - Plan for accomplishing the improvement in each area, including measurable goals and the activities needed to achieve these goals
  - Project leader and team (be sure to include individuals that directly work in the area that is under improvement)
  - Quantitative and qualitative measurements to monitor progress
  - Timelines and deadlines
- Modify your baseline flowchart to incorporate the changes you will make to adopt the plank. Be specific—note on your chart who will do what and when they will do it.
- Implement the campaign plank(s) using your action plan as a reference. Consider introducing the changes at a single site of care as a pilot before system-wide implementation. Consider the “Quick Wins” on page 16 for suggested initial steps that will generate momentum and show progress.
- Monitor the revised process to ensure the change is implemented and sustained over time. Documenting the changes in writing in policies and procedures can assist in assuring standardization, sustaining the activities, and training new staff.

STEP 6: DEVELOP A TOGETHER 2 GOAL® COMMUNICATIONS PLAN.

With the right messaging and delivery, your Together 2 Goal® efforts can be visible across your organization and community.

- Prepare an “elevator speech”—a quick way to communicate objectives in a clear, compelling manner—about the campaign. Consider including why the diabetes campaign is important, how your organization will achieve the goal, and what specific changes each physician or staff member will need to make in order for the project to be successful.
- Schedule a meeting with your communications, marketing, and/or public relations team and/or agency. In this meeting, begin to discuss:
  - Target audiences (internal and external) who should be made aware of your organization’s Together 2 Goal® efforts
  - Goals and objectives of this communication
  - Messages that align with the goals and objectives
  - Strategies and tactics for reaching these audiences (e.g., email newsletters, media outreach, social media, paid advertisements)
- Develop the communications plan using information gathered in the initial meeting. Ensure the plan includes responsibilities, timelines, and evaluation mechanisms to determine if the communications activities are reaching your target audiences with the right messaging through the identified channels and achieving the selected goals.
QUICK WINS

“Quick wins” can generate momentum and sustain enthusiasm for the campaign over time. By breaking down each plank into a number of smaller steps and accomplishing one, morale will be boosted, progress will be perceived, and leadership will be engaged.

Consider these “quick wins” for each plank, identified by Together 2 Goal® staff:

- **Build an Accountable Diabetes Team:** Assemble the team and schedule the first meeting of the diabetes team.

- **Integrate Emotional and Behavioral Support:** Share the “Emotional Side of Diabetes – 10 Things You Should Know” booklet from Behavioral Diabetes Institute (enclosed) with your team and discuss as a group.

- **Refer to Diabetes Self-Management Education and Support Programs:** If you currently offer or refer to a diabetes self-management education (DSME) program, audit how many patients are currently or have participated in programs in the past year. If you do not currently offer or refer to a DSME program, identify DSME programs in your area and meet with one to explore a potential partnership.

- **Conduct Practice-Based Screening:** Run a report of patients with an HbA1c ≥ 6.5 in the past year who do not have a diagnosis of diabetes on their problem list.

- **Adopt Treatment Algorithm:** If you currently have a treatment algorithm, review the guidelines with your diabetes team. If you don’t have one, meet with the campaign’s most prominent supporter at your organization to determine the next steps in developing or adopting a treatment algorithm.

- **Measure HbA1c Every 3-6 Months:** Run a list of patients with diabetes without an HbA1c in the last 12 months.

- **Assess and Address Risk of Cardiovascular Disease:** Identify 1-2 physicians willing to integrate cardiovascular disease risk assessment using the ACC/AHA ASCVD Risk Calculator into their workflow as a pilot project.

- **Contact Patients Not at Goal and with Therapy Change within 30 Days:** Run a report of patients whose last A1c > 9 without an office visit in the past six months.

- **Use a Patient Registry:** If you currently use a patient registry, work with your vendor to determine if there are useful reports within the registry that you may not be using. If you do not currently use a patient registry, schedule a meeting with your EHR vendor to discuss registry options.

- **Embed Point-of-Care Tools:** If you currently embed point-of-care tools, conduct an inventory of the diabetes-specific tools that have been implemented. If you do not currently embed point-of-care tools, inventory the diabetes tools available in your EHR.

- **Publish Transparent Internal Reports:** If you currently publish transparent internal reports, host a small focus group to understand perceptions and effectiveness of current reports. If you do not currently publish transparent internal reports, pilot transparent internal reports at one site of care.
IMPLEMENTING THE PLANKS
BUILD AN ACCOUNTABLE DIABETES TEAM

The organization creates a diabetes team that accepts accountability for overall performance and achievement of goals. The team consists of engaged, multi-disciplinary participants who will address all aspects of diabetes care. Team composition is flexible and adapted to each organization and its culture.

STEP 1: ESTABLISH A TEAM
- Assemble a core team that consists of 8-10 members across the organization. Find those with an interest and/or skills who will be committed throughout the campaign. The team may consist of a patient or family member, Primary Care Physician, Advanced Practice Provider, Endocrinologist, Nurse, Certified Medical Assistant, Office Manager, Quality Manager, Information Technologist, Certified Diabetes Educator, and/or Dietitian.
- Identify extended team members (e.g., Pharmacist, Administrator, Podiatrist, Optometrist, Dentist, Health Coach, Specialty Provider, Behavioral Health Practitioner, Community Liaison) to support the core team at different intervals.
- Identify project management support to oversee campaign activities and responsibilities.

STEP 2: SCHEDULE THE FIRST TEAM MEETING
- Prepare or review a charter that identifies performance goals and related measures and an action plan that includes specific measurable objectives and related activities; responsibility for each objective; timeframe to complete each objective; and resources available or needed (e.g., support staff, data reports, financial).
- Appoint a leader who can generate internal support and secure commitment and resources from senior leadership.
- Select a “physician champion” who will gather support from the other physicians.
- Schedule regular team meetings, at least monthly.
- Commit to transparency and sharing of results throughout the organization.

STEP 3: HOLD ONGOING MEETINGS
At each meeting, the team will:
- Evaluate current procedures and guidelines for diabetes management to evaluate if processes are effective.
- Review and discuss data reports to evaluate the team’s progress toward improvement.
- Review the action plan and have each member report on their specific objective(s).
- Identify early indicators of success and challenges preventing the team from meeting objectives.
- Determine process changes that need to occur as a result of successful interventions.
- Invite extended team members (as needed) to the meetings to build collaboration.
- Ensure development and implementation of internal communication plan.

STEP 4: CELEBRATE SUCCESS
- Communicate your team’s progress and success to the rest of the organization through various channels (e.g., employees, department meetings, board meetings).
- Acknowledge the members of the team and others who contributed to the success of the program.
CLINIC TEAM ROLES

A clinic visit for a patient with diabetes requires the support of the entire team to assure comprehensive care. The following algorithm suggests general responsibilities to help a clinic team share accountability for diabetes management.

ALGORITHM: PATIENT VISIT

Prior to visit
- PSR prints worksheet for diabetes appointments and PATIENT completes in waiting room
- CARE MANAGEMENT TEAM scrubs schedule to identify patient needs

Patient check in

Patient Rooming (Medical Assistant)

Data
- Enter responses from patient worksheet
- Record vital signs, including height, weight, BP, and PAVS
- Download data from glucose meter, if applicable
- Document problems as directed by provider

Medications and allergies
- Reconcile medications
- Verify and document allergies
- Any additional education

Orders and tests
- Propose orders as prompted by iCentra (see sidebar at left)
- Perform A1C test as needed
- Administer PHQ-2 to patients who have not had one in the last 12 months
- If PHQ-2 is positive, administer PHQ-9

Patient preparation
- Have patient remove shoes and socks in preparation for foot exam
- Notify care manager of patients requesting any additional education

Patient Visit (Primary Care Provider)

Data
- Review responses to diabetes questionnaire
- Document diabetes in the problem list (if not already done), including date of onset if possible

Orders and tests
- Review and sign all proposed orders
- Consider preordering labs for next visit
- Perform foot exam and record results

Management
- Manage diabetes based on CPM guidelines
- Collaborate with pharmacist as needed (see sidebar at left)
- Identify patients whose comorbid conditions or age may be a contraindication to pursing treatment goals
- Determine compliance with diet and exercise recommendations
- Determine need for vaccinations

Follow-up
- Schedule quarterly follow-up appointment for patients who are not at goal per CPM
- Encourage patients to work with care manager or health advocate as needed (see sidebar at left)
## Practice Name: Add practice Name

### Protocol Title: Diabetes Care Standing Orders

### Purpose: Establish a process by which healthcare team members may perform or order selected tests for care of patients with diabetes that meet specific criteria.

### Scope: Applies to all staff members of this practice.

### Procedure:

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<tr>
<th>Test</th>
<th>Criteria</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>A1c</td>
<td>A1c result is &gt; 6 months old</td>
<td>Perform or order A1c test</td>
</tr>
<tr>
<td>Lipid Panel (Patients &gt;12 yrs)</td>
<td>Lipid panel &gt; 12 months old</td>
<td>Order fasting lipid panel</td>
</tr>
<tr>
<td>Lipid Panel (Patients 2-12 yrs)</td>
<td>Pts 2-12 yrs with unknown history or positive family history of hypercholesterolemia or premature CVD event</td>
<td>Draw lipid panel at diagnosis</td>
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<tr>
<td></td>
<td>If none of above, then at age 12 yrs</td>
<td>Draw lipid panel at diagnosis and repeat every 5 yrs. If abnormal results, repeat every 1 yr.</td>
</tr>
<tr>
<td>Microalbumin (Omit if dx kidney disease stage IV or V or ESRD)</td>
<td>Microalbumin result &gt; 12 months old</td>
<td>Perform or order microalbumin test.</td>
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<tr>
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<td>If Type 1 – initiate at 10 years old or after 5 yrs diabetes duration.</td>
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<tr>
<td></td>
<td>If Type 2, begin at diagnosis.</td>
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<tr>
<td>Serum Creatinine</td>
<td>Serum creatinine &gt; 12 months old</td>
<td>Perform or order creatinine</td>
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| **COMMUNITY HEALTH NETWORK**  
Community Physician Network  
Indianapolis, Indiana | **Add Protocol #** |
|---------------------------|-------------------|
| **Page 2 of 3**  
**EFFECTIVE:** 1/01/2012 | |
| **Dilated Retinal Eye Exam** | No report of dilated retinal eye exam in 12 months  
Type 1 - begin within 3 - 5 years of diabetes diagnosis;  
Type 2 – begin at diagnosis. | Refer to eye care provider for DILATED eye exam (explain test must include dilation of the pupils and is not just a visual acuity test). |
| **Foot Exam** | Ask about any foot problems.  
Remove shoes and socks. | Perform a visual foot inspection each visit for abnormalities.  
If abnormalities exist or comprehensive foot exam not documented in the past year, alert provider. |
| **Influenza Immunization**  
(unless contraindicated or allergic to eggs) | If age ≥ 6 months old | Offer "inactivated" (no live virus, no flu mist) vaccine annually beginning each October. |
| **Resource:** National immunization hotline 1-800-232-2522 or http://www.vaccines | | |
| **Pneumococcal Pneumonia Immunization**  
(unless contraindicated or allergic to eggs) | If age ≥ 2 yrs old  
OR  
*At age 65 IF first dose given before age 65 and 5 or more years have passed since that dose | Offer pneumonia vaccine (PPV 23) once in a lifetime* |
| **Resource:** National immunization hotline 1-800-232-2522 or http://www.vaccines | | |
| **Self-Management Goals:** | Ask the patient if he/she has any self-management goals (self-care practices that the patient completes, or is working toward, to improve their diabetes care). | If the patient has no goals, alert the provider (or Nurse Care Manager) to discuss and assist the patient with setting reasonable goals. |

**Source:** 2006 American Diabetes Association’s Clinical Practice Recommendations.
COMMUNITY HEALTH NETWORK
Community Physician Network
Indianapolis, Indiana

Add Protocol #
Page 3 of 3
EFFECTIVE: 1/01/2012

Practice Name: ________________________________

Protocol Title: Diabetes Care Standing Orders

Protocol Owner: Director Nurse Care Managers

Approved by: Clinical Excellence Committee

Approved by: ___________________________ Date: ________________
(See ADM 03 for designated approval.)

NOTE: Office Based Protocols/Standing Orders approval must be obtained from local MD leadership.

Next review due: ________________

NOTE: Evidence Based policies/protocols must be reviewed annually otherwise review bi-annually.

Approved by: ___________________________ Date: ________________

Next review due: 01/01/2013

Approved by: ___________________________ Date: ________________

Next review due: 01/01/2014

Approved by: ___________________________ Date: ________________

Next review due: 01/01/2015
## Top 10 Tips from Top MMG Care Teams

<table>
<thead>
<tr>
<th>When</th>
<th>What - consistent/reliable workflows</th>
<th>Testimony from the trenches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chart Prep</td>
<td>1. Clinic staff verifies that upcoming DM patients have had their labs done, and if not, call them to do so. Be sure that lab orders are in place.</td>
<td>• “95% of my patients have their labs done ahead of the visit. It is an expectation I set with the patients and staff.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Having lab results makes the visit much more worthwhile for me and the patient.”</td>
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<tr>
<td></td>
<td></td>
<td>• “I can’t help manage A1c if I don’t have the info in front of me during the visit.”</td>
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<td></td>
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<td>• “An after-visit call with lab results just isn’t the same as a face to face discussion.”</td>
</tr>
<tr>
<td>Rooming</td>
<td>2. Consistently use the chronic disease navigator for DM follow up visits.</td>
<td>• “The navigator quickly walks me through everything I need to ask...it’s easy to use.”</td>
</tr>
<tr>
<td></td>
<td>3. Take shoes/socks off every visit and document the full foot exam in the DM navigator at least 1x/year.</td>
<td>• “My roomer uses the chronic disease navigator about 90% of the time: I count on having that info when I enter the room. It really helps the visit go more quickly and pulls the data automatically into my note.”</td>
</tr>
<tr>
<td>Physician Care</td>
<td>4. Everyone in care team reinforces appropriate visit and refill frequency based on A1c control: a. NEW doc: consider 2 week – 1 month visits and a DCT referral for education. b. A1c &lt; 7: 6 month visits/refills c. A1c 7 – 8: 3 month visits/refills d. A1c &gt; 8: 1 – 3 month visits based on compliance, refer to DCT e. New/medication change – consider 1 month visit/50 day refill.</td>
<td>• “The DM smart set has all the key elements I need. At least consider using it to order supplies and future labs.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “New med scripts are limited to 1 month so I can check how they are doing.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “I limit scripts to 3 or 6 months to assure patients come in for their DM visits: RNs should check A1c before giving refills.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “The smart set assures that all key elements are covered but it’s not 100% intuitive until you get used to it. Then, it works great and goes faster.” “I set it up ahead of time – it only takes 30 seconds.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “The pharmacists are a great resource for patients on insulin, multiple medications or out of control. It saves me time and the patients really appreciate their help.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Try one of the new medications if the old ones aren’t working well.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Lipid management IS diabetic management: be liberal with statins.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Use the attached med table (on last page) from the ADA.”</td>
</tr>
<tr>
<td>Patient Education</td>
<td>7. Every visit is an opportunity to support the patient. Always document patient instructions/goals in the AVS so you can engage patient and follow this info over time.</td>
<td>• “DM is a lifestyle disease – I tell patients they can manage this well by making good food and activity choices.”</td>
</tr>
<tr>
<td></td>
<td>8. Use the “Formula for Good Health” and exercise ‘prescriptions’.</td>
<td>• “Keep a laminated copy of Formula for Good Health” handy and refer to it in patient visits.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Actively work with patient to identify barriers to lifestyle changes.” “As a physician I need to move past feeling like a ‘babysitter’ to being more of a ‘coach’.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “Introduce concept of DCT consultation and Healthy Weight program and encourage them if they have acceptance.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “My RN does a great job teaching glucometers, injections, etc. Saves me time.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If we can’t fit the education into a regular visit we sometimes have the patient come back for that plus a glucometer check.”</td>
</tr>
<tr>
<td>Reception</td>
<td>9. Schedule follow up visits and include “DM follow up” in reason for visit.</td>
<td>• “It’s really helpful when reception can capture DM as reason for visit for all follow up visits.”</td>
</tr>
<tr>
<td>Outreach</td>
<td>10. Run DM registry weekly or at least monthly and contact those who are overdue for labs/visit.</td>
<td>• “My nurse reviews the DM registry every week or so to reach out to patients who have A1c&gt;9 or those who are missing labs and visits. It only takes a few minutes when we do it regularly.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• “I give a list of patients who need appointments scheduled to our scheduling staff to reach the patient.”</td>
</tr>
</tbody>
</table>
Frequently Asked Questions

1. I haven’t been ‘tightly’ managing my DM patients. What will they think when I change our visit and refill expectations?
   Talk to your patients about the new ADA standards. Help them understand that there is good clinical evidence for best practices like regular A1c testing, physician visits and lifestyle changes. Let them know you are committed to providing the best possible care. You and your team can do this at patient visits or via outreach calls or a letter. Just keep your message simple and supportive.

2. How do we balance the need for scheduled/regular labs with insurance limitations?
   The 90-day ‘rule’ seems to meet most needs for monitoring glyco-hemoglobin. For ‘in-between’ monitoring, encourage use of home monitors and have patients bring them in to clinic visits.

3. I have no time to run the registry report much less do outreach to patients. What do you want me to do?
   Reaching out to patients who are overdue for labs or visits, or those who are struggling with lifestyle changes is a critical part of the service we provide. Registries are our best tool to identify those top priority patients. Physicians and staff must make it a priority. Just start somewhere: choose a day/time of the week and hold your team accountable to getting it done. EG start with DM patients without visits in the past 6 months, or those with A1c >9.

4. We have no time to do patient education during regular visits: the MD and RN are too busy.
   For patients who are having trouble controlling their DM, or just need more personal attention, schedule an additional office visit with the specific purpose of providing education, discussing individual barriers and goals. Also, seek out the skills of your nursing staff and our pharmacists and DCT to provide the individualized care your patients need.

5. I don’t find the smart set to be useful – why should I use it at all?
   Use the MeriterCare tools that work best for you AND be sure that you always incorporate the critical elements. This can be done via the Smart Set, Notewriter or Smart Phrases.
   - DM Control: foot exam, testing, diet, activity
   - DM Symptoms
   - DM Risk Factors/lifestyle/smoking
   - DM Comorbidities
   - DM Labs
   - DM Meds
   - Patient instructions/goals
TOOL: SIMPLE INSULIN DOSE ADJUSTMENTS
COMPETENCY VALIDATION

THEDACARE PHYSICIANS

THEDACARE COMPETENCY VALIDATION

Employee Name: ______________

<table>
<thead>
<tr>
<th>Title: Simple Insulin Dose Adjustments</th>
<th>Dept: Nutrition and Diabetes Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: 8/6/13</td>
<td>Owner:</td>
</tr>
</tbody>
</table>

- Clinicians should demonstrate competent level prior to practicing independently.
- If unable to demonstrate competence, clinician will be re-trained and re-evaluated on competency prior to practicing independently.
- Needs to have passed the Diabetes Medications—Non-Insulin Competency.

OBJECTIVE STATEMENT: following this competency, the participant should be able to:

1. Describe action periods of rapid, fast, intermediate, long acting and premixed insulins.
2. Determine appropriate long acting or premixed insulin dose adjustments per the Insulin Management of Patients in Outpatient Diabetes Program Policy and Procedure.
3. Identify a blood glucose pattern where a patient on long acting insulin would require a change in insulin regimen and describe why.
4. Identify a blood glucose pattern where a patient on a premixed insulin regimen would require a change in insulin regimen and describe why.
5. Document insulin adjustment in a telephone encounter including documentation of blood sugars, dose adjustment, and means of communication or with whom message was left.
6. Adjust insulin orders in EPIC to reflect insulin change documentation in telephone encounter.
7. Recognize the brand and generic names of insulin.
8. Identify at least two other classes of medications that could increase the risk of hypoglycemia when taken concurrently with insulin.
9. Describe definition of hypoglycemia, four symptoms of hypoglycemia and four ways to treat low blood sugar.
10. Describe two situations where RD/RN CDE would advise patient to call MD office with blood glucose levels.
11. Describe when to give insulin in relation to meal and type of insulin.
12. Describe acceptable locations to inject insulin.
13. Describe appropriate storage of insulin.

KNOWLEDGE OR TECHNICAL RESOURCES:

- Insulin Management of Patients in the Outpatient Diabetes Program (Heartbeat-Webs-Nutrition and Diabetes-Team Site-Depts Resources-Outpatient-Nursing Privileges).
- Drug Monographs for Lantus, Levevir, Novolin 70/30, Humulin 70/30, Novolog Mix 70/30, Humalog Mix 75/25 Insulins.

VALIDATION OF COMPETENCY:

A. Knowledge (Cognitive) Criteria

1. Match the appropriate action time to the appropriate insulin. (Draw lines between corresponding insulin and action time.)

<table>
<thead>
<tr>
<th>Insulin</th>
<th>Action Times</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid-Acting</td>
<td>Onset 1-2 hours</td>
<td>Peak Flat</td>
</tr>
<tr>
<td>Short-Acting</td>
<td>Onset 5-15 minutes</td>
<td>Peak Dual</td>
</tr>
<tr>
<td>Long-Acting</td>
<td>Onset 1/2-1 hour</td>
<td>Peak 2-4 hours</td>
</tr>
<tr>
<td>Premixed Human Insulins</td>
<td>Onset 1/2-1 hour</td>
<td>Peak Dual</td>
</tr>
<tr>
<td>Premixed Analog Insulins</td>
<td>Onset 5-15 minutes</td>
<td>Peak 1-2 hours</td>
</tr>
</tbody>
</table>
2. 75 year old female was started on Lantus insulin 10 units at bedtime three days ago. She has Type 2 diabetes, takes Metformin 1000mg BID, Glipizide was discontinued with initiation of insulin therapy. Patient walks 30 minutes daily after breakfast. Patient is following a carb counting meal plan of 45 grams per meal and 15 grams at bedtime. Reported blood sugars are:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>195</td>
</tr>
<tr>
<td>201</td>
<td>239</td>
</tr>
<tr>
<td>182</td>
<td>183</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedure, what insulin dose change would you recommend and why?

Blood sugars at next report five days later are:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>173</td>
<td>199</td>
</tr>
<tr>
<td>180</td>
<td>169</td>
</tr>
<tr>
<td>172</td>
<td>165</td>
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<tr>
<td>182</td>
<td>177</td>
</tr>
<tr>
<td>176</td>
<td>172</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedure, what insulin dose change would you recommend and why?

Blood sugars at next report three days later are:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>143</td>
<td>162</td>
</tr>
<tr>
<td>152</td>
<td>157</td>
</tr>
<tr>
<td>156</td>
<td>154</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedure, what insulin dose change would you recommend and why?
Blood sugars at next report four days later are:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>132</td>
<td>125</td>
</tr>
<tr>
<td>128</td>
<td>130</td>
</tr>
<tr>
<td>125</td>
<td>122</td>
</tr>
<tr>
<td>127</td>
<td>118</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedure, what insulin dose change would you recommend and why?

3. 48 year old male with Type 2 diabetes has been taking Lantus insulin 50 units daily. He also takes Metformin 1000mg BID. He eats about 60-75 grams of carb/meal. He does no exercise but is active working as a farmer. He started Byetta 5mg one week ago. Lantus insulin was reduced at that time from 60 to 50 units daily. Blood sugar test results are as follows:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>100</td>
<td>64</td>
<td>110</td>
</tr>
<tr>
<td>82</td>
<td>92</td>
<td>85</td>
<td>104</td>
</tr>
<tr>
<td>69</td>
<td>110</td>
<td>78</td>
<td>113</td>
</tr>
<tr>
<td>88</td>
<td>74</td>
<td>65</td>
<td>92</td>
</tr>
<tr>
<td>75</td>
<td>83</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>109</td>
<td>97</td>
<td>102</td>
<td>103</td>
</tr>
<tr>
<td>71</td>
<td>78</td>
<td>69</td>
<td>99</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedures, what insulin dose change would you recommend and why?

4. 57 year old male with Type 2 diabetes is taking Levemir insulin 40 units BID. He also takes Metformin 1000mg BID. A1C was 8.4. Recent test results are:

<table>
<thead>
<tr>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>136</td>
<td>162</td>
<td>154</td>
<td>194</td>
</tr>
<tr>
<td>150</td>
<td>158</td>
<td>161</td>
<td>187</td>
</tr>
<tr>
<td>144</td>
<td>170</td>
<td>180</td>
<td>213</td>
</tr>
<tr>
<td>180</td>
<td>188</td>
<td>174</td>
<td>200</td>
</tr>
<tr>
<td>128</td>
<td>156</td>
<td>163</td>
<td>181</td>
</tr>
<tr>
<td>139</td>
<td>167</td>
<td>177</td>
<td>198</td>
</tr>
<tr>
<td>141</td>
<td>171</td>
<td>180</td>
<td>250</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?
What insulin dose change is needed and why?

5. 72 year old female with Type 2 diabetes eats 45 grams of carb/meal and 15 grams at bedtime. Rides a stationary bike after breakfast for 30 minutes daily. Babysits grandchildren in afternoon. Medicines are: Metformin 1000mg BID daily and Humalog mix 75/25 insulin 30 units at breakfast and 22 units at dinner. Recent blood glucose tests results:

<table>
<thead>
<tr>
<th></th>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>122</td>
<td>101</td>
<td>86</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>110</td>
<td>77</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>78</td>
<td>146</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>68</td>
<td>102</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>114</td>
<td>72</td>
<td>76</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>111</td>
<td>65</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>70</td>
<td>138</td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

Based on the policy and procedures, what insulin dose change would you recommend and why?

6. 62 year old male with Type 2 diabetes. He lost his insurance and cannot afford his Lantus and Humalog insulins. He was changed to Novolin (Relion) 70/30 insulin 24 units at breakfast and 12 units at supper. He continues on Metformin 1000mg BID. Blood glucose test results are:

<table>
<thead>
<tr>
<th></th>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>101</td>
<td>105</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>98</td>
<td>138</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>125</td>
<td>122</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>136</td>
<td>103</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>122</td>
<td>114</td>
<td>155</td>
<td></td>
</tr>
</tbody>
</table>

Based on the policy procedure, what would you recommend and why?

7. 52 year old male with Type 2 diabetes had an A1C of 9.4. He was started on Lantus insulin and doses have been titrated up gradually from 24 units to 36 units daily in the morning. He also is taking Metformin 1000mg BID. He eats 3 meals daily. Carb amounts are 60 grams for breakfast and lunch and 75-90 grams for dinner. He has been advised to decrease carbs at dinner to 60 grams; he is unwilling to do so. He is also unwilling to add exercise in the later part of the day. Recent blood glucose test results:

<table>
<thead>
<tr>
<th></th>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>113</td>
<td>132</td>
<td>186</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>86</td>
<td>101</td>
<td>178</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>99</td>
<td>235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>86</td>
<td>165</td>
<td></td>
<td></td>
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<tr>
<td>88</td>
<td>110</td>
<td>160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What blood glucose pattern do you see?

Based on the policy and procedure, what would you recommend and why?

8. 48 year old female with Type 2 diabetes is taking Humalog Mix 75/25 insulin 15 units at breakfast and 10 units at supper. She is on no other diabetes medication. She eats about 45 grams of carbohydrates at breakfast, skips lunch most days because she forgets to eat/isn’t hungry and eats 45-60 grams of carbohydrates at dinner and 0-15 grams of carbohydrates at bedtime. Blood sugars are as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>FBS</th>
<th>Lunch</th>
<th>Supper</th>
<th>Bedtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td></td>
<td>68</td>
<td>143</td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>80</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>76</td>
<td></td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>110</td>
<td>(ate this day) 92</td>
<td>101</td>
</tr>
</tbody>
</table>

What blood glucose pattern do you see?

What are your recommendations and why?

9. Based on your actions in question #3, please complete a telephone encounter including dose changes for ziztest, Julie, and print of your telephone encounter and attach to this competency.

10. Based on your actions in question #7, please complete a telephone encounter for ziztest, Julie, and print off your telephone encounter and attach to this competency.

11. Match the generic and brand name of the insulins. (Draw lines between the corresponding generic and brand name.) More than one line may go to the same generic.

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lispro</td>
<td>Humulin 70/30</td>
</tr>
<tr>
<td>Glargine</td>
<td>Novolin N</td>
</tr>
<tr>
<td>Regular, Human</td>
<td>Humalog</td>
</tr>
<tr>
<td>Glulisine</td>
<td>Novolin R</td>
</tr>
<tr>
<td>Insulin Lispro Protamine Suspension/Lispro</td>
<td>Apidra</td>
</tr>
<tr>
<td>Aspart</td>
<td>Levemir</td>
</tr>
<tr>
<td>Detemir</td>
<td>Novolog Mix 70/30</td>
</tr>
<tr>
<td>NPH, Human (Human Insulin Isophane Suspension)</td>
<td>Novolog</td>
</tr>
<tr>
<td>Insulin Aspart Protamine Suspension/Insulin Aspart</td>
<td>Humulin R</td>
</tr>
<tr>
<td>Insulin Isophane/Insulin Regular</td>
<td>Humulin N</td>
</tr>
<tr>
<td></td>
<td>Humalog Mix 75/25</td>
</tr>
</tbody>
</table>
12. Name at least two other classes of diabetes medications that could increase the risk of hypoglycemia when taken with insulin.

13. Hypoglycemia is defined as a blood sugar less than _____ mg/dl.

14. List four symptoms of hypoglycemia.

15. List four ways to treat a low blood sugar.

16. At what point should a patient call their MD with blood sugar levels (list two)?

17. List four areas where a person can inject insulin.

18. At what temperature range should the insulin vial/pen that is being used be stored?

19. Where should extra insulin vials/pens be stored?

20. How soon should a person eat after taking the following insulins?

   _____ Rapid insulin
   _____ Short acting insulin
   _____ Long acting insulin
   _____ Premixed Human Insulin
   _____ Premixed Analog insulin
   _____ Intermediate acting insulin

   a. Within 15 minutes
   b. Within 30 minutes
   c. Does not need to be taken in relationship to food

21. If using premixed insulins twice daily, when should the patient take the two doses of insulin?

   a. Before breakfast and bedtime
   b. Before breakfast and supper
   c. 12 hours apart, e.g. 6 AM and 6 PM
   d. Before their two largest meals
B. Standard Work/Process Steps

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Work Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Collect blood sugars and assess for patterns. (See protocol.)</td>
</tr>
<tr>
<td>2</td>
<td>Collect information from patient and evaluate need for change in meal plan or exercise patterns to bring blood sugars to target.</td>
</tr>
<tr>
<td>3</td>
<td>Evaluate need for insulin dose changes to bring blood sugars to target.</td>
</tr>
<tr>
<td>4</td>
<td>Instruct patient on diet, exercise and/or insulin change recommendations.</td>
</tr>
<tr>
<td>5</td>
<td>Document blood sugars and recommendations in telephone encounter. (See standard work.)</td>
</tr>
<tr>
<td>6</td>
<td>Change insulin doses in medication list in telephone encounter. (See standard work.)</td>
</tr>
<tr>
<td>7</td>
<td>Route telephone encounter to referring provider if dosing changes were made. (See job aide.)</td>
</tr>
<tr>
<td>8</td>
<td>Route telephone encounter to referring provider if adjustments are needed that are outside the accepted protocol adjustments. (See protocol.)</td>
</tr>
</tbody>
</table>

C. Competency Level Definitions

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Beginner</td>
<td>Received training. Performs simulation. Performs 10 dose adjustment encounters with supervision. Completes knowledge test with 100% accuracy.</td>
</tr>
<tr>
<td>2. Competent</td>
<td>Performs 15 dose adjustment encounters independently without defect per policy and procedure. Completes Validation of Competency.</td>
</tr>
<tr>
<td>3. Proficient</td>
<td>Strong use of reasoning and judgment in problem solving with more complex patient situations. Shows greater speed and flexibility in assessment, determining dose changes and documentation. Trains others.</td>
</tr>
<tr>
<td>4. Expert</td>
<td>High degree of skill &amp; knowledge with depth/breadth of experience Works through complex decision-making. Leads/mentors others.</td>
</tr>
</tbody>
</table>

Validated Beginner by: ___________________________ Date: __________________

Validated Competent by: ___________________________ Date: __________________

Validated Proficient by: ___________________________ Date: __________________

Validated Expert by: ___________________________ Date: __________________
INTEGRATE EMOTIONAL AND BEHAVIORAL SUPPORT

A critical component of managing and treating patients with Type 2 diabetes is emotional and behavioral support, addressing patient motivation as well as diabetes-related distress (i.e., emotional responses related to the disease). This support includes intervention strategies to promote patient engagement and self-management. Patients are offered resources and/or referrals for behavioral health support.

With good care, people with diabetes can live long, healthy lives. Yet, many struggle with managing their diabetes and can become overwhelmed by the often burdensome self-care demands, potentially leading to anger, guilt, depression, fear, or feelings of hopelessness. This reality highlights the importance of integrating psychosocial support with clinical care.

Behavioral health conditions are more common in patients with chronic conditions. Those with untreated depression and diabetes or heart disease have poorer self-care, greater functional impairment, lower quality of life, and an increased risk of developing complications and premature death. Patients with these diagnoses use more medical resources, are more likely to be hospitalized for medical conditions, and are readmitted to the hospital more frequently.

Evidence indicates that having two, mostly independent systems of care leads to worse health and higher total spending. The main goal of most integrated care programs is to improve communication between behavioral health and primary care providers, thereby improving care coordination.

INTERVENTIONS TO INCREASE EMOTIONAL AND BEHAVIORAL HEALTH SUPPORT

- Provide communication skills training to providers that promotes listening to the patients, expressing empathy, allowing patients to share their frustrations openly, and validating feelings.
- Emphasize the importance of careful use of language. Messaging should avoid judgmental tone, motivate patients, and emphasize that patients can lead long, healthy lives.
- Create the role of care managers to monitor the patient's condition, provide self-management support, coordinate care, refer to community resources, and proactively work closely with physicians and behavioral providers.
- Refer to resources such as support groups, patient advocacy groups, online forums, social media, patient blogs, and web-based tools.
- Focus on a manageable number of mutually agreed-upon goals for each patient. A scorecard with key diabetes numbers can avoid overwhelming patients.
- Use validated tools to screen for depression and anxiety, and understand the difference between depression and diabetes distress.
- Develop a collaborative plan with behavioral health practitioners to address depression, anxiety, and other conditions.
- Select people with diabetes to serve as advocates on decision-making committees.
Healthy Coping

Learning You Have Diabetes

Learning you have diabetes changes your life forever. You may feel scared, shocked, angry or overwhelmed. You may not want to believe it. These are normal reactions. Always remember that diabetes is a manageable disease. Learning how to manage your disease will ease your fear and anxiety. Many people diagnosed with type 2 diabetes become very motivated to improve their overall health and lifestyle, so they can enjoy life to its fullest. Learning coping skills and getting the support you need is very important.

Stress

Stress is a natural part of life. Sometimes it can affect us in a good way—such as teaching us new skills, motivating and strengthening us. But other times, stress can harm our health, especially if it persists day after day. Chronic stress can raise blood pressure, heart rate, cholesterol and blood glucose.

<table>
<thead>
<tr>
<th>Type of Stress</th>
<th>Psychological Stress</th>
<th>Physical Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Family issues or concerns</td>
<td>• Illness</td>
</tr>
<tr>
<td></td>
<td>• Work challenges</td>
<td>• Infection</td>
</tr>
<tr>
<td></td>
<td>• Financial worries</td>
<td>• Chronic pain</td>
</tr>
<tr>
<td></td>
<td>• Relationship issues</td>
<td>• Poor sleep</td>
</tr>
<tr>
<td></td>
<td>• Personal problems</td>
<td>• Health complications</td>
</tr>
<tr>
<td></td>
<td>• Caregiver responsibilities</td>
<td>• Dental problems</td>
</tr>
<tr>
<td></td>
<td>• Worry and fatigue</td>
<td></td>
</tr>
</tbody>
</table>

October 2014

Sutter Health
We Plus You
Coping Skills to Manage Stress

It is important to learn healthy ways to reduce and manage stress. Doing this can help improve your blood glucose levels and your overall health.

Tips for Stress Management

- Take a break: relax, take a walk, slow down, have some fun.
- Take care of your body. Eat healthy, sleep well, exercise, manage pain.
- Get support through friends, family members or professional counseling.
- Calm down and let go. Try deep-breathing exercises, meditation, or yoga.
- Make priorities. Decide what is most important in your life and stay focused on that.
- Take care of yourself. Do not put everyone else’s needs ahead of your own.
- Set realistic goals. Try to change only those things that you can.
- Nurture yourself spiritually, emotionally and mentally. Treat yourself like your own best friend.
- Take time to do things you love.
- Stay positive.
- Your ideas: ________________________________
  ________________________________
  ________________________________
  ________________________________

Recognizing Depression

When you first learn that you have diabetes—or at other times in your life when your stress level remains high week after week—it is normal to feel sad and anxious. When stress worsens enough to affect your motivation, energy level and daily happiness, you could be experiencing symptoms of depression. Depression can make managing your diabetes, health and lifestyle more challenging.

Depression is treatable, but it often takes expert help and guidance, including counseling and medicine. If you have some of the symptoms below, talk to your health care provider. You deserve to enjoy life without depression.

Symptoms of Depression

- Sadness or irritability
- Withdrawing or isolating yourself
- Fatigue and trouble sleeping
- Poor concentration, forgetting things
- Poor eating habits
- Feeling overwhelmed
- Lack of motivation
- Feeling hopeless and helpless
Diabetes Burnout

Taking care of your diabetes is an ongoing, daily routine. This routine gets easier when it becomes a habit. On the other hand, sometimes you may get tired of doing what it takes to manage your diabetes.

Signs of Diabetes Burnout

- Anger or resentment about having to manage your diabetes
- Feelings of being overwhelmed when thinking about the daily management routine
- Neglecting diabetes care: forgetting medicine, not checking blood glucose, not paying attention to eating and exercise
- No motivation or energy to manage your diabetes and take care of yourself
- Denying, forgetting or ignoring your diabetes

If you feel you have diabetes burnout, speak to your health care provider.

Taking Action

To manage your diabetes, your health care provider may recommend many lifestyle changes. Remember, no one expects you to immediately change all your daily habits. Most people do best when they can work on one lifestyle change at a time. Keep in mind these important steps for success:

- Make a clear plan
- Keep it realistic
- Do it consistently
- Document your success

It is normal to make mistakes and fall back on old habits, but sticking to your plan will help you achieve successful results. With success comes a feeling of well being.

Choose one of the AADE7™ Self-Care Behaviors to create a behavior-change goal. Then work with your health care provider to develop an action plan that will help you reach your goal.

- Healthy eating
- Being active
- Monitoring
- Taking medications
- Problem solving
- Reducing risks
- Healthy coping

You can use the Take Action form on the next page.

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Take Action Plan

SMART goals help people with diabetes and their healthcare team track the progress of reaching your goal. When you are in a diabetes education program, you will set short term goals that can be met during the program.

If you answer these questions and complete this sentence you will have a SMART goal to follow:

By (date) ___________ I will WHAT ___________________________,

WHEN ____________________, WHERE ________________________,

HOW OFTEN (daily, weekly etc.) _____________, HOW LONG _____________

in order to WHY (i.e. lower blood glucose, lose weight) _________________.

How will you TRACK your goal? _________________________________

Confidence Level

1 2 3 4 5 6 7 8 9 10

We ask people to “Rate your confidence level” after you set a goal. Confidence means how likely you think you can finish your goal.

• A rating of 1 means you are not sure at all and a rating of 10 means you are very sure. If you choose a 6 or below, ask yourself, how can you change your goal to make it easier to reach?
• Start with something you think is doable and then add on to the goal over time.
• Small changes now help you to meet bigger goals later.

Action Plan

An Action Plan helps you to meet your goal and to make changes to your goal when you are not able to finish what you set out to do. Ask yourself these questions:

• Who do you need support from?
• What might get in the way or make it hard for you to reach your goal?
• What is a reasonable time frame for your goal?
• What are some things you can do differently?
• Is your home or work planned to help you reach your goal?
Keeping track of your goals
- Use a paper log or a mobile application (app) to track progress.
- Use reminders in your calendar, on your phone or with a mobile app.
- Social media and online support groups may help you find people to support you.
- A list of commonly used mobile apps and online diabetes support communities are listed in the back of the book.

Tracking your Progress
- How successful were you in reaching your goal?
- Rate your goal on a scale of 1-10 with 1 meaning not at all, 5 meaning half of the time, 7 meaning most of the time, and 10 meaning all of the time.
- If you met your goal, that is great! Now think about a new goal to help you keep your new skill or habit for the long term.
- If you did not meet your goal, think about how you might do things differently and change activities to reach your goal.
- Maybe your goal was too hard? You may need to start over with a new goal?

Your diabetes educator can help you set SMART goals and Action Plans.

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Adaptación saludable

Entrarse de que tiene diabetes
Entrarse de que tiene diabetes cambia su vida para siempre. Puede sentir miedo, impacto, enojo o sentirse abrumado. Probablemente no quiera creerlo. Estas son las reacciones normales. Recuerde siempre que la diabetes es una enfermedad que se puede controlar. Aprender a controlar su enfermedad le ayudará a aliviar su ansiedad y temor. Muchas personas diagnosticadas con diabetes tipo 2 se ven muy motivadas a mejorar su salud en general y estilo de vida, de manera que pueden disfrutar de la vida a plenitud. Aprender las habilidades de adaptación y obtener el apoyo que necesita es muy importante.

Estrés
El estrés es una parte natural de la vida. Algunas veces puede afectarnos de buena forma, como enseñarnos nuevas habilidades, motivación y fortalecernos. Pero otras veces, el estrés puede dañar nuestra salud, especialmente si persiste día tras día. El estrés crónico puede elevar la tensión arterial, la frecuencia cardiaca, el colesterol y la glucosa en la sangre.

<table>
<thead>
<tr>
<th>Tipo de estrés</th>
<th>Estrés psicológico</th>
<th>Estrés físico</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Problemas familiares o inquietudes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Desafíos laborales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Preocupaciones financieras</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Problemas de relaciones</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Problemas personales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Responsabilidades de los cuidadores</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Infección</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dolor crónico</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• No dormir bien</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Complicaciones de salud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Problemas dentales</td>
<td></td>
</tr>
</tbody>
</table>
Destrezas para afrontar el estrés

Es importante aprender maneras saludables para reducir y manejar el estrés. Hacerlo puede ayudar a mejorar sus niveles de glucosa en sangre y su salud en general.

Consejos para el manejo del estrés

- Tómese un tiempo libre: Relájese, realice una caminata, tranquílícese, diviértase.
- Cuide su cuerpo. Duermo bien, coma de manera saludable, haga ejercicio, manéje el dolor.
- Obtenga el apoyo de amigos, familiares u orientación profesional.
- Calmarse y dejarse llevar. Intente ejercicios de respiración profunda, meditación o yoga.
- Establezca prioridades. Decidir qué es lo más importante en su vida y mantenerse centrado en ello.
- Cuídese a sí mismo. No anteponga las necesidades de los demás a las suyas.
- Establezca objetivos realistas. Trate de cambiar únicamente aquellas cosas que puede controlar.
- Cultúrese a sí mismo espiritual, emocional y mentalmente. Trátese a sí mismo como su mejor amigo.
- Tómese el tiempo necesario para hacer las cosas que ama.
- Sea positivo.
- Sus ideas: ___________________________________________________________________

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Ser consciente de la depresión

Al enterarse que tiene diabetes, o en otras ocasiones en su vida cuando su nivel de estrés permanece alto semana tras semana, es normal sentir tristeza y ansiedad. Cuando el estrés empeora lo suficiente como para afectar su motivación, nivel de energía y felicidad diaria, puede estar experimentando síntomas de depresión. La depresión puede hacer que el manejo de su diabetes, salud y estilo de vida sea más difícil.

La depresión es curable, pero con frecuencia requiere la ayuda y orientación de un experto, incluyendo asesoramiento profesional y medicamentos de venta con receta receta. Si usted experimenta algunos de los siguientes síntomas, hable con su proveedor de atención médica. Usted merece disfrutar de la vida sin depresión.

Síntomas de depresión

- Tristeza o irritabilidad
- Apartarse o aislarse
- Fatiga y dificultad para dormir
- Pérdida de la concentración, olvidarse cosas
- Hábitos alimenticios pobres
- Sentirse abrumado
- Falta de motivación
- Sentirse desesperanzado y desvalido
Agotamiento por la diabetes
El cuidado de su diabetes es una rutina diaria y continua. Esta rutina se vuelve más fácil cuando se convierte en un hábito. Por otro lado, algunas veces usted puede cansarse de hacer lo que tenga que hacer para manejar su diabetes.

Signos del agotamiento por la diabetes
• Ira o resentimiento acerca de tener que controlar su diabetes
• Sentirse abrumado cuando piensa en el manejo de la rutina diaria
• Descuidar la atención de la diabetes: olvidarse los medicamentos, no revisar su nivel de glucosa en sangre, no prestar atención a la dieta y al ejercicio
• Sin motivación o energía para manejar su diabetes y cuidarse a sí mismo
• Negar, olvidarse o ignorar su diabetes
Si siente que sufre agotamiento por la diabetes, hable con su proveedor de atención médica.

Tome acciones
Para manejar su diabetes, su proveedor de atención médica puede recomendar muchos cambios en su estilo de vida. Recuerde, nadie espera que usted cambie de inmediato todos sus hábitos cotidianos. La mayoría de las personas lo hacen mejor cuando pueden trabajar sobre un cambio de estilo de vida por vez. Tenga en cuenta estas medidas importantes para el éxito:
• Haga un plan claro
• Manténgalo realista
• Hágallo de forma invariable
• Documente su éxitos
Es normal cometer errores y caer en los viejos hábitos, pero adherirse a su plan le ayudará a lograr resultados exitosos. Con el éxito viene una sensación de bienestar.

Elija uno de los comportamientos de autocuidado AADE7™ para crear un objetivo de cambio de comportamiento. Luego trabaje con su proveedor de atención médica para desarrollar un plan de acción que le ayude a alcanzar su objetivo.
• Una alimentación saludable
• Permanecer activo
• Control
• Tomar los medicamentos
• Resolución de problemas
• Reducir los riesgos
• Adaptación saludable
Puede utilizar el formulario Tomar acciones en la página siguiente.
Adopte un plan de acción

Los objetivos inteligentes ayudan a las personas con diabetes y a su equipo de atención médica a hacer seguimiento al progreso para alcanzar su objetivo. Cuando se encuentra en un programa de Educación de la diabetes, usted establecerá objetivos de corto plazo que se pueden cumplir durante el programa.

Si usted responde estas preguntas y completa esta frase tendrá una meta SMART (Inteligente) a seguir.

Por (fecha) ____________ Yo QUÉ _________________.

CUÁNDO ________________, DÓNDE _________________.

¿Con qué frecuencia (semanal diaria, etc.) ________________, Por cuánto tiempo _________________.

con el fin de por qué (es decir, reducir el nivel de glucosa en sangre, perder peso) _________________.

¿Cómo hará seguimiento de su objetivo? _________________.

Nivel de confianza

1 2 3 4 5 6 7 8 9 10

Le pedimos a las personas que “Califiquen su nivel de confianza” después de que usted establezca un objetivo. Confianza significa la probabilidad que usted considera en que puede lograr su objetivo.

- Una clasificación de 1 significa que usted no está seguro en absoluto y una clasificación de 10 significa que está muy seguro. Si usted elige un 6 o menos, pregúntese lo siguiente, ¿cómo puede cambiar su objetivo para que sea más fácil de lograrlo?
- Empiece con algo que crea que es posible y luego añada a la meta con el tiempo.
- Los cambios pequeños ahora lo ayudan a cumplir las metas más grandes más adelante.

Plan de acción

Un Plan de acción le ayuda a usted a cumplir su objetivo y a hacer cambios en el mismo cuando usted no es capaz de terminar lo que se ha propuesto. Hágase estas preguntas:

- ¿De quién necesita usted apoyo?
- ¿Qué puede interferir o hacer más difícil que usted logre su objetivo?
- ¿Cuál sería un marco de tiempo razonable para su objetivo?
- ¿Cuáles son algunas cosas que usted puede hacer de manera diferente?
- ¿Está su casa o trabajo planificado para ayudarlo a alcanzar su objetivo?
Lleve un control de sus metas
- Utilice un registro de papel o una aplicación móvil (app) para realizar un seguimiento del progreso.
- Utilice recordatorios en su calendario, en su teléfono o con una aplicación móvil.
- Los medios sociales y grupos de apoyo en línea pueden ayudarlo a encontrar personas que le apoyen.
- Una lista de aplicaciones móviles comúnmente utilizadas y las comunidades de apoyo en línea de la diabetes se enumeran en la parte posterior del libro.

Seguimiento de su progreso
- ¿Qué tan exitoso fue usted en alcanzar su objetivo?
- Califique su objetivo en una escala de 1 a 10, donde 1 significa nada, 5 significa la mitad de las veces, 7 significa casi todo el tiempo y 10 significa todo el tiempo.
- Si usted cumple con su objetivo, ¡eso es excelente! Ahora piense en una nueva meta que le ayude a mantener su nueva habilidad o hábito a largo plazo.
- Si usted no cumplió con su objetivo, piense en cómo se podrían hacer las cosas de manera diferente y cambie sus actividades para lograr su meta.
- ¿Tal vez su objetivo era demasiado difícil? ¿Debe comenzar con un nuevo objetivo?

Su educador de la diabetes puede ayudarlo a establecer objetivos SMART y planes de acción.
More than any other chronic condition, effective diabetes treatment is dependent on patient self-awareness, self-management, self-motivation, and ultimately self-care. Research shows the positive impact DSME can have on people with Type 2 diabetes, including improved HbA1c, enhanced self-efficacy, decreased presence of diabetes-related distress and depression, and reduced onset and/or advancement of diabetes complications.

Diabetes self-management education (DSME) is the process of facilitating the knowledge, skill, and ability necessary for diabetes self-care. Such programs offer quality education that meet the National Standards for Diabetes Self-Management Education and Support, and are eligible for third-party insurance reimbursement (including Medicare and many Medicaid). Currently, two organizations, ADA and AADE, are CMS-designated national accreditation organizations.

TIPS FOR REFERRING PATIENTS

- Create and implement a communications plan to educate providers about the availability and effectiveness of DSME programs and how to effectively refer patients.
- Determine if your organization currently offers or refers to a DSME program.
- Identify DSME programs in your area using search tools offered by ADA and AADE (refer to Appendix E: Suggested Readings for links). If programs exist, collaborate to create a referral process that includes a formal feedback loop to track attendance.
- Consider creating a recognized program.
- Focus initial DSME referrals on four critical time points:
  1. New diagnosis of Type 2 diabetes
  2. Annual health maintenance and prevention of complications
  3. New complicating factors that influence self-management (e.g., prescribing a new medication)
  4. Transitions in care occur (e.g., transitioning into adulthood, hospitalization, and moving into an assisted living facility, skilled nursing facility, correctional facility, or rehabilitation center)
- Develop a streamlined, systematic referral process to DSME programs. For reimbursement, referrals must be generated by the physician or qualified non-physician practitioner managing the individual’s diabetes condition.
My Self-Care Success

Instructions: By setting self-care goals you can take an active role in helping yourself feel better more quickly. Choose one of the areas below and set a goal. Make sure the goal is clear and reasonable.

Eat a Healthy Diet
Be Physically Active
Take My Medicine
Spend time with people that support you

Monitor My Blood Sugar and Blood Pressure
Cope with Stress
Limit Alcohol
Stop Smoking

One way I want to improve my health is (e.g., be more active):

My goal for this week is (e.g., walk 4 times):

When I will do it (e.g., mornings before breakfast): _______________________

Where I will do it (e.g., at the park): _______________________

How often I will do it (e.g., Monday through Thursday): _______________________

How likely are you to follow through with these activities prior to your next visit? circle one

Not Likely 1 2 3 4 5 6 7 8 9 10 Very Likely

What might get in the way of your completing these activities prior to your next visit?

Solutions to the above barriers: _______________________

_____________________________
## TOOL: DIABETES REPORT CARD

**BILLINGS CLINIC**

### Your Diabetes Report Card

<table>
<thead>
<tr>
<th>“A-B-Cs”</th>
<th>Risk Factor</th>
<th>Your Goals</th>
</tr>
</thead>
</table>
| **A**  | Diabetes Control  
*My Hemoglobin A1c is _______ = average glucose of _______.*  
This measures how your sugars (glucose) have been running in the past 3 months. | □ Hemoglobin A1c goal is _______.  
□ Pre-meal blood sugar target is 80 to 130 mg/dl  
□ Peak blood sugar target (2 hrs after a meal) is less than 180 mg/dl  
□ Have your A1c checked every 3-6 months |
| **B**  | Blood Pressure  
*My blood pressure is _______.*  
This blood pressure control is very important in preventing the complications of diabetes. | □ Blood pressure goal is less than 140/90  
□ Have your blood pressure checked at every office visit or as directed by your health care provider |
| **C**  | Cholesterol  
*• Total Cholesterol level is _____  
• Triglyceride level is _____  
• HDL (good) level is _____  
• LDL (bad) level is _____.* | □ Total Cholesterol less than 200  
□ Triglycerides less than 150  
□ HDL greater than 50  
□ LDL less than 100 (if high risk heart disease <70)  
□ Diabetics aged 40-75 should be on a statin |
| **D**  | Diet and Weight  
*Eat a healthy diet moderate in calories to help you maintain a healthy weight  
My weight today is _______.  
My BMI today is _______.* | □ If you are overweight, losing 5-10% of your current weight can improve your blood sugar, blood pressure, cholesterol and overall well-being  
5 – 10% = _________ pounds  
□ Get a dilated eye exam by an eye care provider ONCE A YEAR or as directed. |
| **E**  | Unrecognized Diabetic Eye Disease  
Diabetes is the leading cause of blindness in the U.S.  
*Date of Last eye exam: _______.* | □ Get a foot exam in your doctor’s office ONCE A YEAR or as directed.  
□ Check your feet daily. |
| **F**  | Unrecognized Diabetic Foot Disease  
Diabetes causes loss of sensation in the feet and poor circulation.  
*Date of last foot exam: _______.* | □ 30 to 60 minutes of moderate activity per day can improve your blood sugar and weight.  
□ Reduce the amount of time you are sitting. |
| **G**  | Lack of Physical Activity  
Increased activity is a natural way of improving your diabetes control and overall health. | □ Daily aspirin therapy may be of benefit and is recommended for men > 50 and women > 60.  
Check with your provider. |
| **H**  | Risk of Heart Disease and Stroke  
People with diabetes have an increased risk of heart attack and stroke. | □ Influenza Immunization annually  
□ Pneumococcal Vaccination  
□ Hepatitis B Vaccination (ages 19-59)  
Getting these vaccines can prevent serious illness or even death  
Last influenza immunization _________  
Last Pneumo-13 vaccination _________  
Last Pneumo-23 vaccination _________  
Last Pneumo-unknown vaccination _________  
□ Hepatitis B Vaccinations  
1) _________ 2) _________ 3) _________ |
| **I**  | Unrecognized Kidney Disease  
*My microalbumin to creatinine ratio is: _______.*  
(Normal is less than 30) Diabetes is the most common cause of kidney failure in the U.S. | □ Get a yearly urine test to check if diabetes may be affecting the kidneys.  
□ Your provider may prescribe a blood pressure medication called an ACE Inhibitor or ARB to help keep your kidneys healthy. |

---

**Date:** ___________
We recommend AMGA members implementing this plank create a similar program referral list for your area. The program list included below is intended to serve as an example.

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### Diabetes educators and diabetes education programs

Diabetes education and medical nutrition therapy are covered by most commercial insurance providers and by Medicare. For help locating diabetes educators in the area of your practice, call Intermountain’s Primary Care Program at 801-442-2990.

#### Salt Lake Valley Area

- **Salt Lake City, UT**
  - **Salt Lake Clinic**
    - 389 South 900 East
    - 385-282-2600 option 2
- **Murray, UT**
  - **Intermountain Medical Center**
    - 5121 Cottonwood Street
    - 801-507-3366
  - **Intermountain Medical Group Comprehensive Care Clinic**
    - 5171 Cottonwood Street
    - 801-507-9369

#### Cottonwood Endocrine and Diabetes Center
- 5770 South 250 East, Suite 310
- 801-314-4500

#### Internal Medicine Associates
- 9844 South 1300 East, #200
- (Alta View Hospital Campus)
- 801-572-1472

#### Bountiful, UT

- **Bountiful Health Center**
  - 390 North Main Street
  - 801-294-1000

#### Taylorsville, UT

- **Taylorsville Health Center**
  - 3845 West 4700 South
  - 801-840-2000

#### Central Utah

- **Heber, UT**
  - **Heber Valley Medical Center**
    - 1485 South Highway 40
    - 435-657-4311
- **American Fork, UT**
  - **American Fork Hospital**
    - 98 North 1100 East, Suite 302
    - 801-492-2200

#### Provo, UT

- **Utah Valley Regional Medical Center**
  - 1034 North 500 West
  - 801-357-7546

#### Mt. Pleasant, UT

- **Sanpete Valley Hospital**
  - 1100 South Medical Drive
  - 435-462-2441

#### Fillmore, UT

- **Fillmore Community Hospital**
  - 674 South Highway 99
  - 435-743-5591

#### Richfield, UT

- **Sevier Valley Medical Center**
  - 1000 North Main
  - 435-893-0371

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**Southern Utah**

- **Panguitch, UT**
  - Garfield Memorial Hospital
  - 200 North 400 East
  - 435-676-8811

- **Cedar City, UT**
  - Valley View Medical Center
  - 110 West 1325 North, Suite 100
  - 435-868-5576

- **St. George, UT**
  - Dixie Regional Diabetes Clinic
  - 348 East 600 South
  - 435-251-2888

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**Southern Idaho & Northern Utah**

- **Burley, ID**
  - Cassia Regional Medical Center
  - 1501 Hiand Avenue
  - 208-677-6035

- **Tremonton, UT**
  - Bear River Valley Diabetes Education
  - 440 West 600 North
  - 435-716-5310

- **Logan, UT**
  - Logan Regional Hospital
  - 500 East 1400 North
  - 435-716-5310

- **Budge Diabetes Clinic**
  - 1350 North 500 East
  - 435-792-1710

- **Ogden, UT**
  - McKay-Dee Hospital
  - 4401 Harrison Blvd
  - 801-387-7520

- **McKay-Dee Endocrine and Diabetes Clinic**
  - 4403 Harrison Blvd, #3630
  - 801-387-7900

- **North Ogden Clinic**
  - 2400 North 400 East (Washington Blvd)
  - 801-786-7500

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This CPM presents a model of best care based on the best evidence available at the time of publication. It is not a prescription for every patient, and it is not meant to replace clinical judgment. Although physicians are encouraged to follow the CPM to help focus on and measure quality, deviations are a means for discovering improvements in patient care and expanding the knowledge base. Send feedback to Wayne Cannon, MD, Intermountain Healthcare, Primary Care Medical Director (Wayne.Cannon@email.org).
A process is in place to identify patients seen in the practice who are at high risk for Type 2 diabetes, according to American Diabetes Association (ADA) recommendations for testing for diabetes or prediabetes in asymptomatic adults. Screening occurs at primary care, endocrinology, cardiology, nephrology, and other specialty visits (as determined by the group), and appropriate follow-up is provided. The EHR is used to identify patients who already meet the clinical criteria for type 2 diabetes but lack a diagnosis or problem list entry.

One-fourth of Americans who have Type 2 diabetes—and nearly twice that proportion among Asian and Hispanic Americans—are unaware they have it. Screening asymptomatic adults (practice-based case detection) is therefore an essential population health strategy.

According to the American Diabetes Association’s Standards of Care:

- All patients 45 years of age or older should be tested, with repeat testing every 3 years if the results are normal, every year for people who have prediabetes; and
- Testing should be considered in adults younger than 45 who are overweight (BMI ≥ 25, or ≥ 23 in Asian Americans) and have additional risk factors.

**TIPS FOR EFFECTIVE SCREENING**

- Conduct screening in a practice-based setting, where patients can receive individualized treatment and support.
- Use hemoglobin A1c (HbA1c), fasting plasma glucose, or a two-hour oral glucose tolerance test for screening. Equivocal results should be confirmed through repeat testing or a different test.
- Identify people with diabetes who are “hiding in plain sight.” These are patients who already have lab results that are diagnostic for diabetes or who are being treated for glycemic control but do not have the diagnosis on their problem list.
- Address “clinical inertia” to improve the effectiveness of identifying, documenting, and treating patients with diabetes or at risk to develop the condition.
- Organizations should consider addressing policy, system, and environmental factors through community interventions to promote healthy lifestyles.
- Create care pathways for those newly diagnosed with Type 2 diabetes or pre-diabetes:
  - For people found to have Type 2 diabetes, therapy should be individualized.
  - For people who have “pre-diabetes” (HbA1c 5.7–6.4%, impaired fasting glucose, or impaired glucose tolerance), retesting should occur at least once a year.
    - Clinicians should provide full diagnostic disclosure that promotes shared decision-making. This may include creation of a “roadmap” for aggressive lifestyle interventions to prevent or delay the onset of overt Type 2 diabetes.
    - Consider referral to programs that meet the guidelines of the Centers for Disease Control and Prevention’s National Diabetes Prevention Program.
    - Other modifiable risk factors should be addressed, including smoking cessation and treatment of hypertension.
    - Clinicians should discuss the benefits and risks of medications for glycemic control for people at the upper end of the range for pre-diabetes who are obese or have additional risk factors. Shared decision-making is recommended for these patients.
TOOL: SCREENING AND DIAGNOSIS ALGORITHM

SCREENING AND DIAGNOSIS

Timely, accurate screening and diagnosis is important because it can:

- **Identify those at risk for diabetes.** Therapeutic lifestyle changes may delay or prevent development of diabetes in people with prediabetes.
- **Prevent or delay diabetes complications.** The length of time between the onset of hyperglycemia and appropriate treatment for the condition can be a significant factor in the development and severity of complications. Type 2 diabetes is often asymptomatic, and at the time of diagnosis a significant number of type 2 patients already have complications such as neuropathy, nephropathy, or retinopathy.
- **Identify those at risk for other causes of hyperglycemia.** Hyperglycemia can be chronic, pathogenic, asymptomatic, and can be caused by conditions other than diabetes. Screening for hyperglycemia can also detect patients at risk for complications from vascular, neurological, and renal conditions.

**Screening**

This CPM recommends:

- **Routine screening for type 2 diabetes.** Note that in addition to testing the patients specified in the algorithm on page 4, physicians should consider testing adults older than age 30 every 3 to 5 years. This is a cost-effective strategy; the benefits of early detection of type 2 diabetes include a reduced incidence of myocardial infarction and microvascular complications.\(^5\)\(^6\)
- **No routine screening for type 1 diabetes.** People with type 1 typically present with acute symptoms and markedly elevated blood glucose, and most cases are diagnosed soon after the onset of hyperglycemia.

For pregnant patients, routine screening for gestational diabetes is recommended per the Intermountain care process model *Management of Gestational Diabetes.*

**Diagnosis**

Recommended diagnostic tools for type 2 diabetes include:

- **Hemoglobin A1c (HbA1c).**\(^4\)\(^5\)\(^6\) HbA1c measurement does not require the patient to fast or undergo a glucose tolerance test, and the required specimens are stable at room temperature. Further, the results are not affected by intercurrent illness or stress and correlate with the development of subsequent retinopathy. Limitations of this test are that HbA1c’s normal range is modestly higher in certain ethnic groups (e.g., African-Americans, Asian Indians) and it increases with age. HbA1c is elevated in patients with untreated hypothyroidism, and among U.S. adults with diabetes it tends to be slightly higher in winter.\(^7\)\(^8\) False negative values can occur in patients with rapid red cell turnover, some anemias, and recent onset of diabetes.

- **Fasting plasma glucose (FPG).** The FPG is more convenient for patients, more reproducible, less costly, and easier to administer than the 2-hour OGTT.

- **Other acceptable diagnostic tests include a two-hour, 75-gram oral glucose tolerance test (OGTT).** This test may be required when evaluating patients with impaired fasting glucose (IFG) or if diabetes is still suspected despite a normal FPG or HbA1c result.

Diagnostic criteria for diabetes are listed in note (d) on the algorithm on the following page. Note that in the absence of unequivocal hyperglycemia, repeat testing is required to make a diagnosis of diabetes.\(^4\)\(^5\)\(^6\) In an outpatient with new onset of hyperglycemia, causes of hyperglycemia other than diabetes should be considered. The differential diagnosis of hyperglycemia includes type 1 and type 2 diabetes, Cushing’s syndrome, electrolyte abnormalities, acromegaly, pheochromocytoma, and pancreatic cancer.

**PROFILES: TYPE 2, TYPE 1, LADA**

Most new diabetes patients over the age of 30 will have type 2. Nevertheless, when the type of diabetes is uncertain by clinical presentation, we recommend antibody testing. Key considerations:

**Type 2:**
- Onset is usually slow.
- Occurs mainly in older adults, but can occur in children.
- Common features at diagnosis are obesity, insulin resistance, and neuropathy.
- Family history usually includes a first-degree relative with type 2 diabetes.
- Condition usually responds to oral medications for years.

**Type 1:**
- Onset is usually rapid (over the course of days or weeks).
- Occurs primarily in children and younger adults.
- Common features at diagnosis are DKA, recent weight loss, and insulin deficiency.
- Family history including a first-degree relative with diabetes is less common.
- Condition requires insulin from onset.

**LADA (latent autoimmune diabetes in adults):**
- Onset is slow.
- Occurs in adults age 30 and older (does not occur in children).
- Prevalence among patients with adult-onset diabetes is about 10%.\(^9\)\(^10\)
- In LADA patients, glutamic acid decarboxylase (GAD) antibodies are present close to 90% of the time, with only a small additional fraction of patients having other autoantibodies.\(^11\)\(^12\)
- In comparison to diabetic patients without autoantibodies, LADA patients are more often female, younger at diagnosis, have a smaller waist circumference (are overweight but not obese), and do not exhibit DKA.
- Family or personal history often includes autoimmune disorder.
- Condition may initially respond to oral medications and other therapies, but will eventually require insulin.

**To order antibody testing:**
- GAD antibody: ARUP # 0070211, Sunquest code GADAB, CPT 83519
- If GAD is negative, then order insulinoma associated-2 antibodies and/or Zinc transporter 8 antibodies.
ALGORITHM: SCREENING AND DIAGNOSIS

Patient appropriate for SCREENING or with symptoms (a)

TEST by measuring one of the following:
- Plasma glucose (not capillary glucose):
  - FPG or 2-hour OGTT
- HbA1c

NORMAL
- HbA1c <5.7%
- FPG <100 mg/dL
- 2-hour OGTT <140 mg/dL
- EDUCATE on lifestyle management
- REPEAT TESTING every 3 years or more frequently if overweight or other risk factors

ABNORMAL (b) but below diagnostic threshold
- HbA1c 5.7%–6.4%
- FPG 100–125 mg/dL
- 2-hour OGTT 140–199 mg/dL

ABNORMAL (b) meets criteria for diagnosis
- HbA1c ≥6.5%
- FPG ≥126 mg/dL
- 2-hour OGTT ≥200 mg/dL
  In the absence of unequivocal elevated blood glucose, REPEAT same or alternative test using a new blood sample
  
  Meets criteria for DIAGNOSIS (d)?

  yes

  DIABETES MELLITUS
  If suspected type 1 or LADA (see profiles page 3),
  CONSIDER ANTIBODY TESTS (e)

  See ALGORITHM: Treatment of Type 2, page 11

  no

  PREDIABETES (c)
  Refer to Prediabetes Care Process Model for follow-up plan

Indicates an Intermountain measure
(a) Diabetes Screening

Screen these patients at least every 3 years or more frequently depending on initial results and risk status:

- Adults ≥45 years
- Adults of any age who are overweight or obese (BMI ≥25 kg/m² or ≥23 kg/m² in Asian Americans) and have any of these additional risk factors:
  - Hypertension >140/90 mm Hg or on therapy for hypertension
  - Family history: first-degree relative with diabetes
  - Habitual physical inactivity
  - High-risk ethnicity (African American, Latino, Native American, Asian American, Pacific Islander)
  - Previous GDM or delivery of baby >9 pounds
  - Dyslipidemia (HDL-cholesterol <35 mg/dL and/or triglycerides >250 mg/dL)
  - Polycystic ovary syndrome (PCOS)
  - History of vascular disease
  - Other clinical conditions associated with insulin resistance, e.g., acanthosis nigricans, sleep apnea, multiple skin tags, peripheral neuropathy, and gout.
  - Use of second-generation antipsychotic medication (SGAs); see page 17

Screen these patients annually

- History of elevated HbA1c ≥5.7%, impaired fasting glucose (≥100 mg/dL), or impaired glucose tolerance (≥140 mg/dL)

(b) Investigating Abnormal Values

- Ensure the integrity of plasma glucose values: must be obtained from a correctly collected/stored specimen, NOT from finger stick.
- If repeat testing is indicated by an abnormal value, use ICD-9 code 790.6 Abnormal Chemistry to order follow-up test. DO NOT use ICD-9 code 250.xx or you patient will be labeled a diabetic regardless of the test result.
- Hemoglobinopathy. If patient has hemoglobinopathy and diabetes is suspected based on blood glucose or symptoms, measure two FPG values for confirmation.

(c) Prediabetes

Prediabetes is not a clinical entity of itself. It is the term used for individuals with impaired fasting glucose (IFG) or impaired glucose tolerance (IGT), which are risk factors for developing diabetes and cardiovascular disease in the future. The Prediabetes Care Process Model provides system-wide support for helping patients prevent these conditions. Criteria for prediabetes include:

- HbA1c <5.7%-6.4% OR
- FPG <100-125 mg/dL OR
- 2-hour OGTT <140-199 mg/dL

(d) Criteria for Diabetes Diagnosis

Criteria for diabetes diagnosis:

- TWO HbA1c values ≥6.5% OR
- TWO FPG values ≥126 mg/dL OR
- TWO 2-hour OGTT values >200 mg/dL

Remember: Plasma glucose values must NOT come from a finger stick.

(e) Antibody Testing

- Glutamic acid decarboxylase (GAD) antibodies account for 90% of diabetes-associated autoantibodies.
- Insulinoma associated-2 antibodies and zinc transporter 8 antibodies account for only the remaining 10%.
- See sidebar on page 4 for more discussion of LADA and information on ordering tests.
Screening for type 2 diabetes
The United States Preventative Services Task Force (USPSTF) recommends only adults with blood pressure readings > 135/80 mm Hg be screened for diabetes. Relying on this as a sole criterion for screening, however, may identify only half of those who have diabetes. We recommend following guidelines from the American Diabetes Association (ADA) for screening. The ADA recommends adults who are overweight (BMI > 25) and possess at least one additional risk factor (listed below) be screened for DM. The ADA also recommends screening be performed in all adults age > 45 years even in the absence of other risk factors. Appropriate tests used for screening include the hemoglobin A1c (A1c), fasting blood glucose (FBG), or the 75-gram oral glucose tolerance test (OGTT). If normal, screening should be repeated every 3 years or more frequently depending on results.

<table>
<thead>
<tr>
<th>Physical inactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-degree relative with diabetes</td>
</tr>
<tr>
<td>High-risk race/ethnicity (African-American, Latino, Native American, Asian American, Pacific Islanders)</td>
</tr>
<tr>
<td>Women with history of GDM or having delivered an infant weighing &gt; 9 lbs</td>
</tr>
<tr>
<td>HTN (BP &gt; 140/90 mm Hg or treatment)</td>
</tr>
<tr>
<td>HDL &lt;35 or triglycerides &gt; 250 mg/dl</td>
</tr>
<tr>
<td>Women with history of polycystic ovarian syndrome</td>
</tr>
<tr>
<td>History of A1c ≥ 5.7%, impaired fasting glucose, or impaired glucose tolerance (ie, “pre-diabetes”)</td>
</tr>
<tr>
<td>Clinical signs of insulin resistance, such as severe obesity or acanthosis nigricans</td>
</tr>
<tr>
<td>History of cardiovascular disease</td>
</tr>
</tbody>
</table>

The ICD codes for diabetes screening are V77.1 (ICD-9) and Z13.1 (ICD-10). Medicare allows annual screening with a single FBG in those with HTN, obesity (BMI >30), or dyslipidemia. Medicare also allows annual screening in those with two of the following: overweight (BMI 25-30), age >65, history of GDM, history of delivering baby weighing > 9 lbs. In addition, Medicare allows screening twice in a calendar year for those previously found to have “pre-diabetes”.

Diagnostic criteria
The diagnosis of DM is based on assessment of the A1c, FBG, or the 2-hour post OGTT blood glucose level. Because of ease of testing, A1c via blood draw is the preferred method. Point of care A1c testing is generally not recommended for use in establishing the diagnosis of DM due to variability in quality control. The diagnostic “cut-offs” are based on levels associated with increased risks of microvascular complications, such as retinopathy and nephropathy.

<table>
<thead>
<tr>
<th>Fasting Blood Glucose</th>
<th>Normal</th>
<th>“Pre-diabetes”</th>
<th>Diabetes Mellitus</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100 mg/dl</td>
<td>100 - 125 mg/dl</td>
<td>&gt;126 mg/dl</td>
<td></td>
</tr>
<tr>
<td>&lt;140 mg/dl</td>
<td>140 - 199 mg/dl</td>
<td>&gt;200 mg/dl</td>
<td></td>
</tr>
<tr>
<td>A1c</td>
<td>&lt;5.7%</td>
<td>5.7 - 6.4%</td>
<td>&gt;6.5%</td>
</tr>
</tbody>
</table>
The diagnosis of DM is established when two criteria are met (ie, FBG > 126 mg/dl, 2-hr post challenge BG > 200 mg/dl, or A1c > 6.5%). If FBG and A1c are done simultaneously, and both are consistent with DM, the diagnosis is established. If two tests are performed and only one is consistent with DM, the abnormal test should be confirmed 1-3 months later. If only one test is performed (FBG or A1c) and the results are “marginal”, a confirmatory test should be done 1-3 months later.

Management of “Pre-diabetes”
“Pre-diabetes” (Pre-DM) refers to a condition recognized as abnormal glucose homeostasis, but not to the degree to be considered consistent with diabetes or its associated risks of retinopathy or nephropathy. This entity consists of those with “impaired fasting glucose” (FBG 100 - 125 mg/dl), “impaired glucose tolerance” (2-hr post challenge BG 140 - 199 mg/dl), or an A1c of 5.7 – 6.4%. Individuals with Pre-DM have a marked increased risk of developing overt DM in the future. Studies have suggested that the 5-year risk of developing DM approaches 25% for those with A1c values of 5.5 – 6.0%, and as high as 50% for those in A1c values of 6.0 – 6.5%.

It should be emphasized that lifestyle modification with diet, exercise and weight loss is paramount to improving insulin sensitivity and preventing or delaying the development of DM. Results from the Diabetes Prevention Program (DPP) suggest that such behavioral modifications with resultant weight loss of 7% may decrease the risk of developing overt diabetes by as much as 58% after 3 years.

Various oral agents have been studied as possible therapy to prevent or delay the development of DM, and each studied agent demonstrated some measurable benefit. However, studied agents did not seem to out-perform lifestyle modification. One of the most widely prescribed medications for Pre-DM, metformin, resulted in a 35% risk reduction in the DPP. Metformin was no more effective than placebo in those age > 60 years, but was equally effective as lifestyle modification in women with a history of GDM.

We recommend that all patients with Pre-DM begin moderate daily activity. We also recommend patients be counseled or referred for a diet that limits the caloric intake to a level that promotes weight loss. We also suggest the diet limit carbohydrates to 40% of daily calories, and consist of increased vegetables and fruits. We suggest metformin, if used, be reserved for patients < age 60 who have advancing BG or A1c levels despite the above maneuvers. Even so, the patient should receive ongoing counseling for weight loss.

It appears that the risks for CVD in Pre-DM may equal those in overt DM. The Honolulu Heart Study found the risks for CAD began at any level of FBG that exceeded 90 mg/dl. Further, those with Pre-DM tend to have added risk factors of hyperlipidemia and hypertension (HTN). Therefore, we recommend patients with Pre-DM be treated with an angiotensin converting enzyme inhibitor (ACE-i) or angiotensin receptor blocker (ARB) if there is concomitant HTN. Reasonably, statin therapy may be suitable in attempt to lower the LDL <130 mg/dl, and possibly <100 mg/dl.
As defined by the Institute of Medicine (a division of the National Academies of Sciences, Engineering, and Medicine), clinical guidelines are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.” Guidelines and algorithms contain recommendations that are based on evidence from rigorous systematic review and synthesis of the published medical literature. Such algorithms support decision making by:

- Describing a range of generally accepted approaches for the diagnosis, management, and/or prevention of Type 2 diabetes.
- Defining practices to help most patients achieve optimal outcomes.

It is critical that clinicians and patients develop individualized treatment plans together, tailored to the specific needs and circumstances of the patient and their mutually agreed-upon goals.

**STEPS TO DEVELOP AND CONSISTENTLY USE A TREATMENT ALGORITHM FOR YOUR DIABETES POPULATION**

- Create a Guidelines Committee to review your organization’s existing diabetes treatment approach or to develop/adopt an algorithm if one does not exist. Most organizations start with nationally endorsed guidelines, such as those noted in Appendix E: Suggested Readings. The Committee should be multidisciplinary, adequately represent your organization, and include primary care, specialists, leadership, and support staff.
- Engage clinicians in algorithm development and review. Those who are involved in the process and feel ownership will be more likely to implement and endorse the tool.
- Create a practical summary that is brief, actionable, and written in plain language.
- Train physicians and other practitioners on the guideline and integrate clinical decision support (e.g., EHR alerts) into the workflow.
- Monitor utilization of the guideline and identify reasons for lack of adoption. Creating a feedback loop will help the organization understand the effectiveness of guideline training and need to revise the guidelines.
- Develop a systematic process for a periodic review of the guidelines as new evidence emerges.
- Leverage transparent data reports (refer to Publish Transparent Internal Reports plank) to promote the effectiveness of algorithm adherence.
TOOL: DIABETES MANAGEMENT ALGORITHM

INTERMOUNTAIN HEALTHCARE

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HbA1c: INDIVIDUALIZED GOALS

Current ADA Standards stress individualizing management goals for specific circumstances, including duration of diabetes, life expectancy, comorbid conditions, CVD, hypoglycemia, and patient self-care capacity.1,2,3,4,5

- For most nonpregnant adults, aim for HbA1c less than 7.0%.
- Consider more stringent goals (e.g., 6.0% to 6.5%) for selected individual patients such as those with short duration of diabetes, long life expectancy, and no significant CVD. For pregnant patients aim for less than 6.0%.
- Consider less stringent goals (e.g., 7.5% to 8.0%) for patients with a history of severe hypoglycemia, long disease duration, limited life expectancy, advanced complications, or extensive comorbid conditions.

Results of the ACCORD,6,7 ADVANCE,8 and VADT9 studies did not show increased cardiovascular benefits from tight control of diabetes. However, tight control has consistently been shown to reduce the risk of microvascular and neuropathic complications.

MANAGEMENT OVERVIEW

Diabetes care is complex, requiring regular medical care and follow-up. Patients with well controlled diabetes should be seen at least every 6 months; those who are not meeting treatment goals should be seen even more frequently.

Good diabetes care focuses on comprehensive management of blood glucose, blood pressure, and lipids and includes regular screening for eye, nerve, and kidney complications. This section of the CPM focuses on some important elements of diabetes care and self-management, namely blood glucose monitoring, medical nutrition therapy (MNT), physical activity, and medication. It emphasizes individualization of treatment to address the patient’s needs, preferences, and values.

Monitoring blood glucose

The role of HbA1c

HbA1c testing is an indication of the overall trend of blood glucose levels for the previous 2 to 3 months and usually reflects overall diabetes control during that period. HbA1c measurement can validate or call into question a patient’s home record of glucose testing or glucose testing performed in the office. In situations where higher home glucose readings do not match in-office HbA1c, consider conditions causing rapid RBC turnover.

ALGORITHM: MONITORING HbA1c

Approximate comparison of HbA1c and plasma glucose values.42

<table>
<thead>
<tr>
<th>HbA1c</th>
<th>Plasma Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>6%</td>
<td>126 mg/dL</td>
</tr>
<tr>
<td>7%</td>
<td>154 mg/dL</td>
</tr>
<tr>
<td>8%</td>
<td>183 mg/dL</td>
</tr>
<tr>
<td>9%</td>
<td>212 mg/dL</td>
</tr>
<tr>
<td>10%</td>
<td>240 mg/dL</td>
</tr>
<tr>
<td>11%</td>
<td>269 mg/dL</td>
</tr>
<tr>
<td>12%</td>
<td>298 mg/dL</td>
</tr>
</tbody>
</table>

Office visit for patient with confirmed diabetes mellitus

Draw HbA1c

Good control

In most patients:
- HbA1c less than 7%
  (see sidebar at left on individualized goals)

- NO CHANGES indicated (unless significant hypoglycemia)
- REINFORCE previous diabetes education, refer as indicated*

Inadequate control

In most patients:
- HbA1c more than 7%
  (see sidebar at left on individualized goals)

- INITIATE or ADJUST medications
- REFER to diabetes educator*

FOLLOW-UP HbA1c
- every 3 months

If HbA1c more than 8% for 6–9 months, CONSULT endocrinologist or other diabetes specialist

* At least annually, reinforce/update patients’ diabetes knowledge and skills. Consider using diabetes educators who are registered dietitians and can provide individualized medical nutrition therapy (MNT).

Indicates an Intermountain measure
The role of self-monitoring blood glucose systems (SMBG)
SMBG helps patients evaluate their individual response to therapy, avoid hypoglycemia, and make necessary adjustments to insulin therapy, medication, medical nutrition therapy (MNT), and physical activity. However, the accuracy of SMBG is dependent on the user and the instrument. Physicians or diabetes educators should teach patients how to do SMBG accurately, and routinely evaluate patients’ technique and ability to use the data to adjust their therapy.\(^{ADA}\)

Providers who manage insulin-treated patients — especially patients using multiple daily injection therapy or insulin pumps — must be able to appropriately analyze patients’ SMBG data, including control over specific time intervals, control by time of day (modal day), testing frequency, and glucose variability. Software for this purpose is provided by device manufacturers at no cost. See sidebar at right for testing guidelines.

The role of continuous glucose monitoring systems (CGM)
Continuous glucose monitoring (CGM) devices provide continuous feedback to the patients about their glycemic control. When used consistently and in combination with an intensive insulin regimen, they can help lower HbA1c in adults age 23 and older. (Though there is less evidence supporting benefit in children, teens, and young adults, success correlates with consistent use.) In addition, CGM devices can be a valuable supplemental tools for patients with frequent hypoglycemic episodes and/or hypoglycemic unawareness — and significantly reduce the burden of diabetes by reducing fear of hypoglycemia and the pain of frequent testing.

A CGM device consists of a sensor electrode that is inserted into the subcutaneous tissue, a small radiofrequency transmitter, and a monitoring device that stores and displays the data. There are two types of CGM devices:

- **Personal CGM** devices belong to the patient and display subcutaneous glucose values to the patient in real time. An alarm feature alerts the patient when his or her subcutaneous glucose value crosses a prespecified threshold. In addition, these monitors have alarms that will warn the patient when glucose values are changing rapidly, potentially avert hypoglycemia. Several short-term studies have demonstrated their efficacy in lowering HbA1c levels and reducing frequency of hypoglycemia.\(^{BEC,TAM}\) Most commercial insurance carriers cover CGM; however, the majority of Medicaid plans do not cover it.

- **Professional CGM** devices belong to the clinic or hospital and are used for short periods to give providers detailed information on a patient’s glucose control. These devices can help identify patterns leading to hypoglycemia, hyperglycemia, and significant glucose variability. In addition, it can provide quick information on glucose patterns during pregnancy.

SMBG GUIDELINES
Although we recommend tailoring the frequency and timing of SMBG to individual patients and circumstances, some general guidelines appear below.

**Test once a day, or less often:**
- Patients who are controlling their diabetes with oral agents or with diet and exercise alone

**Test 3 or fewer times a day:**
- Patients using less-frequent insulin injections

**Test 3 to 4 times a day:**
- Patients using multiple insulin doses

**Test 4 or more times a day:**
- Pregnant women or patients with hypoglycemic unawareness (4 to 8 times per day)
- Patients having sick days
- Patients modifying therapy
- Patients having hypoglycemia
- Any patient motivated to test this often to achieve best control possible

Coverage for SMBG test strips
- **For all patients:** Sometimes a durable medical equipment benefit is a better alternative than a pharmacy benefit to obtain test strips. Patients should compare both options.

- **For Medicare patients:** Medicare allows 3 test strips daily for patients with type 1 or type 2 diabetes on any form of insulin therapy. To obtain approval for 4 or more tests per day, Medicare requires proof of higher testing frequency (download from glucose monitor), a statement attesting to the need for added tests, and often a record from office notes demonstrating the provider’s recommendation for high-frequency testing.

- **For patients without insurance coverage:** Simple meters (usually with no memory or download capability) with names like ReliOn and TrueTrack can be significantly less expensive for patients lacking insurance coverage for superior products.

**The role of continuous subcutaneous insulin infusion (CSII)**
CSII (also called insulin pump therapy) is recommended for selected patients with type 1 diabetes and for some patients with insulin-treated type 2 diabetes. These should only be prescribed by experienced clinicians who have the knowledge, skills, and resources to monitor for failure. Adequate pump programs should involve a multidisciplinary team of providers — not just the services of industry-employed trainers and salespersons. Most insurance carriers, including SelectHealth, have liberal criteria for approval of CSII and rely on physician discretion to identify patients who are likely to benefit. Identifying patients appropriate for this technology is complex and beyond the scope of this discussion.
Lifestyle management

All patients with diabetes and prediabetes should be counseled on lifestyle measures. Lifestyle counseling is associated with better control of HbA1c, blood pressure, LDL cholesterol, and weight, as well as improved overall well-being. The two principal goals of lifestyle intervention are to achieve a mean loss of ≥7% of initial body weight in overweight patients and to increase patient physical activity to ≥175 minutes of moderate intensity a week. Key components of lifestyle management are medical nutrition therapy, physical activity, behavior modification and accountability, and intensive lifestyle interventions.

Medical nutrition therapy (MNT)

Medical nutrition therapy is an integral component of diabetes management and is covered by most commercial insurance providers and by Medicare.

All patients with prediabetes or diabetes should be referred to a registered dietitian — preferably one specializing in diabetes education — for individualized MNT. MNT includes an individualized meal plan that accommodates the patient’s medications and metabolic needs, as well as their eating habits, lifestyle, and readiness to change. Meal plans are adjusted as needed to help patients comply with needed changes and meet goals.

A meal plan includes the following, at a minimum:

- Amount and type of carbohydrates consumed. Both quality and quantity of carbohydrate in foods influence blood glucose levels and glycemic response. However, there is no standard regarding the ideal amount of carbohydrate intake for people with diabetes. Individualized recommendations should address the total amount of carbohydrate that should be distributed through the day. Consistency in method of carbohydrate monitoring should be encouraged. For good health, dietary patterns should include carbs from fruits, vegetables, whole grains, legumes, and low-fat milk. Promote fiber intake of 25 g to 35 g per day. The patient fact sheet High-Fiber Eating Plan provides ideas.

- Timing of meals and snacks. Monitoring and maintaining a consistent pattern of carbohydrate use is key to achieving glycemic control. Meals should include a mix of macronutrients (carbohydrate, protein, and fat) individualized to meet the patient’s metabolic goals and personal preferences.

- Caloric restriction combined with physical activity to support any needed weight loss. Weight loss should be gradual and slow. Aim for a rate of 1 to 2 pounds per week. Mediterranean, low-fat, calorie-restricted, or low-carbohydrate diets may all be effective for weight loss.

Until a dietitian can provide an individualized meal plan, counsel overweight patients to reduce calories.

- As a temporary guideline, an initial goal is 1200 to 1500 total calories per day for patients <250 pounds, and 1500 to 1800 calories per day for patients >250 pounds.

- Additional recommendations could include limiting fat to <30% of calories (with <7% from saturated fat), and limiting carbohydrates per meal (or split between meal and snack) to 45 to 60 grams for women, and 60 to 75 grams for men.

- Resources such as Calorie Count can provide nutrition content of foods. Assistance with healthy food choices is available at ChooseMyPlate.gov. Smart phone apps such as MyFitnessPal can also help patients track nutrients.
Physical activity
Regular physical activity improves blood glucose control and can prevent or delay type 2 diabetes. Regular activity also positively affects cholesterol, blood pressure, cardiovascular risk, mortality rates, and quality of life.

Preexercise evaluation. Sedentary patients should be evaluated by a physician before beginning a moderate- to vigorous-intensity exercise program. See the Exercise is Medicine Physical Activity Questionnaire for a sample screening tool. Refer to appropriate specialists or provide suggestions for adapting exercise based on individual needs. Note: even patients with known coronary artery disease and stable angina benefit from regular physical activity.

Recommendations. Counsel patients to:

• Increase activity to ≥175 minutes per week of moderate- to vigorous-intensity aerobic activity — heart beating faster than normal and breathing harder than normal, such as a brisk walk. Spread activity over at least 3 days per week, with no more than 2 consecutive days between bouts of aerobic activity. While the ADA guidelines recommend ≥150 minutes per week, Intermountain endorses the target of ≥175 minutes used in the Look AHEAD trial based on findings that higher levels of physical activity significantly improve weight loss maintenance and other health outcomes. Record patient activity in the Physical Activity Vital Sign in the electronic medical record. Casual walking that does not meet at least moderate intensity does not count toward the weekly goal.

• Increase activity gradually. Patients who are currently sedentary should start with 10 minutes of walking at moderate intensity 3 days per week, gradually increasing to 5 days per week. Once they are walking on most days, patients should add minutes to achieve 20 minutes on most days, and build toward the goal of 30 to 60 minutes on most days of the week.

• Unless contraindicated, undertake resistance training 2 days per week, focusing on major muscle groups and core body conditioning.

• Decrease time sitting and increase daily movement. All individuals should be encouraged to break up extended amounts of time sitting (>90 minutes). Taking a two- to three-minute walk every 20 minutes has been demonstrated to reduce postprandial glucose and insulin levels in overweight and obese adults. Individuals can increase daily movement through activities such as taking the stairs, walking rather than riding in a car, etc.

• At first, monitor blood glucose before, during, and after physical activity. Once patients have a sense of how exercise works with their medication, food choices, and other factors that affect blood glucose, they won’t need to check levels as often.

Behavior modification and accountability
Diabetes self-care requires modification to daily behaviors that most patients find challenging. For detailed, evidence-based support in this process, see the Behavior Change Techniques and Tools section of the Lifestyle and Weight Management CPM.

Patients experiencing difficulty adhering to diet and exercise recommendations, or who lose <1% of weight per month, may require additional assistance. Referral to an intensive lifestyle intervention program (such as The Weigh to Health) or additional contact with a clinician may help. See sidebar on page 10 for more information.
THE LOOK AHEAD TRIAL

The Look AHEAD trial was a large clinical trial designed to examine the long-term effects of an intensive lifestyle intervention (ILI) in overweight volunteers with type 2 diabetes. Although the trial showed no difference in CVD endpoints compared to the control group, study participants who received ILI experienced:

- Average weight loss of 8.6%
- Significant reduction of HbA1c
- Reduction in several CVD risk factors

The Look AHEAD findings suggest that ILI is associated with partial diabetes remission in patients with type 2 diabetes, particularly in those whose diabetes is of short duration, who have lower HbA1c levels, and who do not yet require insulin therapy.

Consider referring patients to Intermountain’s The Weigh to Health® program

Intermountain Healthcare’s revised The Weigh to Health® program is an example of an intensive lifestyle intervention. The program consists of:

- 2 individual sessions with a registered dietitian
- Regular group sessions (an orientation and at least 9 more over 6 months) covering nutrition, exercise, behavior change, and other topics
- At many facilities, a collaborative exercise program (for a small fee)

There is no cost for SelectHealth members who have a BMI over 30 OR have a comorbidity for a diet-related chronic condition (such as diabetes), and who complete the program. Patients who do not complete the program pay for the sessions they attended.

Click the image to open the brochure, or refer to page 31 for ordering information.

Intensive lifestyle intervention (ILI)

An intensive lifestyle intervention (also referred to as behavioral intervention) can provide the support and follow-up necessary for behavior modification. With passage of the Affordable Care Act (ACA), commercial payers are required to cover an intensive lifestyle intervention at no cost to patients with BMI ≥30 or with BMI ≥25 and one or more cardiovascular disease risk factors. Intermountain’s The Weigh to Health® program (see sidebar) is an example of an intensive lifestyle intervention that may be covered by a plan. Medicare and Medicare Advantage do not cover The Weigh to Health®, but may have coverage for medical nutrition therapy for select patients.

Bariatric surgery for people with type 2 diabetes

Studies show that bariatric surgery can produce a remission in type 2 diabetes (normal or near-normal glycemia in approximately 55% to 95% of patients with type 2, depending on the surgery). Rates of remission tend to be greater with malabsorptive (bypass) procedures versus restrictive procedures. Additionally, patients with type 2 diabetes of less than two years duration tend to have the best response to bariatric surgery, while those who have had type 2 diabetes for more than 10 years or require insulin therapy may be less response.

For further discussion of diabetes in remission, see the sidebar on page 9.

Clinical efficacy. A 2012 study by LDS Hospital researchers published in JAMA showed:

- Diabetes benefits are enduring. Among diabetes patients who had diabetes before surgery, 62% were in remission after six years. That compares to 8% and 6% for the nonsurgical groups. Gastric bypass patients who did not have diabetes before the surgery were 5 to 9 times less likely to develop the disease than nonsurgical participants.

- Weight loss benefits are enduring. Surgical patients lost an average of 34.9% of their initial weight after surgery, and kept off 27.7% 6 years after surgery. Nearly all the surgical patients, 96%, had maintained more than 10% weight loss from baseline, and 76% had maintained more than a 20% weight loss. By contrast, patients who did not have bariatric surgery either lost no weight or gained weight over the next 6 years.

For primary care providers, we recommend the following:

- Consider bariatric surgery for patients with type 2 diabetes who have BMI ≥35, particularly when diabetes or its comorbidities haven’t been controlled with medication or lifestyle modifications. This recommendation follows national guidelines.

- Refer patient candidates to a bariatric surgery center with (a) a Board-certified physician with a practice devoted to bariatric medicine; (b) the ability to provide presurgical consultation with dietitians, social workers, and other staff who can help patients with nutritional, psychological, and logistical (insurance) issues; and (c) follow-up processes and consults to manage postoperative complications and dietary regimens. For more information visit the ASMBS website or the LDS Hospital Bariatric Surgery website.

- Postsurgery, ongoing lifestyle support is critical.

Medication

Medication therapy includes oral and injectable antidiabetic agents as well as several classes of insulin.

- For type 2 diabetes, oral medication is required for glycemic control if lifestyle modifications don’t achieve glycemic control within 2 to 3 months (see page 11). Prescribing considerations include the patient’s age, weight, any renal or hepatic impairment, and cardiopulmonary comorbidities. Insulin may be used initially (often temporarily) for significant hyperglycemia and is a long-term option for patients on oral agents who still have HbA1c values more than 1% above goal.

- For type 1 diabetes, insulin therapy is essential. A regimen that combines long-acting, peakless insulin (basal) and rapid-acting insulin (bolus) most closely mimics normal physiologic insulin production (see page 15).

- For LADA, insulin therapy will be required eventually, if not immediately. Frequent follow-up is required to assess the patient’s blood glucose control and the timing of insulin initiation.
**ALGORITHM: TREATMENT OF TYPE 2 DIABETES—A PATIENT-CENTERED APPROACH**

### Confirmed Type 2 Diabetes

- **Educate** on lifestyle modifications (see page 8) and diabetes self-management skills and **consider referral** to a qualified diabetes educator and a registered dietitian.
- **Screen** for and treat diabetes-related conditions (such as dyslipidemia). See pages 18 to 28.
- **Address** psychological and social issues.

#### Monotherapy

<table>
<thead>
<tr>
<th>Efficacy*</th>
<th>Hypo risk</th>
<th>Weight</th>
<th>Side effects</th>
<th>Costs*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metformin</strong></td>
<td>high</td>
<td>low risk</td>
<td>neutral / loss</td>
<td>GI / lactic acidosis</td>
</tr>
</tbody>
</table>

*If HbA1c target not achieved after ~3 months of monotherapy, proceed to 2-drug combination (order not meant to denote any specific preference — choice dependent on a variety of patient- and disease-specific factors):*

#### Dual Therapy

- **Metformin + Sulfonlurea**
  - High
  - Moderate risk
  - Low risk
  - Neutral
  - Low
  - High

- **Metformin + Thiazolidinedione**
  - High
  - High
  - High
  - Low
  - Low

- **Metformin + DPP-4 inhibitor**
  - Intermediate
  - Low risk
  - Low risk
  - Loss
  - GI

- **Metformin + GLP-1 receptor agonist**
  - High
  - High
  - High
  - High

*If HbA1c target not achieved after ~3 months of dual therapy, proceed to 3-drug combination (order not meant to denote any specific preference — choice dependent on a variety of patient- and disease-specific factors):*

#### Triple Therapy

- **Metformin + Sulfonlurea + TZD**
- **Metformin + Thiazolidinedione + DPP-4 inhibitor**
- **Metformin + DPP-4 inhibitor + SLGT2-1**
- **Metformin + GLP-1 receptor agonist + insulin**

*If HbA1c target not achieved after ~3 months of triple therapy and patient (1) on oral combination, move to injections. (2) On GLP-1-RA, add basal insulin, or (3) on optimally titrated basal insulin, add GLP-1-RA or mealtime insulin. In refractory patients consider adding TZD or SLGT-1.*

#### Combination Injectable Therapy

- **Basal insulin + Mealtime insulin**
- **GLP-1-RA**

---

**(a) Initial drug monotherapy**
- Begin metformin monotherapy at or soon after diagnosis (unless explicitly contraindicated).
- In patients intolerant of or with contraindications for metformin, select initial drug from other classes depicted and proceed accordingly.
- Metformin use has been associated with a 3-fold increase in vitamin B12 deficiency, which is associated with peripheral neuropathy. Periodic B12 testing is prudent to consider. Clinicians should be aware, however, that the B12 assay has highly variable results. We recommend repeat testing and methylmalonic acid or homocysteine levels to confirm diagnosis, especially in patients with low normal B12 levels. Treatment options include cyanocobalamin 1000 mcg pill taken daily, or 1000 mcg solution injected weekly for a month, then monthly indefinitely.76

**(b) Two-drug combinations**
- If HbA1c target is not achieved after ~3 months, consider one of the six treatment options combined with metformin.
- Drug choice is based on patient and drug characteristics, with the overriding goal of improving glycemic control while minimizing side effects. Shared decision-making with the patient may help in the selection of therapeutic options.
- Consider beginning therapy with a two-drug combination in patients with HbA1c ≥9.5%.

**(c) Medication Alternatives**
- Other drugs not shown (e.g., glucosidase inhibitors, colesevelam, dopamine agonists, pramlintide) may be used where available in selected patients but have modest efficacy and/or limiting side effects.

**(d) Insulin**
- Usually basal insulin (NPH, glargine, detemir) in combination with noninsulin agents.

- Insulin is likely to be more effective than most other agents as a third-line therapy, especially when HbA1c is very high (e.g., ≥9.5%). The therapeutic regimen should include some basal insulin before moving to more complex insulin strategies.

**(e) An effective triple therapy**
- An especially effective option is the combination of metformin + GLP1 receptor agonist + basal insulin. This therapy is associated with less weight gain and greater reduction in HbA1c.

**(f) Progression to multiple daily doses of insulin**
- Consider a more rapid progression from a two-drug combination directly to multiple daily insulin doses — consider beginning at this stage — in patients with severe hyperglycemia (e.g., HbA1c ≥10% to 12%).
### TABLE 2. Oral Agents and Non-insulin Injectable Medications

<table>
<thead>
<tr>
<th>Class</th>
<th>Generic name</th>
<th>Brand name</th>
<th>Usual dosing</th>
<th>2015 AWP cost for 30-day supply* (MAC Cost for generics)</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>biguanides</td>
<td>metformin</td>
<td>Glucophage</td>
<td>500 mg twice a day (once a day to start)</td>
<td>$3</td>
<td>Extensive experience</td>
<td>GI distress (nausea/diarrhea)</td>
</tr>
<tr>
<td></td>
<td>(Tier 1)</td>
<td>(Tier 3)</td>
<td>to 1000 mg twice a day (max) Most benefit</td>
<td>$4</td>
<td>No hypoglycemia</td>
<td>B12 deficiency — suggest periodic testing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>obtained between 1500–1700 mg/day</td>
<td>$4</td>
<td>↓ Weight (preferred for obese patients — most type 2 diabetics)</td>
<td>CHF patients should be stable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4</td>
<td>Favorable lipid effects</td>
<td>Risk of acidosis; STOP with acute illness, dehydration, or IV contrast dyes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$8</td>
<td>↓ Triglycerides</td>
<td>Multiple contraindications. Do not use for patients with chronic liver disease, alcoholism, or chronic kidney disease (eGFR &lt;30)</td>
</tr>
<tr>
<td></td>
<td>(Tier 1)</td>
<td></td>
<td></td>
<td>$115</td>
<td>Maximum PG effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$139</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>metformin ER</td>
<td>Glucophage XR</td>
<td>500 mg to 1500 mg once a day at dinner</td>
<td>$35</td>
<td>Insulin resistance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 1)</td>
<td>(Tier 3)</td>
<td></td>
<td>$52</td>
<td>Consistent first-line agent</td>
<td></td>
</tr>
<tr>
<td>sulfonylureas</td>
<td>glipizide XL</td>
<td>Glucotrol XL</td>
<td>5 mg to 20 mg once a day (max) [may give dose twice a day]</td>
<td>$5</td>
<td>Extensive experience</td>
<td>Hypoglycemia, especially with reduced GFR</td>
</tr>
<tr>
<td></td>
<td>(Tier 1)</td>
<td>(Tier 3)</td>
<td></td>
<td>$8</td>
<td>Well tolerated</td>
<td>↑ Weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maximum PG effect at 5 to 7 days</td>
<td>Do not use with Prandin, Staflox, or other sulfonylureas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Limited duration of effect</td>
</tr>
<tr>
<td></td>
<td>glimepiride</td>
<td>Amaryl</td>
<td>1 mg to 8 mg (max) [may give dose twice a day]</td>
<td>$2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 1)</td>
<td>(Tier 3)</td>
<td></td>
<td>$3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pioglitazone</td>
<td>Actos</td>
<td>15 mg to 45 mg once a day (dosing at bedtime may decrease edema)</td>
<td>$11</td>
<td>Option for patients intolerant of metformin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 3)</td>
<td></td>
<td></td>
<td>$13</td>
<td>No hypoglycemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$14</td>
<td>↓ Serum insulin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Durability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>↓ Triglycerides</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Possible ↓ CVD events</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>thiazolidiones</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sitagliptin</td>
<td>Januvia</td>
<td>100 mg once a day (as monotherapy or as combination therapy with metformin or glitazones)</td>
<td>$397</td>
<td>Can be taken with or without food</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 3, step edit)</td>
<td></td>
<td></td>
<td></td>
<td>No hypoglycemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>phosphate</td>
<td></td>
<td></td>
<td></td>
<td>No weight gain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Most PG effect within 1–2 weeks of initiation</td>
<td></td>
</tr>
<tr>
<td>DPP-4 inhibitors</td>
<td>saxagliptin</td>
<td>Onglyza</td>
<td>2.5 mg or 5 mg once a day</td>
<td>$390</td>
<td>Increased cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 3, step edit)</td>
<td></td>
<td></td>
<td></td>
<td>Can be used only for type 2 diabetes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Reduce dose with decreasing creatinine clearance &lt;50 — except linagliptin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>linagliptin</td>
<td>Tradjenta</td>
<td>5 mg once a day</td>
<td>$397</td>
<td>Possible acute pancreatitis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Tier 2)</td>
<td></td>
<td></td>
<td></td>
<td>Possible ↑ Heart failure hospitalizations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>alogliptin</td>
<td>Nesina</td>
<td>6.25 mg to 25 mg orally once a day</td>
<td>All strengths: $374</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*AWP = Average Wholesale Pricing; MAC = Maximum Allowable Cost. Many patients may benefit from manufacturers' discounts or patient assistance programs.
**TABLE 2. Oral Agents and Non-insulin Injectable Medications (continued)**

<table>
<thead>
<tr>
<th>Class</th>
<th>Generic name</th>
<th>Brand name</th>
<th>Usual dosing</th>
<th>2015 AWP cost for 30-day supply* (MAC Cost for generics)</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SGLT2 inhibitors</strong></td>
<td>canagliflozin</td>
<td>Invokana (Tier 2, step edit)</td>
<td>100 mg or 300 mg once a day</td>
<td>All strengths: $411</td>
<td>• Non-insulin dependent — novel MOA</td>
<td>• ↑ Female genital mycotic infections, UTIs, and increased urination</td>
</tr>
<tr>
<td></td>
<td>dapagliflozin</td>
<td>Farxiga (Tier 3, step edit)</td>
<td>5 mg or 10 mg once a day</td>
<td>All strengths: $412</td>
<td>• Low incidence of hypoglycemia</td>
<td>• Volume depletion; Use cautiously in elderly and patients already on diuretic</td>
</tr>
<tr>
<td></td>
<td>empagliflozin</td>
<td>Jardiance (Tier 2, step edit)</td>
<td>10 mg or 25 mg once a day</td>
<td>All strengths: $411</td>
<td>• ↓ Weight</td>
<td>• Possible ↑ risk of bladder cancer (dapagliflozin)</td>
</tr>
<tr>
<td><strong>GLP-1 receptor agonists</strong></td>
<td>exenatide</td>
<td>Byetta (Tier 3, step edit)</td>
<td>5 mcg twice a day within 60 minutes before breakfast and dinner; may be increased to 10 mcg twice a day after 1 month</td>
<td>5 mcg twice a day: $574</td>
<td>• No hypoglycemia</td>
<td>• Exenatide: Use caution when initiating or when increasing dose from 5 mcg to 10 mcg in CKD Stage G3</td>
</tr>
<tr>
<td></td>
<td>exenatide ER</td>
<td>Bydureon (Tier 3, step edit)</td>
<td>2 mg once every 7 days</td>
<td>2 mg once a week: $570</td>
<td>• ↓ Weight</td>
<td>• All in this class: — Gastrointestinal side effects (nausea, vomiting, diarrhea)</td>
</tr>
<tr>
<td></td>
<td>liraglutide</td>
<td>Victoza (Tier 2, step edit)</td>
<td>1.2 mg or 1.8 mg once a day</td>
<td>1.2 mg once a day: (18 mg/3 mL pen): $513</td>
<td>• ↓ Postprandial glycemia</td>
<td>• Training requirements</td>
</tr>
<tr>
<td></td>
<td>albiglutide</td>
<td>Tanzeum (Tier 3, step edit)</td>
<td>30 mg or 50 mg once every 7 days</td>
<td>30 mg or 50 mg once every 7 days: $391</td>
<td>• Exhibits many of the same glucose regulatory actions of naturally occurring hormones</td>
<td>• ↑ Heart rate</td>
</tr>
<tr>
<td></td>
<td>dulaglutide</td>
<td>Trulicity (Tier 2, step edit)</td>
<td>0.75 mg or 1.5 mg once every 7 days</td>
<td>0.75 mg or 1.5 mg once every 7 days: $586</td>
<td></td>
<td>• Possible acute pancreatitis</td>
</tr>
<tr>
<td><strong>Amylin mimetic</strong></td>
<td>pramlintide acetate</td>
<td>Symlin (Tier 2, step edit)</td>
<td><strong>See below</strong></td>
<td>60 injection pen (1.5 mL): $708</td>
<td>Very positive effect on weight loss</td>
<td>Symlin should only be used by providers with significant knowledge of its properties.</td>
</tr>
</tbody>
</table>

**Dosing instructions for Symlin:**
- Type 1: 15 mcg immediately prior to major meals; increase at 15 mcg increments to a maintenance dose of 60 mcg or as tolerated.
- Type 2: 60 mcg immediately prior to major meals; increase to 120 mcg as tolerated.
- When initiating Symlin, reduce insulin dosages, including premixed insulins (70/30).

**Combinations (examples only):**
- sitagliptin + metformin XR: Janumet XR (Tier 3, step edit)
  - Once a day: 100 mg/1000 mg, 50 mg/500 mg, 20 mg/1000 mg
  - All strengths: $397
  - See notes for individual components (page 12)
- saxagliptin + metformin XR: Kombiglyze XR (Tier 3, step edit)
  - Once a day: 5 mg/500 mg, 5 mg/1000 mg, 2.5 mg/1000 mg
  - All strengths: $390
- linagliptin + metformin: Jentadueto (Tier 3)
  - Twice a day: 2.5 mg/500 mg, 2.5 mg/1000 mg
  - All strengths: $397

*AWP = Average Wholesale Pricing. MAC = Maximum Allowable Cost. Many patients may benefit from manufacturers’ discounts or patient assistance programs.
Insulin therapy

Patients with type 1 diabetes will require an insulin regimen that combines different insulins to meet basal and meal-time bolus needs. Most patients with type 1 diabetes will be on physiologic regimens. See the notes and algorithm on the following pages for more information on a physiologic insulin regimen. To treat patients with type 2 diabetes, keep these general principles in mind when using oral agents with insulin:

- A basal insulin regimen (bedtime dose of peakless insulin) is our recommended first choice when adding insulin to treatment with oral agents.
- Consider the timing of the patient’s hyperglycemia when adding or adjusting insulin.
  - Use glargine or detemir at bedtime to control morning FPG.
  - When morning FPG is controlled with peakless insulin, daytime PPG readings frequently come under control with an oral agent and dietary modification.
  To control daytime PPG, sulfonylureas, DPP-4 inhibitors, and GLP-1 agonists are most effective.
  - If 2-hour postprandial PG is still above goal with FBG >100 mg/dL, consider physiologic insulin regimen with or without metformin.

### TABLE 3. Insulin Profiles

<table>
<thead>
<tr>
<th>Insulin type</th>
<th>Generic (Brand) name</th>
<th>Description</th>
<th>Onset</th>
<th>Peak</th>
<th>Usual effective duration</th>
<th>2015 30-Day AWP</th>
<th>SelectHealth commercial formulary status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid-acting</td>
<td>aspart (NovoLog)</td>
<td>Clear</td>
<td>10 to 20 minutes</td>
<td>1 to 2 hours</td>
<td>3 to 5 hours</td>
<td>10 mL: $244 FlexPen 15 mL: $471</td>
<td>Tier 2</td>
</tr>
<tr>
<td></td>
<td>glulisine (Apidra)</td>
<td>Clear</td>
<td>10 to 20 minutes</td>
<td>1 to 2 hours</td>
<td>3 to 5 hours</td>
<td>10 mL: $243 SoloSTAR pen 15 mL: $471</td>
<td>Tier 3</td>
</tr>
<tr>
<td></td>
<td>lispro (Humalog)</td>
<td>Clear</td>
<td>10 to 20 minutes</td>
<td>1 to 2 hours</td>
<td>3 to 5 hours</td>
<td>10 mL: $243 KwikPen 15 mL: $470</td>
<td>Not covered</td>
</tr>
<tr>
<td></td>
<td>human (Afrezza)*</td>
<td>Inhalation powder</td>
<td>10 to 15 minutes</td>
<td>1 hour</td>
<td>2 to 3 hours</td>
<td>equivalent to 1000 units: $630</td>
<td>Not covered</td>
</tr>
<tr>
<td>Regular (short-acting)</td>
<td>Novolin R Humulin R Relion R</td>
<td>Clear</td>
<td>30 to 60 minutes</td>
<td>2 to 4 hours</td>
<td>4 to 8 hours</td>
<td>10 mL: $132 Relion R 10 mL: $28</td>
<td>Novolin R: Tier 2 Humulin R: not covered Relion R: Not covered†</td>
</tr>
<tr>
<td>Intermediate-acting</td>
<td>NPH (Novolin N) NPH (Humulin N) Relion N</td>
<td>Cloudy</td>
<td>1 to 3 hours</td>
<td>4 to 10 hours</td>
<td>10 to 18 hours</td>
<td>10 mL: $298 FlexPen 15 mL: $447</td>
<td>Novolin N: Tier 2 Humulin N: not covered Relion N: Not covered†</td>
</tr>
<tr>
<td>Peakless</td>
<td>detemir (Levemir)‡</td>
<td>Clear</td>
<td>1 hour</td>
<td>peakless</td>
<td>18 to 24 hours</td>
<td>10 mL: $298 FlexPen 15 mL: $447</td>
<td>Tier 2</td>
</tr>
<tr>
<td></td>
<td>glargine (Lantus)‡</td>
<td>Clear</td>
<td>2 to 3 hours</td>
<td>peakless</td>
<td>24 + hours</td>
<td>10 mL: $298 SoloSTAR pen 15 mL: $447</td>
<td>Tier 2</td>
</tr>
<tr>
<td></td>
<td>glargine U-300 (Toujeo)</td>
<td>Clear</td>
<td>develops over 6 hours</td>
<td>peakless</td>
<td>24 + hours</td>
<td>SoloSTAR pen 14.5 mL: $403</td>
<td>Not covered</td>
</tr>
<tr>
<td>Mixes</td>
<td>70/30 (NovoLog Mix)</td>
<td>75/25 (Humalog Mix)</td>
<td>50/50 (Humalog Mix)</td>
<td>70/30 (Relion Mix)</td>
<td>10 mL: $253; pen: $471</td>
<td>10 mL: $252; pen: $470</td>
<td>10 mL: $252; pen: $470</td>
</tr>
</tbody>
</table>

* Afrezza contraindications: asthma, COPD, smokers. Requires PFT monitoring at baseline, 6 months, then yearly. Supplied in 4-unit and 8-unit single-dose cartridges. Dose adjustments are made in 4-unit increments.
† Relion is available at Walmart and is a possible option for cash-paying patients. Cash price is about $25–$30 per vial.
‡ Peakless insulin (detemir and glargine): • Administer detemir insulin twice a day for type 1 diabetes and at bedtime for type 2 diabetes. Administer glargine insulin once a day for type 1 and type 2 diabetes who require long-acting insulin for control of hyperglycemia.
• Peakless insulin cannot be diluted or mixed with other types of insulin or solutions.
• Administer peakless insulin subcutaneously only — DO NOT give it intravenously.
Physiologic insulin regimen: peakless + rapid-acting insulins

Using multiple daily injections (MDI), a physiologic insulin regimen most closely mimics normal insulin physiology. This intensive regimen uses peakless insulin as the basal dose and rapid-acting insulin for control with meals. Almost all type 1 patients require this physiologic (basal/bolus) regimen. Most type 2 patients who require insulin will attain good control with this regimen. For this regimen, we recommend the following:

- **Use peakless insulin to control blood glucose when not eating.** The period between bedtime and breakfast is the best reflection of how this method is working — prebreakfast blood glucose should approximate bedtime blood glucose. A bedtime snack is not required; if desirable, match its carb content with a rapid-acting insulin dose.

- **Add rapid-acting insulin prior to each meal and planned snack.**
  - Adjust this insulin to prevent post-meal hyperglycemia or hypoglycemia.
  - Blood glucose levels 4 hours after a meal should approximate premeal levels.
  - Determine premeal rapid-insulin doses by counting carbohydrates and using an insulin-carbohydrate ratio. Alternatively, base premeal insulin dose on a fixed meal plan (budgeted carbohydrates).
  - Train patients in MNT and insulin use; support with referral to diabetes educator/registered dietitian.
  - Train patients in use of correction dose to treat hyperglycemia. (At bedtime, the correction dose may be reduced to as much as 50% of the usual correction dose.)

- **Teach patients how to modify insulin doses** when exercising, on sick days, to combat significant premeal hypoglycemia, or to prevent delayed postmeal hyperglycemia due to higher fat meals (see sidebar on page 17). Support with referral to diabetes educator/registered dietitian.

**ALGORITHM: INITIAL PHYSIOLOGIC INSULIN REGIMEN**

- **Use recommended starting doses:** for patients with type 1, the total daily dose (TDD) of insulin is approximately 0.5 U/kg; for those with type 2, TDD is approximately 0.5 to 0.7 U/kg.
- **Teach injection technique.**
- **Divide dose as follows:** One-half of total daily dose as peakless basal insulin dose (glargine once a day or detemir twice a day regimen). Use carbohydrate ratio and correction factor to calculate premeal and bedtime rapid-acting insulin doses.
- **Instruct patient to carefully record SMBG** (before meals, at bedtime).

**Follow up in 2 to 5 days**

- Morning FPG = bedtime PG?
  - Yes → If morning FPG is > bedtime PG, increase peakless insulin by 10%.
  - No → If morning FPG is < bedtime PG, decrease peakless insulin by 10%.

- Premeal PG = 3–4 hour postmeal PG?
  - Yes → If 3–4 hour postmeal PG is > premeal PG, increase rapid-acting insulin by 10%.
  - No → If 3–4 hour postmeal PG is < premeal PG, decrease rapid-acting insulin by 10%.

- Consistent hypoglycemia or hyperglycemia?
  - Yes → If hypoglycemia, decrease all doses 10%.
  - No → If hypoglycemia, increase all doses by 10%.

**Initial return visit in 2 weeks, then every 3 months:**

- Review patient’s blood glucose record. Repeat HbA1c?

**Continued consistent hypoglycemia or hyperglycemia?**

- Yes → Endocrine consult

**Endocrine consult**

- No → Follow up in 2 to 5 days

*Insulin requirements vary considerably from patient to patient depending on the degree of insulin deficiency and resistance. These formulas are guidelines for estimating insulin doses. You will likely need to make adjustments to these estimates.*

**USING THE 1700 RULE**

The 1700 Rule can be used to calculate:

- A correction dose of rapid-acting insulin for a high PG reading.
- An insulin-to-carb ratio to approximate the rapid-acting insulin needed to cover the carbohydrate content of a meal.

To calculate either of these doses:

- **Determine the current total daily dose (TDD):** Add up all the insulin (rapid and long-acting) the patient takes in a 24-hour period.
- **Divide 1700 by the TDD:** This is the predicted amount (mg/dl) the PG will decrease for each unit of rapid-acting insulin added (correction factor).

To calculate a correction dose:

- Increase rapid-acting insulin by the number of units needed to reduce the PG to the desired goal. Encourage patient to keep careful records of resulting PG readings, especially morning FPG, premeal 2-hour PPG, and bedtime PG.

**Correction dose example:**

- Patient takes 50 units of insulin per day: TDD = 50
- 1700 ÷ 50 = 34 (round to 35, which means that 1 unit of insulin will lower PG by 35 points — correction factor 35)
- If goal is 130 and PG is 165, use 1 extra unit of insulin to drop PG to about 130. If PG is 200, use 2 extra units, and so on.

To calculate an insulin-to-carb ratio:

- Multiply predicted PG lowering (mg/dl) by 0.33. This is the number of grams of carbohydrate covered by 1 unit of insulin. For most people, a starting dose would be 1 unit of rapid-acting insulin for every 10 to 15 grams of carbohydrate to be eaten.

**Insulin-to-carb ratio example:**

- Patient takes 50 units of insulin per day: TDD = 50
- 1700 ÷ 50 = 34 (round to 35, which means that 1 unit of insulin will lower PG by 35 points)
- 35 × 0.33 = 12, which means that you’ll need 1 unit of insulin for every 12 grams of carbohydrate anticipated in a meal.
EXAMPLE OF WEEKLY TITRATION SCHEDULE

(Treat-to-Target Trial)17

A large, randomized controlled trial showed that systematically titrating bedtime basal insulin added to oral therapy can safely achieve 7% HbA1c in overweight patients with type 2 diabetes as compared to 7.5% to 10% HbA1c in those patients on oral agents alone.

• Start with 10 IU at bedtime.
• Titrate weekly based on FBG values over 3 days, as shown in the table below.

### Forced weekly insulin titration schedule

<table>
<thead>
<tr>
<th>Mean of FBG values over 3 days</th>
<th>Increase of insulin dosage (IU/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;180 mg/dL</td>
<td>+8</td>
</tr>
<tr>
<td>160–180 mg/dL</td>
<td>+6</td>
</tr>
<tr>
<td>140–159 mg/dL</td>
<td>+4</td>
</tr>
<tr>
<td>120–139 mg/dL</td>
<td>+2</td>
</tr>
</tbody>
</table>

Use glargine or detemir with this titration schedule to significantly reduce nocturnal hypoglycemia. Using insulin can help achieve recommended standards of diabetes care more quickly.

HIGHER DIETARY FAT AND POSTMEAL HYPERGLYCEMIA

Higher dietary fat intake can cause late postprandial hyperglycemia. This can be addressed either by reducing fat intake (especially for type 2 patients on nonphysiologic regimens) and/or by adjusting premeal insulin doses (for type 1 patients on rapid-acting insulin). Practical ways to compensate for a high-fat meal include splitting premeal insulin into 2 injections from 1 to 3 hours apart, or using an extended bolus. The total amount of insulin provided may need to be increased from the usual dose as well. The response to dietary fat will vary according to the individual and the specific foods, so defining insulin adjustments may require multiple attempts.

Basic (nonphysiologic) regimen: NPH + rapid-acting insulin

Basic insulin therapy is not designed to mimic normal insulin physiology. Although a basic regimen is not recommended for type 1 patients, it may provide adequate control for type 2 patients who have not been successful with oral medication combinations or with patients who are not able to manage a multiple daily dose regimen as required in physiologic insulin therapy.

For a basic insulin therapy regimen to be successful, a patient must be consistent with meals and adhere to a medical nutrition therapy plan.

Sample basic insulin regimens

Following are some sample basic insulin regimens.

• **Premixed insulins:** These insulins are all given twice a day (before breakfast and before the evening meal)
  - 70% aspart protamine suspension / 30% aspart injection (NovoLog Mix 70/30)
  - 70% NPH / 30% regular (Novolin 70/30)

• **Split-mixed insulins:** NPH is given twice a day (either morning and before the evening meal, or morning and bedtime) with:
  - Regular insulin before breakfast and before the evening meal
  OR
  - Rapid-acting insulin before breakfast and before the evening meal

Glucose management in special circumstances

Some circumstances — such as when a patient is preparing for a test or procedure, has had a cortisone injection, etc. — may require temporary adjustment to diabetes treatment. We advise the following:

• **Before surgery:** Optimize glycemic control and temporarily stop metformin if appropriate.

• **When patient receives a steroid (injection or oral):** Advise more frequent SMBG and adjust medications as needed. Patients often experience a worsening of glycemic control after an injection.

• **When patient is fasting prior to a test or procedure:** Adjust glucose-lowering medications as needed.

• **Illness:** Consider increasing frequency of blood glucose monitoring. Metformin may need to be held if the patient is at risk for dehydration.
**SGAs and metabolic abnormalities**

Although the second-generation antipsychotic medications (SGAs) have many notable benefits compared with their earlier counterparts, their use has been associated with reports of significant weight gain, diabetes (even DKA), and a worsened lipid profile (increased LDL and triglyceride levels and decreased HDL cholesterol).<sup>10</sup> This has led to growing concern about a possible link between these metabolic effects and therapy with SGAs. There are also data that suggest these agents elevate the risk for sudden cardiac death.

The table below shows the metabolic abnormalities associated with various SGAs. Given these findings and the increased use of SGAs, we recommend the following:

**Table 4. SGAs and Metabolic Abnormalities**

<table>
<thead>
<tr>
<th>Generic (brand) name</th>
<th>Weight gain</th>
<th>Risk for diabetes</th>
<th>Worsening lipid profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>clozapine (Clozaril)</td>
<td>+++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>olanzapine (Zyprexa)</td>
<td>+++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>risperidone (Risperdal)</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>quetiapine (Serquel)</td>
<td>++</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>aripiprazole (Abilify)*</td>
<td>+/-</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ziprasidone (Geodon)*</td>
<td>+/-</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* = increased effect  
* = no effect

1. Monitor patients regularly (perhaps monthly) after SGA therapy is initiated. Measure weight, glucose, blood pressure, and lipids.

2. Consider switching the SGA if a patient gains ≥5% of his or her initial weight at any time during therapy. Note that abruptly discontinuing clozapine has the potential for serious psychiatric sequelae.

**IMMUNIZATIONS**

Influenza and pneumonia are common and preventable infectious diseases. These diseases are associated with high mortality and morbidity in people with chronic diseases such as diabetes. This CPM recommends the following vaccinations for patients with diabetes:

- **Annual influenza vaccination for all patients over 6 months of age.** Patients with diabetes show an increased rate of hospitalization for influenza. The influenza vaccine can reduce hospital admissions for these patients by as much at 79% during flu epidemics.<sup>10</sup>

- **Pneumococcal vaccine for all adult patients with diabetes.** Patients with diabetes may be at increased risk of bacterial pneumonia and have a high reported risk of nosocomial bacteremia, which has a mortality rate as high as 50%<sup>16</sup> Patients with diabetes need the following pneumococcal vaccines:
  - Age 19 to 64: one dose PCV23.
  - Age 65 or older: one dose PPSV23. If patient has not previously received PCV13 as an adult, give also one dose PCV13 (preferably before PPSV23). Doses need to be separated by one year.

  Note: CMS-Medicare Part B now covers both PCV13 and PPSV23, given at least one year apart.

- **Hepatitis B vaccination for unvaccinated adults with diabetes under age 60.** In 2013, the Advisory Committee on Immunization Practices of the CDC recommended that all previously unvaccinated adults with diabetes aged 19 through 59 years be vaccinated with 3 doses of hepatitis B vaccine, and that vaccination be considered for those aged ≥60 years, after assessing risk and likelihood of an adequate immune response.<sup>10</sup> This acknowledges increased risk of Hepatitis B in institutionalized (e.g., nursing home, prison) patients.
<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>Common Name of Medication</th>
<th>How Works</th>
<th>How Taken</th>
<th>Risks/ Side Effects</th>
<th>A1C Lowering (average)</th>
<th>Risk of Low Sugars</th>
<th>Potential Weight Change (average)</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifestyle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diet, Exercise, Weight Loss, Stress Mgmt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biguanide</td>
<td>Glucophage Metformin</td>
<td>Liver, Pancreas, Stomach, Brain</td>
<td>Pill</td>
<td>Once daily</td>
<td>Stomach upset, Not if kidney issues</td>
<td>1.0-2.0</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>Glipizide, Glimepiride Glyburide</td>
<td>Pancreas</td>
<td>Pill</td>
<td>Twice daily</td>
<td>Low blood sugar</td>
<td>1.0-2.0</td>
<td>Yes</td>
<td>2 lbs gain</td>
</tr>
<tr>
<td>GLNide</td>
<td>Starlix Prandin</td>
<td>Pancreas</td>
<td>Pill</td>
<td>With meals</td>
<td>Low blood sugar</td>
<td>0.5-1.0</td>
<td>Yes</td>
<td>2 lbs gain</td>
</tr>
<tr>
<td>TZD</td>
<td>Pioglitazone (Actos)</td>
<td>Cells</td>
<td>Pill</td>
<td>Once daily</td>
<td>Swelling, Bladder cancer, Broken bones, Heart problems, Eye problems</td>
<td>0.5-1.5</td>
<td>No</td>
<td>4-6 lbs gain</td>
</tr>
<tr>
<td>DPP-4 Inhibitor</td>
<td>Januvia Onglyza Tradjenta, Nesina</td>
<td>Liver, Pancreas, Stomach, Brain</td>
<td>Pill</td>
<td>Once daily</td>
<td>Possible pancreas effects, Unknown long term effects</td>
<td>0.5</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>SGLT-2 Inhibitor</td>
<td>Invokana Farxiga Jardiance</td>
<td>Kidney</td>
<td>Pill</td>
<td>Once daily</td>
<td>Dehydration/dizziness, Yeast and urinary tract infections, Kidney issues/high potassium, Unknown long term effects, Possible diabetic ketoacidosis</td>
<td>0.5-1.0</td>
<td>No</td>
<td>4-6 lbs loss</td>
</tr>
<tr>
<td>GLP-1 Therapy</td>
<td>Byetta (2x/day), Victoza (1x/day), Bydureon (1x/wk), Trulicity (1x/wk), Tanzeum (1x/wk)</td>
<td>Liver, Pancreas, Stomach, Brain</td>
<td>Injection</td>
<td>Once daily or Once weekly</td>
<td>Stomach upset, Not if thyroid cancer, Possible pancreas effects, Affected by kidney issues, Unknown long term effects</td>
<td>1.0-2.0</td>
<td>No</td>
<td>4-6 lbs loss</td>
</tr>
<tr>
<td>Basal Insulin</td>
<td>Lantus, Levernir Toujeo (U-300), NPH</td>
<td>Slow release</td>
<td>Injection</td>
<td>Once daily</td>
<td>Unlikely</td>
<td>Yes</td>
<td>2-4 lbs gain</td>
<td>Brand $$$</td>
</tr>
<tr>
<td>Mealtime Insulin</td>
<td>Humalog, Novolog Apidra, Regular Afrezza (inhaled)</td>
<td>Rapid release</td>
<td>Injection</td>
<td>With meals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premix Insulin</td>
<td>70/30 Novolog 75/25 Humalog</td>
<td>Mixed slow and rapid</td>
<td>Injection</td>
<td>Twice daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diabetes Type II Medication Management Pathway

Determine Patient Specific A1C Target

Consider lifestyle modifications, diet and obesity management

Define patient follow-up timeframe to determine intervention success

Medication Therapy Needed

Entry A1C Level: 7.5 to 8.5

Monotherapy (in order of preference)
1) Metformin – Initiate 500mg daily – titrate up to 2000mg/day (bid with food)
2) SU – Gliclazide - Initiate 2mg daily – may increase to 8mg daily
3) DPP-4 – Linagliptin (Tradjenta) – 5mg once daily

If fail to achieve individualized A1C goal after 3 months recommend dual therapy

Estimated Cost of Medications
- Metformin – 30 day cost $4-$14 – avg. patient cost <$50
- SU – 30 day cost $4 - $42 – avg. patient cost <$10
- DPP-4 – 30 day cost $236 – avg. patient cost $20 - $30, could be up to $595
- GLP-1 – 30 day cost $260 - $450 – avg. patient cost $50
- Glargine (Lantus) – Semilose Pen – 30 day Cost $200 - $500 – avg. patient cost $205-$330
- Insulin NPH – Vial – 30 day Cost $70 - $100 – avg. patient cost $20 - $50

Dual Therapy (in order of preference)
1) Metformin + (SU) - Gliclazide
2) Metformin + (DPP-4) - Linagliptin (Tradjenta)
3) Metformin + (GLP-1) - Liraglutide (Victoza)

Initiate Victoza 0.6mg daily for 1 week, may increase to 1.2 – 1.8 mg daily.

Strongly consider initiation of Glargine (Lantus) insulin 10 units daily (may titrate by 2-5 units up to 9.25 units/kg/day) + Metformin
May use NPH 10 units OHS for financial issues

If insulin is not an option, consider triple therapy with Metformin + 2 additional first line agents

<table>
<thead>
<tr>
<th>Condition Specific / Contraindication</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight Loss Desired</strong></td>
<td>Metformin, GLP-1</td>
</tr>
<tr>
<td><strong>Renal Failure</strong></td>
<td>DPP-4, GLP-1</td>
</tr>
<tr>
<td><strong>CHF / CVD</strong></td>
<td>Metformin, Insulin</td>
</tr>
<tr>
<td><strong>Hypoglycemia Concern</strong></td>
<td>Metformin, DPP-4, GLP-1, T2D</td>
</tr>
</tbody>
</table>

**1) Adopted from AACE Comprehensive Diabetes management Algorithm, Endo Pract, 2013: 19. Pg 328-336
**2) ADA Position Statement: Standards of Medical Care in Diabetes-2013. Diabetes Care, Volume 35, Supplement 1, P511-563: Jan 2012
**Diabetes Update – 2015**

**Citation:**
Diabetes Care, Standards of Medical Care in Diabetes
January 2015, Volume 38, Supplement 1, Page S43

*Antihyperglycemic therapy in type 2 diabetes: general recommendations.* The order in the chart was determined by historical availability and the route of administration, with injectables to the right; it is not meant to denote any specific preference. Potential sequences of antihyperglycemic therapy for patients with type 2 diabetes are displayed, with the usual transition moving vertically from top to bottom (although horizontal movement within therapy stages is also possible, depending on the circumstances). DPP-4, DPP-4 inhibitor; lns, fractures; Gl, gastrointestinal; GLP-1-RA, GLP-1 receptor agonist; GU, genitourinary; HF, heart failure; Hypo, hypoglycemia; SGLT2, SGLT2 inhibitor; SU, sulfonylurea; TZD, thiazolidinedione.

1 Consider starting at this stage when A1C is 9%.

2 Consider starting at this stage when blood glucose is 300–350 mg/dL (16.7–19.4 mmol/L) and/or A1C is 10–12%, especially if symptomatic or catabolic features are present, in which case basal insulin 1 mealtime insulin is the preferred initial regimen. §§ Usually a basal insulin (NPH, glargine, detemir, degludec). Adapted with permission from Inzucchi et al.
HbA1c is measured every three to six months for patients with Type 2 diabetes, according to American Diabetes Association (ADA) guidelines. This will occur without exception and processes are in place to monitor system adherence and conduct outreach to patients overdue for testing.

HbA1c is the most important surveillance tool to monitor glycemic control and provides an accurate reflection of how well the treatment plan is working. HbA1c levels are predictive of risk for diabetic microvascular complications. The ADA’s Standards of Medical Care recommend that HbA1c testing be done for patients with Type 2 diabetes at least two times per year for those meeting treatment goals, and quarterly for those whose therapy has changed or are not at target.

Successful diabetes improvement interventions assure that patients are aware of the need for testing, create monitoring systems to assure testing is completed, perform routine outreach to those who are overdue, and embed patient education to convey the importance and meaning of the results. Equally critical is the need for care providers to respond timely to the HbA1c result by intensifying treatment for all those not at target.

STEPS TO ASSURE HbA1c TESTING IS BEING PERFORMED EFFECTIVELY FOR YOUR DIABETES POPULATION

- Incorporate HbA1c testing frequency recommendations into your guidelines (refer to Adopt Treatment Algorithm plank).
- Include specific HbA1c frequency in each individual patient’s care plan.
- Make HbA1c awareness a key component in your patient education efforts. Use simple language, pictures, and patient stories that communicate the critical importance of this test.
- Add language to the after-visit summary, your patient portal, and other individualized patient materials that explains the meaning of the HbA1c test, indicates whether the patient is at target range, and displays when the patient is due for his or her next test.
- Create a list from your diabetes registry at a specified interval (e.g., monthly, quarterly) of patients overdue for HbA1c testing. Consider starting by identifying patients who have not had an HbA1c test in over a year. For more information, refer to Use a Patient Registry plank.
- Contact those overdue for testing using letters, phone calls, or automated tools such as text messaging.
- Use point-of-care alerts within the EHR that indicate if a patient is overdue. Consider implementing these prompts for all providers, not just primary care, and developing standardized processes to alert patients at the time of their visit to obtain necessary testing.
- Implement standard order sets for patients with diabetes that can be deployed by non-physicians to facilitate HbA1c testing.
- Monitor your organization’s HbA1c testing performance on and report back to the Accountable Diabetes Team (refer to Build an Accountable Diabetes Team plank).
- Include data comparing A1c ordered versus completed as part of your internal reports (refer to Publish Transparent Internal Reports plank) to illustrate potential gaps in care.
- Incorporate simple, low-cost strategies, such as room signage with a clear call-to-action, to foster discussion regarding needed testing.
## Diabetes Update – 2015

**MMG Diabetes Medication Refill and Visit Frequency Guidelines**

*Care Team actions: During most patient contacts and for chart prep, review the following*
- Review most recent A1c
- Verify that meds are filled and check medication response/tolerance
- Check standing/future lab orders and create standing orders as needed (A1c, LDL, serum creatinine, urine micro-albumin) if needed
- Reinforce home glucose monitoring if patient is monitoring
- Assure next visit is scheduled

<table>
<thead>
<tr>
<th>Last A1c</th>
<th>Refills</th>
<th>Visit frequency</th>
<th>Additional Care Team Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New medication regardless of A1c</td>
<td>60 days max</td>
<td>Office visit within 30 days</td>
<td>• Contact every 2 weeks via phone or MyChart</td>
</tr>
<tr>
<td>2. Last A1c &gt;6 months ago</td>
<td>30 day refill</td>
<td>Office visit within 30 days</td>
<td></td>
</tr>
<tr>
<td>3. A1c typically less than 7</td>
<td>6 month refill</td>
<td>Every 6 months</td>
<td>• Screen for hypoglycemia</td>
</tr>
<tr>
<td>4. A1c 7.0 to 7.9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td></td>
</tr>
<tr>
<td>5. A1c 8 - 9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td>• If A1c ≥ 8 for 6 months pend order to DCT and/or pharmacists</td>
</tr>
</tbody>
</table>
| 6. A1c >9 | 1-3 month refill based on compliance, comorbidities, home blood glucose monitoring | Visits every 6 weeks | • Contact every 2 weeks via phone or MyChart  
  • Monitor blood glucose checks via MyChart or phone outreach  
  • Pend order to DCT |

### List of useful DM related smart phrases (type “Diabetes” to view full list)
- `Lastdiabetes3ref` (last 3 diabetes lab results)
- `Mediffilm` (last office visit DM labs/refill info)
- `Diabeticteach` (review DM teaching book/glucometer)
- `DM foot exam`
ASSESS AND ADDRESS RISK OF CARDIOVASCULAR DISEASE

Heart diseases and stroke are the top causes of death and disability among people with Type 2 diabetes. In fact, at least 65 percent of people with diabetes die from some form of heart disease or stroke. To reverse these trends, care teams must assess risk of cardiovascular disease for people with Type 2 diabetes and intervene in order to prevent these major health events.

TIPS TO INCORPORATE CARDIOVASCULAR RISK ASSESSMENT

- Use the ACC/AHA ASCVD Risk Calculator (refer to Appendix E: Suggested Readings for a link) for all patients with Type 2 diabetes over 40 years old annually, but including those who are newly diagnosed with the condition.
- Develop a workflow to facilitate ease of adoption. This workflow may incorporate:
  - Inclusion of point-of-care alerts,
  - Delegation of this responsibility (e.g., to a medical assistant or care coordinator),
  - Development of automated tools built into the EHR, and
  - Utilization monitoring of these tools (e.g., Did a point-of-care alert appear and was statin ordered, if appropriate? Did medication reconciliation include statin adherence over 80%?).
- Ensure the results are entered into the EHR and/or your diabetes registry in a discrete, searchable field.
- Educate clinicians and care team members about the importance of cardiovascular risk assessment for patients with Type 2 diabetes, the approved workflow, and appropriate management per your organization's treatment algorithms (refer to Adopt Treatment Algorithm plank).
- Develop or adopt treatment guidelines that include use of moderate- or high-intensity statins, lifestyle changes, antihypertensive medications, and aspirin for at-risk patients.
- Establish a process to assess medication adherence such as patient questionnaires, self-reports, pill counts, and pharmacy refills.
- Offer patient education materials and self-management tools that are culturally appropriate and accessible to audiences with low literacy.
- Monitor use of the risk calculator and adherence to the workflow and report back to the Accountable Diabetes Team at your organization (refer to Build an Accountable Diabetes Team plank).
- Leverage the work previously completed in your organization with Measure Up/Pressure Down® or other related efforts.
TOOL: CARDIOVASCULAR DISEASE ALGORITHM

INTERMOUNTAIN HEALTHCARE

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PREVENTION AND MANAGEMENT OF RELATED CONDITIONS

Patients with diabetes are likely to have related conditions such as:

- Cardiovascular disease (p. 18)
- High cholesterol (p. 20)
- High blood pressure (p. 22)
- Kidney disease (p. 24)
- Retinopathy (p. 25)
- Low testosterone in men (p. 25)
- Foot problems (p. 26)
- Obstructive sleep apnea (p. 28)
- Conditions associated with type 1 diabetes (p. 28)

This section gives an overview of risks, goals, and management options for these conditions that often accompany or result from diabetes.

Cardiovascular disease

Diabetes is considered a cardiovascular disease equivalent, and patients with diabetes have a 2 to 8 times higher prevalence of, incidence of, and mortality from all forms of cardiovascular disease than those without diabetes. All patients with diabetes should be assessed annually for cardiovascular risk. Treat all risk factors aggressively, and perform further screening and diagnostic testing as suggested in the algorithm below.

ALGORITHM: RISK ASSESSMENT & SCREENING FOR CARDIOVASCULAR DISEASE

PERFORM CARDIOVASCULAR RISK ASSESSMENT AT LEAST ANNUALLY

Asymptomatic with no history of CAD or PVD

Asymptomatic with history of CAD or PVD

Typical or atypical symptoms suggestive of CAD

REDUCE RISK FACTORS AGGRESSIVELY, following guidelines on page 20 and these additional recommendations for secondary prevention:

- Beta blocker if previous MI
- Antiplatelet therapy for secondary prevention
- Consider ACE inhibitor, especially for patients older than 55 years

SURVEILLANCE and RESCREENING:
Examine and watch for progression of new symptoms and repeat CV risk assessment annually.

PERFORM NONINVASIVE TESTING and/or REFER TO CARDIOLOGIST

DIAGNOSTIC TESTS
Though no evidence for screening asymptomatic patients, there is a high incidence of silent CAD in patients with diabetes.
MONITOR symptoms for evidence of new or progressive disease.

CAD = coronary artery disease; PVD = peripheral vascular disease; ECG = echocardiogram
Multifactorial risk reduction for cardiovascular disease

In patients with diabetes, risk factors for cardiovascular disease and cardiovascular events are similar to those in patients without diabetes. However, the magnitude of risk may be greater. Research suggests that long-term control of blood glucose, blood pressure, and lipids can substantially reduce these risks in all patients, but that patients with diabetes may benefit to an even greater extent.\textsuperscript{A}\textsuperscript{D\textsubscript{1}}\textsuperscript{A}\textsubscript{D\textsubscript{2}}\textsuperscript{A}\textsubscript{E}\textsuperscript{A}\textsuperscript{G}\textsubscript{A}\textsubscript{E}

We recommend helping patients lower their cardiovascular risk by promoting lifestyle modifications as needed (smoking cessation, weight loss, etc.) and following the guidelines in this CPM for good management of glucose, lipids, and blood pressure. Also consider using proven medications in appropriate patients; see the discussion below.

ACE inhibitors

Several studies have shown that ACE inhibitors can reduce cardiovascular complications even more than can be explained by blood pressure reduction alone. For example, the HOPE trial showed a reduction in cardiovascular events in diabetes patients over 55 years of age with normal blood pressure. If not contraindicated, consider an ACE inhibitor in all patients over 55 years of age, with or without hypertension, with any additional risk factor such as history of cardiovascular disease, dyslipidemia, increased urinary albumin, or smoking.\textsuperscript{A}\textsuperscript{D\textsubscript{1}}\textsuperscript{A}\textsubscript{D\textsubscript{2}}\textsuperscript{A}\textsubscript{E}\textsuperscript{A}\textsubscript{G}\textsubscript{A}\textsubscript{E}\textsuperscript{A}\textsubscript{E}\textsuperscript{A}

Beta blockers

Patients with diabetes and significant coronary artery disease may benefit from beta blockers, especially those who have had a coronary event within the previous 2 years.

Aspirin therapy\textsuperscript{A}\textsubscript{T}\textsubscript{A}

For secondary prevention in people with atherosclerotic vascular disease, low-dose aspirin provides a substantial 20% relative risk reduction (RRR) and 1.5% per year absolute risk reduction (ARR) in recurrent cardiovascular disease (CVD) events. However, for primary prevention the relative and absolute benefits of aspirin are much lower — just 12% RRR and 0.06% per year ARR in CVD events. For primary prevention in people with diabetes, recent randomized trials and meta-analyses of available trials have found a similar 10% RRR in CVD events. Given the uncertain efficacy of aspirin for primary prevention of CVD in adults with diabetes and its recognized risk for upper gastrointestinal bleeds and hemorrhagic stroke, a 2010 expert consensus document suggested that for primary prevention, aspirin therapy should be guided by a combined assessment of either age, sex, and other CVD risk factors or by an estimate of absolute 10-year CVD risk. Risk can be calculated via the resources noted at right.

For patients with no history of CVD who are not at increased risk for bleeding (no history of prior gastrointestinal bleeding, no prior peptic ulcer disease, no concurrent warfarin or NSAID therapy), we recommend aspirin at a dose of 75 to 162 mg/day following the guidelines below.

<table>
<thead>
<tr>
<th>Aspirin is recommended for:</th>
<th>Aspirin may be considered for:</th>
<th>Aspirin is not recommended for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults with (&gt;10) 10-year CVD risk* or for</td>
<td>Adults with 5–10% 10-year CVD risk* or for</td>
<td>Adults with &lt; 5% 10-year CVD risk* or for</td>
</tr>
<tr>
<td>Most men (&gt;50) years and women (&gt;60) years with any of these risk factors:</td>
<td>Men (&gt;50) years or women (&gt;60) years with none of the risk factors noted in the first column</td>
<td>Men (&lt;50) years and women (&lt;60) years with none of the risk factors noted in the first column</td>
</tr>
<tr>
<td>Smoking</td>
<td>High cholesterol</td>
<td></td>
</tr>
<tr>
<td>High blood pressure</td>
<td>Family history of premature CVD</td>
<td></td>
</tr>
<tr>
<td>Albuminuria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Beyond CVD

In addition to heart disease, many complex factors contribute to reduced cardiopulmonary function in patients with diabetes, including:

- Obstructive sleep apnea
- Diastolic dysfunction
- Reduced pulmonary diffusing capacity
- Functional restrictive lung disease

These conditions are commonly underdiagnosed in patients with diabetes. However, they can aggravate hypertension, cause fatigue, and reduce exercise capacity. The cornerstones of therapy are:

- Tight blood pressure control
- Blood glucose control
- Weight loss

Calculate 10-year CVD risk

The American Heart Association and American College of Cardiology\textsuperscript{A}\textsubscript{C} recommend the new Pooled Cohort Risk Equation to evaluate 10-year and lifetime risk of ASCVD. It is available at: tools.cardiosource.org/ASCV-D-Risk-Estimator
High cholesterol
Diabetes mellitus is associated with multiple lipid abnormalities, most typically hypertriglyceridemia, low HDL cholesterol, and increased numbers of small, dense LDL cholesterol particles. Insulin resistance, insulin deficiency, hyperglycemia, and obesity are common contributing factors for dyslipidemia in people with diabetes. Multiple studies have demonstrated that treating dyslipidemia can improve cardiovascular disease outcomes in people with diabetes. \cite{COLLHEA-NEW}

Recommendations on cholesterol management have recently changed. In 2013 the American Heart Association and American College of Cardiology revised their cholesterol treatment guidelines to recommend that treatment initiation and initial statin dose be driven primarily by risk status, not by LDL cholesterol level. The 2015 ADA Standards recommend following this guideline for diabetes treatment. \cite{ADA}

The algorithm below is taken directly from Intermountain's Cardiovascular Risk and Cholesterol CPM.

Some controversy exists around the new recommendations. The National Lipid Association (NLA) continues to recommend initiation of statin therapy based on lipid targets. For a detailed comparison of AHA and NLA recommendations, visit www.lipid.org/recommendations.

\section*{Algorithm: Assessing and Managing Cholesterol Levels and ASCVD Risk}

Heart-healthy lifestyle habits for all patients are the foundation of ASCVD risk reduction (See page 8)

Screen at diabetes diagnosis, at initial medical evaluation, and/or at age 40

Screen adults age ≥20 years with full lipoprotein panel (fasting preferred) once every 5 years

\begin{itemize}
  \item Clinical ASCVD? (a)
  \item LDL-C ≥190 mg/dL?
  \item Diabetes and age 40–75?
\end{itemize}

\begin{itemize}
  \item yes → age ≤75?
  \item yes → High-intensity statin (b)
  \item no → Moderate-intensity statin (b)
  \item yes → Estimated 10-year ASCVD risk ≥7.5%? (c)
  \item for diabetes patients age 20–39 or ≥75 see sidebar at left
  \item yes → High-intensity statin (b)
  \item no → Moderate-intensity statin (b)
\end{itemize}

\textsuperscript{a} Indicates an Intermountain measure
### ALGORITHM NOTES

#### (a) Clinical ASCVD

Clinical ASCVD is defined as one or more of the following:
- Acute coronary syndromes
- History of MI
- Stable or unstable angina
- Coronary or other arterial revascularization
- Atherosclerotic stroke
- Atherosclerotic TIA
- Atherosclerotic peripheral artery disease
- Abdominal aortic aneurysm

Treatment fundamentals for patients with clinical ASCVD:
- A — Aspirin/antiplatelet therapy
- B — Blood pressure control
- C — Cholesterol control and Cigarette smoking cessation
- D — Diet and weight management and Diabetes and blood glucose control
- E — Exercise

#### (b) Statin Therapy

**High-intensity statin therapy**  
(For patients with clinical ASCVD and age <75, LDL-C >190, diabetes and age 40 to 75 with other risk factors, or >7.5% 10-year ASCVD risk)

- Daily dose lowers LDL-C on average by approximately 50% or more*

**Moderate-intensity statin therapy**  
(For patients with clinical ASCVD and age >75, diabetes and age 40 to 75 without other risk factors, or 5%–7.5% 10-year ASCVD risk)

- Daily dose lowers LDL-C on average by approximately 30% to 50%*

**Low-intensity statin therapy**  
(For patients with < 5% 10-year ASCVD risk and other risk factors)

- Daily dose lowers LDL-C on average by up to 30%*

- Atorvastatin (401)–80 mg
- Rosuvastatin 20 (40) mg

- Atorvastatin 10 (20) mg
- Simvastatin 20 mg–40 mg
- Pravastatin 40 (80) mg
- Lovastatin 40 mg
- Fluvastatin XL 80 mg
- Fluvastatin 40 mg bid
- Pitavastatin 2 mg–4 mg
- Rosuvastatin (5) 10 mg

- Pravastatin 10 mg–20 mg
- Lovastatin 20 mg
- Simvastatin 10 mg
- Fluvastatin 20 mg–40 mg
- Pitavastatin 1 mg

*Bold text indicates preferred drug.

#### (c) New Pooled-Cohort Risk Calculator

The American Heart Association and American College of Cardiology™ recommend the new Pooled Cohort Risk Equation to evaluate 10-year and lifetime risk of ASCVD and more accurately identify higher-risk patients who may benefit from statin therapy.

*Available at: tools.cardiosource.org/ASCVD-Risk-Estimator*

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### OTHER ISSUES

**Triglycerides:** If triglycerides are >500 mg/dL, treat to reduce risk of pancreatitis. There is no evidence of cardiovascular risk reduction from treatment.

**Blood glucose:** The impact of statins on blood glucose is small and should not influence the decision to prescribe.

**Other classes of lipid-lowering medications:**
- **Fibrates.** Gemfibrozil should not be initiated in patients on statin therapy because of an increased risk for muscle symptoms and rhabdomyolysis. Fenofibric acid may be considered concurrent with low- or moderate-intensity statins only if benefits are judged to outweigh risks.
- **Ezetimibe.** May show some benefit. Make shared decision with patient.
- **Omega-3 fatty acids** (fish oil supplements). Not recommended.
- **Bile acid sequestrants.** Consider using colestipol for statin-intolerant patients.
High blood pressure

High blood pressure affects most patients with diabetes. Aggressive treatment of high blood pressure has been convincingly shown to reduce cardiovascular risk in these patients to an extent equal to or greater than the effect of glucose control. The 2015 ADA Standards of Medical Care in Diabetes changed the recommended goal for diastolic blood pressure in most patients with diabetes from 80 mm Hg to 90 mm Hg, reflecting the clearest evidence from randomized clinical trials.

The algorithm below is a shortened version of the algorithm in the High Blood Pressure CPM and is consistent with the recommendations in the ADA Standards. Using the same treatment protocol across the system has been shown to facilitate consistent team-based care.

ALGORITHM: MANAGEMENT OF HYPERTENSION

General approach for most patients under 80 years old

- Check BP at each office visit (a)
  - Systolic ≥140 or Diastolic ≥90?
    - No
    - Yes
      - RECHECK to confirm high BP (b)
        - Follow-up office visit
        - Home BP readings
      - High BP confirmed?
        - No
        - Yes
          - TREAT high BP to management target: <140/<90 (c)
            - INITIATE therapeutic lifestyle changes (TLC) (d)
              - Start meds concurrently with TLC.
              - Maintain TLC throughout course of treatment.

Treatment process:
- Evaluate BP every 2 weeks while titrating or switching medications. (d)
- Order BMP 2–3 weeks after initiation or dose changes of lisinopril or HCTZ.
- Consider divided dosing (AM/PM) when patient is on more than one medication.
- When BP is at target, maintain current therapy and evaluate BP every 6 months.

For patients who require additional medications to manage high blood pressure, refer to the High Blood Pressure CPM.

Special populations:
See note (f) for options in treating high blood pressure in the following:
- Prediabetes
- Coronary artery disease
- Heart failure
- Chronic kidney disease
- Black patients (African descent)
- Older patients (>80 years)
- Pregnancy

ACEI (or ARB); lisinopril (or losartan) (e)
Lisinopril titration: 10 mg daily → 20 mg daily

Indicates an Intermountain measure
### Algorithm Notes

#### (a) Check BP at Each Office Visit

Best practices for consistent BP readings:
- Patient should be seated with feet on the floor, back supported, and arm supported at heart level
- Rest for 5 minutes, empty bladder if necessary, and wait at least 30 minutes since last heavy meal, heavy exercise, or intake of caffeine, alcohol, or nicotine
- Use appropriate size cuff (not too small)
- Avoid talking with the patient or asking questions while taking BP

See the High Blood Pressure CPM for more detail.

#### (b) Confirming High BP

**Methods**
- **Follow-up office visit**: High BP can be confirmed through 2 office visits total, with 2 BP checks in each visit.
- **Home BP monitoring**:
  - Train patient on checking BP at home and make sure patient has appropriate home BP monitor.
  - Patient takes at least 6–10 home BP readings over 2 weeks or more. Make sure patient brings monitor to office visit to verify consistency of readings.

#### (c) Blood Pressure Targets

**Most patients**: The 2015 ADA Standards recommend management to <140/<90 for most patients with diabetes, but allow for individualized targets for patients with chronic kidney disease or other risk factors.

**Younger or at risk for stroke**: Consider a target of <130/<80 for some patients, including younger patients, if the burden of more aggressive therapy is not excessive.

**Elderly**: In elderly patients, avoid reducing diastolic BP below an average of 60. Lower diastolic BP may cause symptoms of hypotension and increase risk of myocardial infarction and stroke.

#### (d) Therapeutic Lifestyle Changes (TLC)

TLC elements include weight reduction, the DASH eating plan, sodium reduction, regular physical activity, limiting alcohol, and smoking cessation. For more information on the effects of TLC on blood pressure, see page 10 of the High Blood Pressure CPM.

#### (e) Medication Notes

- **Consider nonadherence**: Ask how many doses were missed since the last visit.
- **Consider interfering agents**, such as NSAIDs.

**Medications in the algorithm**
- **Lisinopril/Losartan**:
  - Either drug class is acceptable as a first-line choice.
  - If dry cough with lisinopril, switch to losartan.
  - Avoid all ACEI or ARB medications in pregnancy.
  - Do NOT combine an ACEI or an ARB.
  - Avoid the direct renin inhibitor aliskiren.

**Other preferred blood pressure medications**
- **Amlodipine**:
  - Monitor for peripheral edema.
  - If patient is on simvastatin >20 mg daily, consider alternative statin due to drug interaction.
  - Consider starting with 2.5 mg daily in elderly patients. Maximum therapeutic effect can take up to 3 weeks.

- **HCTZ**:
  - Prescribe as single combination with an ACEI/ARB.

- **Carvedilol**:
  - Monitor for bradycardia (keep HR >55 BPM).

#### (f) Special Populations

**Prediabetes**: Consider avoiding thiazides and beta blockers, as they can increase blood glucose. However, if a beta blocker is used, carvedilol is preferred as it may help with insulin resistance.

The recommendations below are for patients with both diabetes and the condition listed:
- **Coronary artery disease**: Consider adding carvedilol (preferred) or metoprolol succinate to ACEI/ARB. As needed, add amlodipine and then a diuretic.
- **Heart failure**: If ejection fraction ≤40%, ACEI/ARB, plus carvedilol (preferred) or metoprolol succinate, plus spironolactone (if contraindicated). If needed for BP, add amlodipine.
- **Kidney disease**: Treat to <140/<90; consider <130/80 if ACR >300. Monitor K+ and creatinine with ACEI/ARBs.

**Black (African ancestry)**: Consider starting with CCB or thiazide, then add thiazide or CCB as 2nd line.

**Age >80 years**: Consider target of <150/<90 and individualized approach; consider starting with CCB or thiazide.

**Pregnancy**: Avoid ACEI/ARB medications. Consider labetalol, CCB (nifedipine preferred), hydralazine, or methyldopa.
**TOOL: ADULT LIPID GUIDELINES**

**SUTTER HEALTH**

### Lipid Management

**Always start lifestyle treatment**

- Use shared decision making tools to discuss risks, benefits, drug-drug interactions and patient preference
- If patient intolerant of or not candidate for recommended statin then consider lower intensity statin

#### Clinical ASCVD<sup>1</sup><br>LDL ≥ 190<br>Age ≥ 21<sup>1</sup>

#### LDL ≥ 190<br>Age ≥ 21<sup>1</sup>

- **High intensity statin**<sup>1</sup>
  - or per ATP III may start with moderate intensity statin and titrate to LDL < 70<sup>1</sup>

- **Moderate intensity statin**<sup>2</sup>
  - or per ATP III may start with moderate intensity statin and titrate to LDL < 70<sup>1</sup>

- **High intensity statin**<sup>1</sup>

- **High intensity statin**<sup>1</sup>

#### Diabetes Age 40-75<sup>1,2</sup><br>10-yr risk ≥ 7.5%<sup>1</sup><br>or known CVD RFs<sup>1</sup>

#### Other Age 40-75<sup>5</sup><br>No clinical ASCVD. No Diabetes, and LDL 70-189

#### Hyper-Triglyceridemia<sup>1,2,3</sup>

- Statin otherwise as per algorithm<sup>1,2,3</sup>
- May consider fibrate, niacin, or omega-3<sup>1,2,3</sup>
as first-line therapy to reduce the risk of acute pancreatitis if severe TG elevation - such as TG > 500 (per ATPIII & AACE)<sup>1,3</sup> or TG > 1000 (per ADA)<sup>3</sup>

#### Decide approach based on provider and patient preference

#### ATP III<sup>2</sup>

- Determine LDL goal based on number of RFs and estimated CV risk<sup>3</sup>

- LDL above goal

- Start statin and titrate to LDL and non-HDL lipid goals

- Consider additional lipid medication if goals not met on statin<sup>7</sup>

#### ACC/AHA<sup>6</sup>

- Determine risk for ASCVD using CVD Calculator<sup>4</sup><sup>5</sup>

- 10-year risk ≥ 7.5%

- Moderate to High intensity statin

---

**ATP III (2002)**

- **LDL Goal Determination**

1. If 0-1 Major Risk Factors (RFs): LDL goal <160<sup>7</sup>
2. If 2+ Major Risk Factors (RFs) then determine LDL goal based on Framingham Risk Assessment tool<sup>8</sup> (http://cvdrisk.nhlbi.nih.gov/calculator.asp) or Reynolds Risk score (http://www.reynoldsriskscores.org)
   - a. 10-year risk >20%: LDL goal <100
   - b. 10-year risk 10-20%: LDL goal <130
   - c. 10-year risk <10%: LDL goal <130
3. Major Risk Factors:
   - a. Cigarette Smoking<sup>2,3</sup>
   - b. Hypertension (BP ≥ 140/90 or on anti-hypertension medication)<sup>2,3</sup>
   - c. FH of premature CHD2,3 (CHD in male first degree relative < 55 years, CHD in female first degree relative < 65 years),
   - d. Advancing Age<sup>2,3</sup> (men ≥ 45 years, women ≥ 55 years),
   - e. Low HDL cholesterol, &sup2; (Note High HDL-cholesterol (≥ 60) is a negative risk factor and can be subtracted)
4. Additional risk factors to consider: obesity, truncal obesity, family history of hyperlipidemia, fasting/postprandial hypertriglyceridemia, PCOS, dyslipidemic triad (low HDL, high TG, small dense LDL)<sup>7</sup>

**ACC/AHA Guideline (2013)**

- **CVD Risk Calculation**

1. Calculate patient’s 10-year risk for ASCVD<sup>5</sup>
   - http://my.americanheart.org/professional/statements/Guidelines/Prevention-
     Guidelines_UCM_457698_SubHomePage.jsp<sup>5</sup>
2. Additional risk factors (RFs) may consider in selected patients for informed decision making<sup>5</sup>
   - a. Evidence of genetic hyperlipidemias
   - b. Family history of premature ASCVD with onset <55 years of age in a first degree male relative or <65 years of age in a first degree female relative
   - c. High-sensitivity C-reactive protein >2 mg/L
   - d. CAC score ≥300 Agatston units or ≥75 percentile for age, sex, and ethnicity,
   - e. Ankle-brachial index <0.9
   - f. Elevated lifetime risk of ASCVD (such high risk patients < 40 who have high lifetime ASCVD risk)

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<sup>1</sup> Clinical ASCVD: acute coronary syndromes, history of MI, stable or unstable angina, coronary or other arterial revascularization, stroke, TIA, or peripheral arterial disease presumed to be of atherosclerotic origin.

<sup>7</sup> Additional Diabetes Notes:
   1. The ACC/AHA guideline emphasizes treatment by above algorithm for patients with diabetes if LDL 70-189.<sup>5</sup>
   2. The ADA guideline also recommends moderate or high intensity statin for diabetes patients age < 40 or > 75 with known additional CVD RFs or moderate dose statin if age > 75 even if no known additional CVD RFs.<sup>1</sup> (Additional RFs include: LDL ≥100, HTN, smoking, overweight/obesity.)
I. Determining statin type and dose:
1. Determine statin intensity according to algorithm above. See table below for specific type and dose.
2. Note: used reduced doses of statin if below:
   a. Multiple or serious comorbidities, including impaired renal or hepatic function.
   b. History of previous statin intolerance or muscle disorders.
   c. Unexplained ALT elevations >3 times ULN.
   d. Patient characteristics or concomitant use of drugs affecting statin metabolism.
   e. >75 years of age.
   f. History of hemorrhagic stroke.
   g. Asian ancestry.

<table>
<thead>
<tr>
<th>High-Intensity Statin Therapy</th>
<th>Moderate-Intensity Statin Therapy</th>
<th>Low-Intensity Statin Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily dose lowers LDL-C on average, by approximately ≥50%</td>
<td>Daily dose lowers LDL-C on average, by approximately 30-50%</td>
<td>Daily dose lowers LDL-C on average, by approximately &lt;30%</td>
</tr>
<tr>
<td>Atorvastatin (40) 80mg PO daily* Rosuvastatin 20mg (40) PO daily</td>
<td>Atorvastatin 10 mg (20) PO daily* Rosuvastatin (5) 10 mg PO daily Simvastatin 20-40 mg PO daily* Pravastatin 40 (80) mg PO daily* Lovastatin 40 mg PO daily* Fluvastatin 40mg PO BID* Fluvastatin XL 80 mg* Pitavastatin 2-4 mg*</td>
<td>Pravastatin 10-20 mg PO daily* Lovastatin 20 mg PO daily* Fluvastatin 20-40 mg PO daily* Pitavastatin 1 mg PO daily* Simvastatin 10mg PO daily</td>
</tr>
</tbody>
</table>

(*) indicates generic availability

1Based on ASCVD risk reduction demonstrated from randomized controlled trials
2FDA-approved for dyslipidemia, but its effect on ASCVD risk is not studied in randomized controlled trials

II. Laboratory screening and monitoring
1. Who to screen:
   i. ATP III and AACE: recommend screen all adults every 5 years if low risk, 1-2 years if high risk
   ii. AHA/ACC: Calculate patients risk score every 4-6 years
   iii. USPSTF recommends screen all adults ≥ 20 at increased risk for CVD and all men ≥ 35 years old
2. Evaluate at baseline, prior to initiating therapy
   i. Fasting lipid panel (if initially non-fasting, repeat as fasting if TG > 500)
   ii. Serum alanine transaminase (ALT)
   iii. A1C (diabetes screen) if diabetes status unknown
   iv. Serum creatine kinase (CK) if increased risk for developing adverse muscle effects
3. Evaluate in 4-12 weeks, after initiating therapy and then every 3-12 months as indicated
   i. Lipid panel
      1. Check LDL to monitor for adherence (and possible titration). Note: individual response may be variable based on inherent biologic differences.
      2. Expect therapeutic response below:
         a. ≥ 50% LDL reduction for high intensity statin.
         b. 30-50% LDL reduction for low intensity statin.
      3. If therapeutic response not attained
         a. Reinforce adherence.
         b. Consider titrate statin dose or add non-statin medication to reach therapeutic goal (esp if very high risk such as clinical ASCVD and < 75 yo, baseline LDL > 190, or diabetes).
c. Exclude secondary causes of hyperlipidemia (see section III below)⁵
4. If LDL < 40 twice in a row may consider lower statin dose⁵

ii. Diabetes
1. Screen for diabetes in patients treated with statins.¹,⁵
2. Statin use is associated with risk of new onset diabetes. The increased risk appears to be confined to those with risk factors for diabetes.¹,⁵
3. If patient develops diabetes while on statin, encourage heart healthy lifestyle and continue statin to reduce ASCVD risk.¹,⁵

iii. Muscle symptoms
1. Pain, tenderness, stiffness, cramping, weakness, generalized fatigue⁵
2. Check CK⁶ (CK > 10 times the upper limit of normal is indication to stop medication⁶)
3. Management - Compare to baseline pre-statins symptoms for comparison⁵
   a. Severe muscle pain or fatigue⁵
      i. Discontinue statin therapy⁵
      ii. Measure creatinine and urinalysis to evaluate for rhabdomyolysis⁵
   b. Mild to moderate symptoms⁵
      i. Evaluate possible etiology of symptoms⁵
      ii. May consider trial discontinue statin therapy⁵
         1. If no alternate etiology and muscle symptoms resolve, re-challenge with same or lower statin dose of therapy⁶ or try a different class of statin⁵
      2. If alternate etiology of muscle pain discovered, OK to restart statin⁵

iv. Hepatotoxicity
1. Fatigue, weakness, loss of appetite, abdominal pain, dark-colored urine, yellowing of the skin or sclera⁵
2. If present measure ALT⁵
3. LFTs > 3 time the upper limit of normal is indication to change or stop medication⁷

v. Memory Impairment⁵
1. Look for other non-statins cause or consider possibility of adverse effect associated with statin therapy⁵

vi. Pregnancy - Statin use is contraindicated during pregnancy⁵

III. Evaluation for possible secondary dyslipidemia
1. Consider evaluate for secondary causes if LDL > 190 or TG > 500⁵
   i. Familial hyperlipidaemia⁵
   ii. Medications⁵ (such as progestins, anabolic steroids, and corticosteroids)
   iii. Diseases/conditions: Diabetes,⁵ Obesity,⁵ Hypothyroidism,⁵ Obstructive liver disease,⁵ Chronic renal failure,⁵ nephrotic syndrome,⁵ pregnancy⁵
   iv. Diet⁵

IV. Lifestyle modifications⁵
1. Heart healthy diet (adapt to appropriate calorie requirements, personal and cultural food preferences and nutritional therapy for other conditions)
   i. Consisting of vegetables, fruits, and whole grains, low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils and nuts
   ii. Limit intake of sweets, sugar-sweetened beverages and red meats
   iii. Limit calories from saturated fats to 5-6% of total caloric intake
   iv. Eliminate trans fat in diet.
   v. Examples of heart healthy diets include: DASH diet, USDA Food Pattern, and AHA diet
2. Regular exercise habits
   i. Physical activity that is moderately to highly vigorous in intensity
### Assess and Address Risk of Cardiovascular Disease

**Tool: Adult Lipid Guidelines (Continued)**

Sutter Health

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**Table 2: Statin-Drug Interactions**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Drug/Food Interactions (not all inclusive)†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin</td>
<td>Cyp3A4 inducers and inhibitors, Grapefruit Juice, St John’s Wort</td>
</tr>
<tr>
<td></td>
<td><strong>Dose modification:</strong> Clarithromycin, Colchicine, Daptomycin, Diltiazem, Niacin, Phenytoin, Protease Inhibitors, Rifampycin, Rivaroxaban, Sildenafil, Telithromycin, Verapamil</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Cyclosporine, Gemfibrozil, Pimozide</td>
</tr>
<tr>
<td>Rosuvastatin</td>
<td>Cyp3A4 inducers and inhibitors, Grapefruit Juice, St John’s Wort</td>
</tr>
<tr>
<td>(Crestor)</td>
<td><strong>Dose Modification:</strong> Amiodarone, Colchicine, Cyclosporine, Daptomycin, Niacin, Protease Inhibitors</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Gemfibrozil, Ledipasvir</td>
</tr>
<tr>
<td>Simvastatin</td>
<td>Cyp3A4 inducers and inhibitors, Grapefruit Juice, St John’s Wort</td>
</tr>
<tr>
<td></td>
<td><strong>Dose modification:</strong> Amiodarone, Amlopidine, Colchicine, Daptomycin, Diltiazem, Dronedarone, Niacin, Phenytoin, Rifampycin, Sildenafil, Verapamil</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Clarithromycin, Cyclosporine, Erythromycin, Gemfibrozil, Protease Inhibitors, Telithromycin</td>
</tr>
<tr>
<td>Pravastatin</td>
<td><strong>Dose modification:</strong> Bile Acid Sequestrants, Clarithromycin, Colchicine, Cyclosporine, Daptomycin, Niacin, Phenytoin, Rifampycin</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Gemfibrozil, Pimozide</td>
</tr>
<tr>
<td>Lovastatin</td>
<td>Cyp3A4 inducers and inhibitors, Grapefruit Juice, St John’s Wort</td>
</tr>
<tr>
<td></td>
<td><strong>Dose modification:</strong> Amiodarone, Colchicine, Daptomycin, Diltiazem, Dronedarone, Niacin, Phenytoin, Rifampycin, Sildenafil, Tiglaurol, Verapamil</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Clarithromycin, Cyclosporine, Erythromycin, Gemfibrozil, Pimozide, Protease Inhibitors, Telithromycin</td>
</tr>
<tr>
<td>Fluvastatin</td>
<td>Cyp2C9 substrates</td>
</tr>
<tr>
<td></td>
<td><strong>Dose modification:</strong> Amiodarone, Cholestyramine Resin, Colchicine, Cyclosporine, Daptomycin, Fluconazole, Niacin, Phenytoin, Rifampycin</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Gemfibrozil, Pimozide</td>
</tr>
<tr>
<td>Pitavastatin</td>
<td>Cyp3A4 inducers and inhibitors, Grapefruit Juice, St John’s Wort</td>
</tr>
<tr>
<td>(Livarel)</td>
<td><strong>Dose modification:</strong> Colchicine, Daptomycin, Erythromycin, Niacin, Rifamycin, Sildenafil, Telithromycin</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid:</strong> Cyclosporine, Gemfibrozil</td>
</tr>
</tbody>
</table>

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**Table 3: Non-Statin Therapy†**

<table>
<thead>
<tr>
<th>Drug Class &amp; Lipid Effects</th>
<th>Agent and Dosage (not all inclusive)</th>
<th>Common Adverse Reactions</th>
<th>Comments &amp; Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibric Acid Derivatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL † 5-30%</td>
<td>Fenofibrate (TriCor)*</td>
<td>Dyspepsia</td>
<td>Fenofibrate is contraindicated in active liver disease, severe renal dysfunction, pre-existing gallbladder disease, and nursing mothers.</td>
</tr>
<tr>
<td>TG † 30-60%</td>
<td></td>
<td>Cholelithiasis</td>
<td></td>
</tr>
<tr>
<td>HDL † 10-20%</td>
<td></td>
<td>Myopathy/rhabdomyolysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>† transaminases</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>† SCr</td>
<td></td>
</tr>
<tr>
<td>LDL † 20-50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TG † 15-35%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotinic Acid</td>
<td>Niacin (Niacin)*</td>
<td>Flushing/pruritus</td>
<td>Different formulations of niacin are not interchangeable.</td>
</tr>
<tr>
<td>LDL † 5-25%</td>
<td></td>
<td>GI effects</td>
<td></td>
</tr>
<tr>
<td>TG † 20-50%</td>
<td></td>
<td>† prothrombin time</td>
<td></td>
</tr>
<tr>
<td>HDL † 15-35%</td>
<td></td>
<td>Hepatotoxicity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hypophosphatemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>† blood sugar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyperuricemia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hypotension</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Atrial fibrillation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edema</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dizziness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Niacin, extended release (Niaspan)*</td>
<td></td>
<td>Base line hepatic transaminases, fasting blood glucose or A1c, and uric acid should be obtained before niacin initiation, during up titration, and every 6 months thereafter.</td>
</tr>
<tr>
<td></td>
<td>Initial: 500 mg daily</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>† gradually as tolerated as 3 g</td>
<td></td>
<td>Take with food or premedicate with aspirin 325 mg 30 minutes before niacin dosing to alleviate flushing symptoms.</td>
</tr>
<tr>
<td></td>
<td>daily divided in 2-3 doses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initial: 100 mg TID</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>† gradually as tolerated as 3 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>daily over 4-8 weeks as tolerated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to a maximum dose of 2 g daily</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Bile Acid Sequestrants

**Cholestyramine Resin (Questran, Prevalite)**
- Initial: 4 g 1-2 times/day
- Gradually (not more frequently than monthly)
- Maintenance: 8-16 g daily divided in 2 doses
- Maximum: 24 g daily

**Colestipol (Colestid)**
- Granules:
  - Initial: 5 g 1-2 times/day
  - By 2 g/day at 1-2 month intervals
  - Maintenance: 5-30 g daily or in divided doses
- Tablets:
  - Initial: 2 g 1-2 times/day
  - By 2 g 1-2 times/day at 1-2 month intervals
  - Maintenance: 2-16 g daily or in divided doses

**Colestyramine Resin (Questran, Prevalite)**
- Bleeding
- Constipation
- GI effects
- Hypothyroidism
- Hypertriglyceridemia

**Colestipol (Colestid)**
- Bile acid sequestrants should not be used in patients with:
  - Baseline fasting triglyceride levels ≥300mg/dL
  - Type III hyperlipoproteinemia
  - Fasting lipid panel should be obtained before bile acid sequestrant initiation, 3 months after initiation, and every 6-12 months thereafter.
  - Bile acid sequestrants can decrease the absorption of certain other drugs and vitamins.

### Omega-3 fatty acids

**Lovaza**
- 4 g daily or 2 g BID

**Vascepa**
- 2 g BID with meals

**Fish Oil Supplement**
- (EPA and DHA) daily

- GI effects
- Transaminases
- LDL
- Arthralgia
- Fatigue

- If EPA and/or DHA are used for severe hypertriglyceridemia (≥500mg/dL), it is reasonable to evaluate patient for GI disturbances, skin changes, and bleeding.

- Omega-3 fatty acids should be used as an adjunct to diet/exercise and only if triglyceride levels >500 mg/dL.

(*) indicates generic availability

3. AACE Lipid and Atherosclerosis Guidelines, Endocr Pract 2012;18(Suppl 1) [http://online.lexi.com/rsql/servlet/crcservice](http://online.lexi.com/rsql/servlet/crcservice)
4. Lexicomp Online 2012-2013 [http://online.lexi.com/rsql/servlet/crcservice](http://online.lexi.com/rsql/servlet/crcservice)
8. 2013 UpToDate, Inc Statins: Actions, side effects, and administration, Robert S Rosenson, MD. Approach to the patient with hypertriglyceridemia, Robert S Rosenson, MD
Most adults with diabetes have at least one comorbid chronic disease and as many as 40% have at least three. The complexity of multiple chronic diseases can be challenging for many people with diabetes to manage. Frequent clinical contact for those not at goal or with a new prescription can create opportunities to focus:

- **Treatment Intensification**: Accelerating care can help patients achieve their treatment goals: those not at target range who saw their care team every 1-2 weeks achieved treatment goals sooner than those who saw their team every 3-6 months.

- **Treatment Adherence**: Patients who have positive reinforcement from their provider and frequent support of their care team demonstrate better adherence and less risk of poor outcomes.

- **Patient Engagement in Self-Management**: With frequent contact, patients and care teams can develop a strong therapeutic bond that promotes patient engagement and increases patient confidence and motivation.

**TIPS TO CONTACT PATIENTS WITHIN 30 DAYS**

- Incorporate contact frequency into treatment guidelines.

- Consider group visits, nurse visits, telephonic follow-up, or e-messaging. Contact may not need to be face-to-face with a physician. Nurse practitioners, pharmacists, or competency-trained and tested nurses, for instance, could use standardized treatment algorithms.

- Create a reminder system via EHR, patient portal, or a simple calendar program to track patients who need follow-up.

- Identify patients who may not be adherent to their current regimen because they are not on appropriate medications.

- Schedule follow-up appointments for patients not at goal before they leave the clinic.

- Offer options for patient home monitoring and reporting through telephone, patient portal, texting, or secure e-messaging.

- Monitor performance of 30-day follow-up for those not at goal or with new prescription and report results to the diabetes team (refer to Build an Accountable Diabetes Team plank).
PCA Scripting:

Good morning/afternoon, may I speak with ____________? Hi, Mr./Mrs. _____________. My name is _____________ and I'm a Patient Care Advocate from Cornerstone Health Care calling for Dr. __________ office. Do you have a moment? We noticed that it is time for you to have your six month Diabetic follow up appointment. I would like to go ahead and schedule this for you. What day and time works best for your schedule? Is your address still ______________ and would you mind sharing your email address with me? In addition to what we have already discussed, is there anything else I can help you with today? Thank you for your time and choosing Cornerstone Health Care as your Medical Home. Have a great Day!

PCA Note:

Sept. 17, 2015

I had the opportunity to speak with Foot Chctest about ways to improve their healthcare. In an effort to improve Diabetes, I have scheduled an appointment for her to have a Follow-up. She was able to schedule an appointment for this service. I set up an appointment with _____ on _____ at ______. The patient accepted and understood the purpose of my call.

Thank you,

Patient Care Advocate
Premier Medical Associates would like to inform you that it may be time to have your A1C checked.

One part of managing your diabetes is having your A1C level checked every 3-4 months.

Please reach out to your Premier Medical Associates provider today to see if you are due for an appointment to have this important blood work drawn.

Your Premier Medical Associates Providers would like to inform you that it may be time for your yearly diabetic eye exam.

Diabetes can damage your eyes and is the leading cause of blindness among adults. An eye exam can be a very useful tool in the reduction of vision issues.

Please reach out to your Ophthalmologist today to schedule your yearly diabetic eye exam.

If you have any vision disturbance such as blurry vision, seeing double, spots or floaters, you should see your eye provider before your yearly diabetic eye exam.

Your Premier Medical Associates Provider would like to remind you that it is very important to take care of your feet if you have been diagnosed with diabetes. Preventive measures could deter possible loss of a toe, foot or leg in severe cases.

Your provider would like to inform you of steps to protect your toes/feet/ lower leg:

Keep your feet clean. Be sure to wash and dry between your toes. Protect your feet from injury, DO NOT GO BAREFOOT! Inspect the skin on your feet every day. Keep your skin soft and smooth. Have your Premier Medical Associates Podiatry Provider trim any corns, calluses or nails. Avoid having your feet really hot or really cold.

Be sure to remove your shoes and socks and show off your feet to your Premier Medical Associates provider at each visit.

Las 9/1/15
**Diabetes Update – 2015**

**MMG Diabetes Medication Refill and Visit Frequency Guidelines**

Care Team actions: During most patient contacts and for chart prep, review the following

- Review most recent A1c
- Verify that meds are filled and check medication response/tolerance
- Check standing/future lab orders and create standing orders as needed (A1c, LDL, serum creatinine, urine micro-albumin) if needed
- Reinforce home glucose monitoring if patient is monitoring
- Assure next visit is scheduled

<table>
<thead>
<tr>
<th>Last A1c</th>
<th>Refills</th>
<th>Visit frequency</th>
<th>Additional Care Team Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New medication regardless of A1c</td>
<td>60 days max</td>
<td>Office visit within 30 days</td>
<td>• Contact every 2 weeks via phone or MyChart</td>
</tr>
<tr>
<td>2. Last A1c &gt;6 months ago</td>
<td>30 day refill</td>
<td>Office visit within 30 days</td>
<td></td>
</tr>
<tr>
<td>3. A1c typically less than 7</td>
<td>6 month refill</td>
<td>Every 6 months</td>
<td>• Screen for hypoglycemia</td>
</tr>
<tr>
<td>4. A1c 7.0 to 7.9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td></td>
</tr>
<tr>
<td>5. A1c 8 - 9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td>• If A1c ≥ 8 for 6 months pend order to DCT and/or pharmacists</td>
</tr>
<tr>
<td>6. A1c &gt;9</td>
<td>1-3 month refill based on compliance, comorbidities, home blood glucose monitoring</td>
<td>Visits every 6 weeks</td>
<td>• Contact every 2 weeks via phone or MyChart • Monitor blood glucose checks via MyChart or phone outreach • Pend order to DCT</td>
</tr>
</tbody>
</table>

List of useful DM related smart phrases (type “Diabetes” to view full list)

- Lastdiabetes3ref (last 3 diabetes lab results)
- Medrfdm (last office visit DM labs/refill info)
- Diabeticteach (review DM teaching book/glucometer)
- DM foot exam
Just as an electronic health record (EHR) is an essential tool for caring for individual patients, a registry is essential for managing populations. EHRs provide a single-patient view with clinical decision support to apply evidence-based protocols to each patient and workflow tools to support team-based care. Patient registries aggregate EHR data on individual patients to provide a population view.

Conceptually, a registry is layered on top of an EHR, integrating key data on all patients who make up a certain population, such as all patients with Type 2 diabetes. This cross-patient view may be a separate system or simply an additional module from the EHR vendor. Registries can also be used for risk stratification, which can range from simply identifying patients whose HbA1C is above their individual target to using statistical predictive models that use trends in multiple lab values and historical utilization patterns to stratify patients by risk of a hospital admission.

Many times, EHRs and registries overlap in terms of applying care protocols prior to, during, and after a patient visit. The EHR, for instance, ensures that all of a patient’s chronic conditions and preventive care needs are addressed at every visit. Meanwhile, a registry applies the same protocols to patients who are not scheduled for a visit, to identify patients for outreach.

For organizations that possess a functioning registry, awareness and training is essential as well as protocols and accountability embedded into workflow for how the care team utilizes the tools. Ensure the data is timely and accurate, and create a feedback process to improve data quality.

**PRIOR TO THE VISIT**
Registries can facilitate pre-visit planning to assure efficient use of office visits. A list of patients with Type 2 diabetes who require labs and preventative services is reviewed by the team. For example, standing orders can be implemented to facilitate ordering of required tests and services prior to the visit. Ensure care teams have access to registry reports with adequate time for pre-visit planning.

**DURING THE VISIT**
Notifications or alerts are communicated to the provider during the patient visit about specific recommended tests or services. Sharing reports with the patient during the visit can empower patients to self-manage their disease by promoting discussion about self-management and progress toward goals.

**AFTER THE VISIT**
Care coordination can be enhanced between practice visits by outreach to patients needing additional services. Many patients identified as being at greatest risk for poor outcomes can be prioritized for case management. The registry can provide population-based results for quality improvement. Feedback about performance on specific measures can direct the team’s diabetes improvement efforts.

An up-to-date registry exists and is utilized to identify all patients with Type 2 diabetes. Reviewed prior to a patient visit, the registry will inform the care team if the patient is not meeting care goals. Outreach is performed to patients who missed scheduled appointments, have gaps in care, or are overdue for follow-up.
Clinical decision support tools are embedded in workflow to ensure that all members of the care team are aware of the patient’s status on diabetes management and preventive measures, even if the current visit is for an unrelated problem. Protocols assist the care team in addressing patient needs.

TIPS TO IMPROVE THE VALUE AND USE OF POINT-OF-CARE TOOLS

- Convene a core group dedicated to point-of-care tools. This team will review the content of the tools up front, review the guidelines as a group, and then decide together how to implement them.

- Focus practice resources and tools on care processes that will have the greatest population impact to avoid risk of alert fatigue.

- Ensure point-of-care tools align with organizational practice guidelines to avoid confusion.

- Create workflows that allow team members to manage certain alerts by practicing to the “top of their license.” (Caution: States have different guidelines on what registered nurses, licensed practical nurses, or medical assistants can do with standing orders versus direct physician orders.)

- Aim to reduce “clicks” by consolidating all information into a single-screen display.

- Consider incorporating these tools in patient-provider communications, such as patient portals, shared decision-making aids, or after-visit summaries.

- Remember that tools must save time for providers and be perceived as valuable in increasing the quality of care.

- Make certain that data is timely and accurate and creates a feedback process to improve data quality. False positives and negatives will undermine provider confidence and therefore reduce the effectiveness of these tools.

- Create a process to assess the usage and effectiveness of the tools.

The main purpose of clinical decision support (CDS) is to provide clinicians and patients timely health information to best inform clinical decisions at the point of care.

Most clinicians aim to practice evidence-based medicine, yet many are challenged in remembering the specific care recommendations that might apply to an individual patient. For this reason, CDS tools can alert clinicians to patient-specific care needs, providing customizable order sets, easy access to disease guidelines, reminders for chronic or preventive care, safety alerts, patient-specific treatment recommendations, or even advanced predictive analytics that assess a patient’s risk of high-cost complications.

The best point-of-care tools provide valuable information beyond rules and alerts. First-generation diabetes point-of-care tools in outpatient settings, for instance, focused on prompts and reminders which improved test ordering but did not track intermediate outcomes of care such as glucose, blood pressure, or lipid levels. More sophisticated diabetes point-of-care tools use EMR data to provide patient-specific advice on medication use based on previous treatment, distance from goal, and evidence-based algorithms. These tools also organize clinical data in a thoughtful manner that facilitates decision-making.
DIABETES REVIEW LIST

1. Verify if patient has an active problem of diabetes.
2. Verify if patient has co-morbid conditions and transition the diabetes if needed.
   a. Renal disease-add or transition to E11.29 (diabetes mellitus with chronic kidney disease)
   b. Retinal disease-add or transition to E11.39 (diabetes mellitus with ophthalmic manifestations)
   c. Neuropathy- add or transition to E11.40 (diabetes mellitus with neurologic manifestations)
   d. PVD-add or transition to E11.59 (diabetes mellitus with peripheral circulatory disorder)
   e. HTN-add or transition to E11.69 (diabetes mellitus associated with complication)
   f. Is patient on insulin?- add Z79.4 (current use of insulin)
3. Verify when patient was last seen and if future appointment is scheduled.
   a. If overdue for appt (DM appt every 3 months), call patient to schedule.
4. Verify if retinal eye exam done in past year.
   a. If done, verify result was data pointed. (attach eye report if the results needs data pointed)
   b. If positive for retinopathy, add E11.39 to problem list if not already done.
   c. Order retinal eye exam if not already done
   d. Add eye doctor/facility to the patient care team
   e. If retinal eye exam not done, call patient to set up
5. Verify HgbA1c done within past 3 months.
   a. If not done, verify if order placed. Place order if not already done.
   b. Call patient to set up
6. Verify micro albumin done within past 12 months.
   a. If not done, verify order placed. Place order if not already done.
   b. Call patient to set up
7. Any patient refusals send a task to the site’s nurse navigator.
# MMG Diabetes Medication Refill and Visit Frequency Guidelines

**Care Team actions:** During most patient contacts and for chart prep, review the following:

- Review most recent A1c
- Verify that meds are filled and check medication response/tolerance
- Check standing/future lab orders and create standing orders as needed (A1c, LDL, serum creatinine, urine micro-albumin) if needed
- Reinforce home glucose monitoring if patient is monitoring
- Assure next visit is scheduled

<table>
<thead>
<tr>
<th>Last A1c</th>
<th>Refills</th>
<th>Visit frequency</th>
<th>Additional Care Team Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New medication regardless of A1c</td>
<td>60 days max</td>
<td>Office visit within 30 days</td>
<td>• Contact every 2 weeks via phone or MyChart</td>
</tr>
<tr>
<td>2. Last A1c &gt;6 months ago</td>
<td>30 day refill</td>
<td>Office visit within 30 days</td>
<td>• Screen for hypoglycemia</td>
</tr>
<tr>
<td>3. A1c typically less than 7</td>
<td>6 month refill</td>
<td>Every 6 months</td>
<td>• If A1c ≥ 8 for 6 months pending order to DCT and/or pharmacists</td>
</tr>
<tr>
<td>4. A1c 7.0 to 7.9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td>• Contact every 2 weeks via phone or MyChart</td>
</tr>
<tr>
<td>5. A1c 8 - 9</td>
<td>3 month refill</td>
<td>Every 3 months</td>
<td>• Monitor blood glucose checks via MyChart or phone outreach</td>
</tr>
<tr>
<td>6. A1c &gt;9</td>
<td>1-3 month refill based on compliance, comorbidities, home blood glucose monitoring</td>
<td>Visits every 6 weeks</td>
<td>• Pend order to DCT</td>
</tr>
</tbody>
</table>

List of useful DM related smart phrases (type “Diabetes” to view full list):

- `Lastdiabetes3ref` (last 3 diabetes lab results)
- `Medrfdm` (last office visit DM labs/refill info)
- `Diabetetcach` (review DM teaching book/glucometer)
- `DMfoot exam`
Accessing Diabetes CareGuides

- Within your note, click the “Problem” icon on the “Clinical Toolbar”

- Highlight any “Diabetes” diagnoses (if you click the icon that looks like a note, you are “assessing” it, if you just want to access the CareGuide, highlight the words) on the left in the “Active Problems” list, then click the “CareGuide: CHC Diabetes....” button on the menu bar at the bottom.
Accessing Diabetes CareGuides
Diabetes CareGuide

- Quality Metric Orderables (corresponding metric is not satisfied until order is confirmed)
  - HGB A1C
  - LC001453 Hemoglobin A1c
  - LC221010 Lipid Panel w/ Total Chol 221010
  - LC303756 Lipid Panel
  - Microalbumin (Lab)

- Quality Metric Screens, Follow-Up Plans and Counseling
  - *QM - Depression Screen, Result and Follow-Up Plan
  - *QM - BMI Follow-Up Plan
  - *QM - BP Screen and Follow-Up Plan
  - *QM - Depression Result and Follow-Up Plan (for Patient Point Screens)
  - *QM - Fall Risk Screen
  - *QM - Tobacco Cessation Counseling

- Quality Metric Resultables (Please obtain hard copy for outside results)
  - *QM - A1C Last Done
  - *QM - Diabetic Eye Exam Last Done
  - *QM - Diabetic Foot Exam Last Done
  - *QM - LDL Last Done
  - *QM - Microalbumin Last Done

- Quality Metric Deferrals
  - *QM - Deferrals / Exclusions (for vaccine deferrals, also defer in QBM window)

- Immunizations
  - Hepatitis B
  - Influenza
  - Pneumo (Pneumovax)

- Follow-ups and Referrals
  - Referrals
    - Ophthalmology Consult
    - Podiatry (Foot/Ankle) Consult

- CORNERSTONE HEALTH CARE, P.A.
**Patient Dashboard**

### Care Actions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Eye exam due</td>
<td>03/30/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>DM Urine albumin screening due</td>
<td>04/06/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>DM Lipid panel due</td>
<td>04/06/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>DM Foot exam up-to-date</td>
<td>10/14/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>DM HbA1c up-to-date</td>
<td>6%, 10/14/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>Prev Flu immunization given within current flu season</td>
<td>10/14/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>Prev Pneumonia vaccination given after age 50</td>
<td>10/17/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>Prev Pneumonia vaccination given after age 65</td>
<td>10/17/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>Prev Tdap/Td vaccination up-to-date</td>
<td>04/24/2015</td>
<td>Needs Action</td>
</tr>
<tr>
<td>Prev Zoster vaccination administered after age 50</td>
<td>10/27/2015</td>
<td>Needs Action</td>
</tr>
</tbody>
</table>

### Health Goals

<table>
<thead>
<tr>
<th>Condition</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prev BP: S ≥ 120 and &lt; 140 and/or D ≥ 80 and &lt; 90</td>
<td>129 / 68 mmHg, 10/14/2015</td>
</tr>
<tr>
<td>DM HbA1c &lt; 7</td>
<td>6%, 10/14/2015</td>
</tr>
</tbody>
</table>

### Appointments

- Next appointment of type PE 20

### Populations

- "Chronic Kidney Disease"
- "Hypertension"
- "Diabetes"
- "Nephropathy"
Best Practice Alerts/Health Maintenance

Best Practice is an alert that gives information on what a patient needs due to:
- A diagnosis (e.g. diabetes)
- Age related immunization or procedure (e.g. mammogram at intervals)

Health Maintenance (HM) is a preventative health tracking system and means of tracking the status of the best practice alerts. Health maintenance items may be satisfied at a ThedaCare site or at external clinics which is “abstracted” into the patient’s chart.

View Patient’s Health Maintenance (HM)

1. GoTo patient’s
   **Snapshot** activity

Or

Patient Header

<table>
<thead>
<tr>
<th>Ambulatory/Pru A</th>
<th>#</th>
<th>Pref Name</th>
<th>DOB</th>
<th>Sex</th>
<th>Allergies</th>
<th>PCF</th>
<th>HS</th>
<th>EHR</th>
<th>CCH</th>
<th>Inactive</th>
<th>MyChart</th>
<th>Acuity</th>
<th>No Scan</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Or

**Health Maintenance** activity

Due Dates are in Date Order
Health Maintenance – Document that the alerts were satisfied. The patient had these done at either a Thedacare facility or an external clinic.

Health maintenance items will be marked “satisfied” automatically when done at a Thedacare site.

1. GoTo Health Maintenance activity (see step 1 above)

2. Click the appropriate procedure that was satisfied at an external clinic.

3. Click [Override]

4. Fill in the Date completed, type Done, add Comment (e.g. Name of clinic, provider, and results). Click [Accept].

5. The health maintenance plan is satisfied.

| 09/07/2019 | ADULT TETANUS | 09/07/2009-Done |
Add Patient Modifiers

Some patient modifiers are automatically applied for a patient, for example, immunizations or PAP. You may add or remove a patient from the health maintenance plan. For example, a patient is diabetic and the diabetic modifier is added to the patient’s chart.

1. GoTo Health Maintenance activity
2. Click Edit Modifiers button

3. The Health Maintenance Modifiers screen appears. Click the spyglass on a blank row to see available modifiers.

4. Double click the modifier. Click [Accept] to add it to the patient’s health maintenance list.
TOOL: HEALTH MAINTENANCE (CONTINUED)

VIEW/PRINT PATIENT’S HEALTH MAINTENANCE REPORT

1. From the Health Maintenance activity, click [Report].

2. The Health Maintenance Report displays. Click [Close] to close the report.

You can also print the report.

Health Maintenance Summary

Health Maintenance Modifiers

Patient Information
Patient Demographics

Internal transparent reporting in the context of quality initiatives can foster a culture of candor and provide ongoing feedback that enhances performance and improves outcomes. This transparency also serves as an important driver of accountability for individual providers, care teams, and the entire organization.

Tracking and reporting quality data through such reports can:

- Motivate everyone to improve performance;
- Recognize high performers;
- Disseminate their best practices across the organization;
- Provide the opportunity for leadership to better understand and address system and workflow barriers to improving care;
- Mobilize and motivate all care team members to create solutions that improve performance;
- Prepare the group for the shift to publicly-reported data; and
- Promote changes in clinical behaviors, such as following evidence-based guidelines, ordering recommended tests, and addressing patient adherence.

Transparent internal reports should clearly show the baseline and progress toward the goal for appropriate clinical measures and include comparative graphs or charts organized by individual provider, care team, and site of care. Diabetes-related metrics should align with your organizations’ strategic quality goals, which might reflect value or risk-based contracts or participation in state or national programs including Together 2 Goal®.

**TIPS TO EFFECTIVELY CREATE TRANSPARENT INTERNAL REPORTING**

*If your organization does not currently publish transparent internal reports:*

- Start by reviewing individual reports confidentially with providers to assure data accuracy and address any concerns.
- Discuss the purpose of the reports and recognize high performers at group meetings to garner understanding and buy-in.
- Determine frequency and dissemination of reports.
- Communicate timeline for unblinded reports.

*If your organization currently publishes transparent internal reports:*

- Determine if reports are being reviewed by all care team members.
- Consider delivering reports by hand, reviewing reports at beginning of meetings, or posting results publicly to convey importance of reports.
- Continue to discuss the purpose of the reports, preferably at group meetings, to garner understanding and buy-in.
- Include an up-to-date worklist of patients not at goal (refer to Use a Patient Registry plank) and develop an action plan with clear timelines, responsibilities, and accountability.
- Create friendly competition between providers or sites of care by offering incentives, such as a healthy lunch or gift card, to the teams with most improvement.
## Diabetes Pathway to Excellence Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>Cornerstone Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Retinopathy Screening</td>
<td>73%</td>
</tr>
<tr>
<td>DM BP &lt;140/90</td>
<td>68%</td>
</tr>
<tr>
<td>DM HbA1c Test</td>
<td>91%</td>
</tr>
<tr>
<td>DM LDL Test</td>
<td>90%</td>
</tr>
<tr>
<td>DM Nephropathy Screening</td>
<td>89%</td>
</tr>
<tr>
<td>DM HbA1c &lt;8%</td>
<td>70%</td>
</tr>
<tr>
<td>DM LDL &lt;100mg/dl if LDL &gt;100</td>
<td>64%</td>
</tr>
<tr>
<td>DM HbA1c Performed &gt;9 or missing</td>
<td>&lt;13%</td>
</tr>
<tr>
<td>Daily Aspirin DM and IVD</td>
<td>36.5%</td>
</tr>
<tr>
<td>DM Tobacco Non-Use</td>
<td>36.5%</td>
</tr>
<tr>
<td>DM Lipid Lowering Agent</td>
<td>80%</td>
</tr>
</tbody>
</table>
TOOL: PROVIDER D3 PERCENTAGE

PREMIER MEDICAL ASSOCIATES, P.C.

Provider D3 Percentage (% of patients who meet the criteria of A1c <9, LDL <100, BP <140/90)
### Work List by Physician

**DM:** Patients with A1C >= 9% or without Urine Albumin

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Current PCP</th>
<th>Last A1c</th>
<th>Date of Last A1c</th>
<th>Pts had Urine Albumin</th>
<th>Date of Urine Albumin</th>
<th>Pts w/Dx of DM (Problem List)</th>
<th>Pts w/Dx of DM w/o Dx of Sec/Grd DM</th>
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</thead>
<tbody>
<tr>
<td>6.0</td>
<td></td>
<td>03/09/2015</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.6</td>
<td></td>
<td>10/28/2015</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td></td>
<td>12/10/2014</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>12.8</td>
<td></td>
<td>08/28/2015</td>
<td>Yes</td>
<td>08/28/2015</td>
<td>Yes</td>
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<tr>
<td>9.8</td>
<td></td>
<td>09/12/2015</td>
<td>Yes</td>
<td>09/12/2015</td>
<td>Yes</td>
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<tr>
<td>6.8</td>
<td></td>
<td>08/17/2015</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.7</td>
<td></td>
<td>12/08/2014</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>7.3</td>
<td></td>
<td>05/19/2015</td>
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<td>Yes</td>
<td>Yes</td>
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<td>9.3</td>
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<td>10/30/2015</td>
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<td>Yes</td>
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<tr>
<td>7.9</td>
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<tr>
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<tr>
<td>6.5</td>
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<td>Yes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5.7</td>
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<td>08/28/2015</td>
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<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
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<td>06/01/2015</td>
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</tbody>
</table>
Run Chart for All Group Performance
Comparison of All Practice locations

HCP Star Measures Medicare Advantage
A1c Control - Rate of Diabetic Patients with A1c < 9
by Site Compare Baseline to Time Period Ending September 2015

<table>
<thead>
<tr>
<th>Site</th>
<th>Baseline DEC-14</th>
<th>Baseline SEP-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1</td>
<td>90.7</td>
<td>95.7</td>
</tr>
<tr>
<td>Site 2</td>
<td>92.1</td>
<td>95.6</td>
</tr>
<tr>
<td>Site 3</td>
<td>85.5</td>
<td>88.7</td>
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<tr>
<td>Site 4</td>
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<td>Site 5</td>
<td>61.4</td>
<td>92.9</td>
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<td>Site 6</td>
<td>94.1</td>
<td>92.3</td>
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<td>Site 7</td>
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<td>89.3</td>
</tr>
<tr>
<td>Site 8</td>
<td>97.7</td>
<td>96.9</td>
</tr>
<tr>
<td>Site 9</td>
<td>59.7</td>
<td>87.1</td>
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</table>

Definitions: Percentage of members 18-75 with diabetes (Type I and II), and most recent A1c level < 9. Exclusions: Members who do not have a diagnosis of diabetes, or who have a diagnosis of gestational diabetes, steroid-induced diabetes, or polycystic ovaries.

Average of providers by site.

Run date: 11/16/2015
Comparison of All Physicians at Practice Site

HCP Star Measures Medicare Advantage
A1c Control - Rate of Diabetic Patients with A1c < 9

East

Compare Baseline to Time Period Ending September 2015

<table>
<thead>
<tr>
<th></th>
<th>Baseline Dec-14</th>
<th>Sep-15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95.5</td>
<td>95.5</td>
</tr>
<tr>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
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<td>92.9</td>
<td>92.0</td>
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</tr>
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<td>85.2</td>
<td>94.7</td>
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<td>93.8</td>
<td>86.7</td>
<td></td>
</tr>
<tr>
<td>90.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>87.5</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Definitions: Percentage of members 18-75 with diabetes (Type I and II), and most recent A1c level < 9. Exclusions: Members who do not have a diagnosis of diabetes, or who have a diagnosis of gestational diabetes, steroid-induced diabetes, or polycystic ovaries.

Run date: 11/16/2015
Rate of Hypertension Patients in Control

Dr.

Compare Year Ending April 2014 to Period Ending September 2015

Individual Physician Run Chart

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Target</td>
<td>82.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014 April</td>
<td>71.5</td>
<td>79.9</td>
<td>77.8</td>
<td>78.5</td>
<td>80.3</td>
<td>81.4</td>
<td>87.0</td>
<td>87.6</td>
<td>87.5</td>
<td>87.8</td>
</tr>
</tbody>
</table>

COLORADO SPRINGS HEALTH PARTNERS
APPENDIX A: ACKNOWLEDGEMENTS

AMGA Foundation’s Together 2 Goal® campaign and this Toolkit would not be possible without the time and expertise of the following individuals (as of January 31, 2016):

TOGETHER 2 GOAL® CAMPAIGN TOOLKIT WORKGROUP

Thanks to the Together 2 Goal® Campaign Toolkit Workgroup members for contributing their time and expertise in reviewing the content of this resource, including campaign plank overviews and accompanying tools and resources. Workgroup members include:

- Parag Agnihotri, MD, Medical Director, Continuum of Care, Sharp Rees-Stealy Medical Group
- Deloris Berrien-Jones, MD, Internal Medicine, Physician Champion for Diabetes Initiative, Henry Ford Health System
- Frank Colangelo, MD, FACP, Chief Quality Officer, Premier Medical Associates, PC
- Joan Compton, RN, MSHA, Director, Clinical Innovation Department, Colorado Springs Health Partners
- Roberta Eis, RN, BSN, MBA, Manager, Henry Ford Medical Group – Primary Care
- Deborah Greenwood, PhD, RN, BC-ADM, CDE, FAADE, 2016 Immediate Past President, American Association of Diabetes Educators Board of Directors; Program Director, Sutter Health Integrated Diabetes Education Network; Clinical Performance Improvement Consultant; Research Scientist, Office of Patient Experience, Sutter Health
- Betty Sedlor, RN, Clinical Outcomes Analyst, Colorado Springs Health Partners

TOGETHER 2 GOAL® CAMPAIGN TOOLKIT REVIEWERS

We also extend our gratitude to experts at AMGA members and campaign partners who reviewed specific campaign plank overviews enclosed. These reviewers include:

- Ann Albright, PhD, RD, Director, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention
- Beth Averbeck, MD, Senior Medical Director, Primary Care, HealthPartners Medical Group
- Jay Cohen, MD, FACE, Medical Director, Baptist Medical Group—The Endocrine Clinic
- John Cuddeback, MD, PhD, Chief Medical Informatics Officer, AMGA Analytics
- R. James Dudl, MD, Diabetes Clinical Lead, Care Management Institute and Co-Director, Diabetes Guidelines Group, Kaiser Permanente
- Dominick L. Frosh, PhD, Chief Care Delivery Evaluation Officer, Palo Alto Medical Foundation; Senior Scientist, Palo Alto Medical Foundation Research Institute
- Deborah Greenwood, PhD, RN, BC-ADM, CDE, FAADE, 2016 Immediate Past President, American Association of Diabetes Educators Board of Directors
- David G. Marrero, PhD, J.O. Ritchey Endowed Professor of Medicine and Director, Diabetes Translational Research Center, Indiana University School of Medicine; 2015 President, Health Care and Education, American Diabetes Association
TOGETHER 2 GOAL® CAMPAIGN TOOLKIT REVIEWERS (CONTINUED)

- Victor M. Montori, MD, MSc, Consultant, Division of Endocrinology and Diabetes and Health Care and Policy Research, Mayo Clinic; Lead Investigator, Knowledge and Evaluation Research Unit, Mayo Clinic; Co-I, Center for Clinical and Translational Science, Mayo Clinic
- William H. Polonsky, PhD, CDE, Co-founder and President, Behavioral Diabetes Institute; Associate Clinical Professor, University of California, San Diego
- Patricia Thorbin, RN, BS, CPHQ, Director, Quality Improvement, Watson Clinic LLC
- Yates Lennon, MD, Chief Quality Officer, Cornerstone Health Care

TOGETHER 2 GOAL® NATIONAL ADVISORY COMMITTEE

The National Advisory Committee is the voting body on approval of campaign goals, planks, and specifications. The Committee also provides general oversight, guidance, and input on campaign goals, structure, and activities; assists in the evaluation of risks, challenges, and opportunities; and serves as project champions by aiding AMGA Foundation in recruiting member groups, building relationships with stakeholders and securing funding and other resources.

National Advisory Committee members include:

- Ann Albright, PhD, RD, Director, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention
- Deloris Ann Berrien-Jones, MD, Internal Medicine, Physician Champion for Diabetes Initiative, Henry Ford Health System
- Lawrence P. Casalino, MD, PhD, Livingston Farrand Professor of Public Health Chief, Division of Health Policy and Economics, Department of Healthcare Policy and Research, Weill Cornell Medical College
- Kelly L. Close, MBA, Founder and Chair, The diaTribe Foundation; President and Founder, Close Concerns
- Jay Cohen, MD, FACE, Medical Director, Baptist Medical Group—The Endocrine Clinic
- R. James Dudl, MD, Diabetes Clinical Lead, Care Management Institute and Co-Director, Diabetes Guidelines Group, Kaiser Permanente
- Dominick L. Frosh, PhD, Chief Care Delivery Evaluation Officer, Palo Alto Medical Foundation; Senior Scientist, Palo Alto Medical Foundation Research Institute
- Deborah Greenwood, PhD, RN, BC-ADM, CDE, FAADE, 2016 Immediate Past President, American Association of Diabetes Educators Board of Directors; Program Director, Sutter Health Integrated Diabetes Education Network; Clinical Performance Improvement Consultant; Research Scientist, Office of Patient Experience, Sutter Health
- John W. Kennedy, MD, Endocrinology Department Director, Geisinger Health System
- David G. Marrero, PhD, J.O. Ritchey Endowed Professor of Medicine and Director, Diabetes Translational Research Center, Indiana University School of Medicine; 2015 President, Health Care and Education, American Diabetes Association
- Robert E. Matthews, President and CEO, Medisync; Vice President, Quality, PriMed Physicians
- Victor M. Montori, MD, MSc, Consultant, Division of Endocrinology and Diabetes and Health Care and Policy Research, Mayo Clinic; Lead Investigator, Knowledge and Evaluation Research Unit, Mayo Clinic; Co-I, Center for Clinical and Translational Science, Mayo Clinic
- William H. Polonsky, PhD, CDE, Co-founder and President, Behavioral Diabetes Institute; Associate Clinical Professor, University of California, San Diego
- Hector P. Rodriguez, PhD, MPH, Chair, Faculty Group in Health Policy and Associate Professor of Health Policy and Management, University of California, Berkeley
- Marie W. Schall, MA, Director, Institute for Healthcare Improvement
- Kimberly Westrich, MA, Vice President, Health Services Research, National Pharmaceutical Council
IMPLEMENTING THE PLANKS

APPENDIX A: ACKNOWLEDGEMENTS

The Scientific Advisory Committee establishes the scientific and practice-based framework for the campaign, including campaign planks and measurable goals. Scientific Advisory Committee members include:

- **Deloris Ann Berrien-Jones, MD**, Internal Medicine, Physician Champion for Diabetes Initiative, Henry Ford Health System
- **Jay Cohen, MD, FACE**, Medical Director, Baptist Medical Group—The Endocrine Clinic
- **John Cuddeback, MD, PhD**, Chief Medical Informatics Officer, AMGA Analytics
- **R. James Dudl, MD**, Diabetes Clinical Lead, Care Management Institute and Co-Director, Diabetes Guidelines Group, Kaiser Permanente
- **Todd M. Hobbs, MD**, Vice President, Chief Medical Officer – Diabetes and Obesity, Novo Nordisk, Inc.
- **David G. Marrero, PhD**, J.O. Ritchey Endowed Professor of Medicine and Director, Diabetes Translational Research Center, Indiana University School of Medicine; President, Health Care and Education, American Diabetes Association
- **Victor M. Montori, MD, MSc**, Consultant, Division of Endocrinology and Diabetes and Health Care and Policy Research, Mayo Clinic; Lead Investigator, Knowledge and Evaluation Research Unit, Mayo Clinic; Co-I, Center for Clinical and Translational Science, Mayo Clinic
- **Jerry Penso, MD, MBA**, President, AMGA Foundation; Director, AMGA Foundation Board of Directors; Chief Medical and Quality Officer, AMGA
- **R. Daniel Pollom, MD**, Senior Medical Advisor, Diabetes, US Medical Affairs, Lilly, USA
- **William H. Polonsky, PhD, CDE**, Co-founder and President, Behavioral Diabetes Institute; Associate Clinical Professor, University of California, San Diego

**TOGETHER 2 GOAL® SCIENTIFIC ADVISORY COMMITTEE**

**TOGETHER 2 GOAL® MEASUREMENT COMMITTEE**

The Measurement Committee provides expertise and guidance on measure specifications, data collection, monitoring, evaluation, and reporting procedures. Measurement Committee members include:

- **John Cuddeback, MD, PhD**, Chief Medical Informatics Officer, AMGA Analytics
- **R. James Dudl, MD**, Diabetes Clinical Lead, Care Management Institute and Co-Director, Diabetes Guidelines Group, Kaiser Permanente; Member, ADA Professional Practice Committee
- **Avrim R. Eden, MD, MBA**, Medical Director, Quality Health Care Services, Summit Medical Group
- **Richard Fornadel, MD**, Medical Director, Aetna
- **Richard Hodach, MD, MPH, PhD**, Chief Medical Officer, Phytel
- **Mary Jane Lowrance, RN, MSN, MBA**, Chief Nurse Executive, Community Physician Network
- **Jerry Penso, MD, MBA**, President, AMGA Foundation; Director, AMGA Foundation Board of Directors; Chief Medical and Quality Officer, AMGA
- **Kristie Raker, PharmD, RD, CDE**, Director, Professional Association Relations, Novo Nordisk
- **Hector P. Rodriguez, PhD, MPH**, Chair, Faculty Group in Health Policy and Associate Professor of Health Policy and Management, University of California, Berkeley
- **Anne Sullivan, MD, FAAFP**, Medical Director of Quality Programs, Baptist Medical Group
- **Bruce Taylor**, Director, Healthcare Strategy and External Affairs, Diabetes Care, Roche
- **Sam VanNorman, MBA, MS**, Vice President of Healthcare Economics and Analytics, OptumCare
APPENDIX B: FAQs

CAMPAIGN OVERVIEW

■ WHEN DOES THE TOGETHER 2 GOAL® CAMPAIGN START?
  The Together 2 Goal® campaign will officially launch in March 2016.

■ HOW LONG IS THE CAMPAIGN?
  The Together 2 Goal® campaign, similar to Measure Up/Pressure Down® will be a three-year effort ending in 2019.

■ WHAT IS THE CAMPAIGN GOAL?
  Together 2 Goal® aims to improve care for 1 million people with Type 2 diabetes. To help us achieve this ambitious goal, there are seven distinct opportunities for improvement related to diabetes care that your organization can focus on, including A1c measurement and control, blood pressure measurement and control, medical attention for nephropathy, statin prescription, and practice-based screening.

■ HOW WILL PROGRESS TOWARD THE CAMPAIGN GOAL BE MEASURED?
  AMGA members participating in the Together 2 Goal® campaign will be responsible for reporting data on a quarterly basis. The campaign will disseminate blinded comparative reports as well as progress toward goal on a quarterly basis. Diabetes-related data will include A1c control, blood pressure control, lipid management, and testing for renal disease. Measures will be reported both individually and as a bundle. For more information about data reporting, please review Appendix D: Data Reporting and the FAQs "Data Reporting Tracks" section on page 123.

CAMPAIGN PARTICIPATION

■ IS THERE A FEE TO JOIN THE TOGETHER 2 GOAL® CAMPAIGN?
  Campaign participation is complimentary for all AMGA members. A complete roster of AMGA members is available at www.amga.org.

■ WHAT ARE THE EXPECTATIONS OF PARTICIPATING ORGANIZATIONS?
  No matter where you are on your journey, the Together 2 Goal® campaign offers a pathway to better tackle diabetes. The campaign is designed so AMGA members can customize their program based on resources and capacity. Most importantly, this three-year initiative ensures AMGA members have the time needed to succeed. To participate, AMGA members are asked to: (1) implement at least one evidence-based care process ("campaign plank"), (2) report data quarterly, and (3) use free campaign resources to help you get to goal. Please continue reading the FAQs to learn more about each of these activities.

■ HOW CAN I JOIN OR SUPPORT THE CAMPAIGN IF I AM NOT AN AMGA MEMBER?
  Non-AMGA member provider organizations can enroll in the Together 2 Goal® campaign for a one-time $2,500 campaign fee. Hardship cases are considered on a case-by-case basis. This fee covers the cost of resources and engagements over the three-year campaign. Corporations/funders and select national nonprofit organizations may join the campaign as corporate collaborators and supporting organizations, respectively. Please contact together2goal@amga.org to learn more about these opportunities.
WHAT RESOURCES WILL BE AVAILABLE FOR PARTICIPATING MEDICAL GROUPS AND HEALTH SYSTEMS?

Throughout the three-year campaign, you’ll be supported by powerful tools and resources that have been developed by AMGA members and are proven to deliver the best outcomes. These resources include:

- **Together 2 Goal® Campaign Toolkit**
- Monthly campaign webinars
- Educational resources for patients
- Online discussion forum
- National Day of Action

These resources can be accessed at [www.Together2Goal.org](http://www.Together2Goal.org).

CAMPAIGN PARTICIPATION

WHAT ARE THE CAMPAIGN PLANKS?

“Campaign planks” are evidence-based care processes you implement in your practice. Our Together 2 Goal® campaign offers 11 for improving the care of people with Type 2 diabetes. The 11 campaign planks span three domains and include:

- **Empowering Patients domain** (planks are: Build an Accountable Diabetes Team, Integrate Emotional and Behavioral Support, and Refer to Diabetes-Self Management Education and Support Programs);
- **Improving Care Delivery domain** (planks are: Conduct Practice-Based Screening, Adopt Treatment Algorithm, Measure HbA1c Every 3-6 Months, Assess and Address Risk of Cardiovascular Disease, and Contact Patients Not at Goal and with Therapy Change within 30 Days); and
- **Leveraging IT domain** (planks are: Use a Patient Registry, Embed Point-of-Care Tools, and Publish Transparent Internal Reports).

WHAT RESOURCES ARE AVAILABLE FOR CAMPAIGN PLANK IMPLEMENTATION?

This Together 2 Goal® Campaign Toolkit includes a guide for getting started in the campaign, provides an overview of each campaign plank, and features accompanying tools and resources used by leading AMGA members for adoption. Together 2 Goal® will also host monthly campaign webinars featuring experts and organizations that will share best practices and lessons learned for the implementation of each plank.

HOW CAN OUR TOOLS AND RESOURCES BE INCLUDED IN THE TOGETHER 2 GOAL® CAMPAIGN TOOLKIT?

AMGA members participating in Together 2 Goal® can submit their diabetes tools and resources for inclusion in the online version of Together 2 Goal® Campaign Toolkit by emailing diabetestoolkit@amga.org. In addition to attaching the tool to the email, please include:

- The purpose and intended audience of the tool, how it is used within your practice, length of time in use, and scope of implementation (e.g., pilot site vs. system level);
- The successes that your organization has achieved as a result of using this tool (indicate whether you have documentation or data to support the results that you have described); and
- The campaign plank that best represents your submission.

Approved submissions will be credited to your organization and provide an additional avenue to promote your dedication to best practices learning and collaboration. All submissions will be evaluated by the Together 2 Goal® Campaign Toolkit Workgroup prior to inclusion.
DATA REPORTING TRACKS

WHY DOES THE TOGETHER 2 GOAL® CAMPAIGN INCLUDE DATA REPORTING?
By reporting data on a quarterly basis through our dedicated campaign portal, AMGA members will be able to measure progress and benchmark against peers through blinded comparative reports. Additionally, Together 2 Goal® will be able to measure progress toward the campaign goal of improved care for 1 million people with Type 2 diabetes.

WHAT ARE THE DIFFERENT DATA REPORTING TRACKS?
Three data reporting tracks are available for groups participating in Together 2 Goal®. These tracks include:

• Basic Track (A1c control only);
• Core Track (A1c control, blood pressure control, lipid management, and testing for renal disease; reporting measures both individually and as a bundle); and
• Innovators Track (Core Track measures, as well as additional measures to be determined in conjunction with participating groups. Measures under consideration to date include hypoglycemia and shared decision-making).

CAN I CHANGE DATA REPORTING TRACKS DURING THE CAMPAIGN?
Participating organizations can change data reporting tracks during the campaign by contacting their regional liaison (identified upon enrollment). We encourage those groups that begin at the Basic Track level to advance to the Core Track over the three-year campaign, and for Core Track participants to join the Innovators Track, if resources allow.
APPENDIX C: CONTACTS

CAMPAIGN STAFF

- **Jerry Penso, MD, MBA**  
  President, AMGA Foundation, and Chief Medical and Quality Officer, AMGA  
  jpenso@amga.org  
  (703) 838-0033, ext. 352

- **Kendra Gaskins**  
  Director, Chronic Care Initiatives, AMGA Foundation  
  kgaskins@amga.org  
  (703) 838-0033, ext. 346

- **Lisa Cornbrooks**  
  Senior Program Manager, Chronic Care Initiatives, AMGA Foundation  
  lcornbrooks@amga.org  
  (703) 838-0033, ext. 385

- **Shannon Walsh**  
  Program Manager, Chronic Care Initiatives, AMGA Foundation  
  swalsh@amga.org  
  (703) 838-0033, ext. 377

For general campaign inquiries, please contact campaign staff at together2goal@amga.org.

DATA STAFF

- **Cindy Shekailo**  
  Director of Operations, AMGA Analytics  
  DataForT2G@amga.org  
  (703) 838-0033, ext. 361
AMGA Foundation prides itself in measuring and reporting the impact of our programs. Medical groups and health systems members participating in Together 2 Goal® will report data to the campaign on a quarterly basis.

Through this reporting, medical groups and health systems can measure progress toward their organization’s goals for diabetes and our shared campaign goal of improved care for 1 million people with Type 2 diabetes.

**DATA REPORTING TRACKS**

Upon enrollment, participating medical groups will select one of three data reporting tracks:

- **Basic Track:** A1c control only;
- **Core Track:** A1c control, blood pressure control, lipid management, and testing for renal disease (reporting both individually and as a “bundle”); or
- **Innovator Track:** Core Track and additional measures to be determined in conjunction with participating groups. Measures under consideration to date include hypoglycemia and shared decision-making.

To confirm or change your data reporting track, please contact your Regional Liaison or email together2goal@amga.org.

**MEASUREMENT SPECIFICATIONS**

To access the measurement specifications, visit www.together2goal.org and select “Improve Patient Outcomes” and “Campaign Data Reporting.”

**DATA REPORTING PORTAL**

To access the data reporting portal, visit https://data.together2goal.org.

**RESOURCES**

For questions about data reporting, please email DataForT2G@amga.org. In addition, the following resources can be accessed to support your efforts. Visit www.together2goal.org and select “Improve Patient Outcomes” and “Campaign Data Reporting” to download:

- Recorded webinar about the measurement specifications and data portal,
- Step-by-step instructions for registering and using the data portal, and
- Frequently asked questions.
### CAMPAIGN TOOLKIT

#### REPORTING TIMELINE:

<table>
<thead>
<tr>
<th>Measurement Periods (Defined by Quarters)</th>
<th>Measurement Periods (Defined by Months and Days)</th>
<th>Reporting Deadline</th>
<th>Blinded, Comparative Reports Sent to Participating Organizations</th>
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<td>(2015 Oct 1 - 2016 Sep 30)</td>
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<td>(2017 Q4 - 2018 Q3)</td>
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<td>June 28, 2019</td>
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</tbody>
</table>
APPENDIX E: CITATIONS AND SUGGESTED READINGS

Below, please find suggested readings that may provide background information and additional context for each campaign plank:

BUILD AN ACCOUNTABLE DIABETES TEAM


INTEGRATE EMOTIONAL AND BEHAVIORAL SUPPORT


REFER TO DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT PROGRAMS


  - Diabetes Care. 2015;38:1372-82.
  - J Acad Nutr Diet. August 2015;115(8):1323-34.


CONDUCT PRACTICE-BASED SCREENING


• Yudkin JS, Montori VM. The epidemic of pre-diabetes: The medicine and the politics. BMJ. July 16, 2014;349:g4485.

ADOPT TREATMENT ALGORITHM


MEASURE HBA1C EVERY 3-6 MONTHS


ASSESS AND ADDRESS RISK OF CARDIOVASCULAR DISEASE


CONTACT PATIENTS NOT AT GOAL AND WITH THERAPY CHANGE WITHIN 30 DAYS


USE A PATIENT REGISTRY


PUBLISH TRANSPARENT INTERNAL REPORTS


APPENDIX F: COPYRIGHT AND DISCLAIMER

DISCLAIMER
The Together 2 Goal® Campaign Toolkit is intended to aid healthcare professionals in managing the care of people with Type 2 diabetes. While the toolkit describes recommended courses of intervention, it is not intended as a substitute for the advice of a physician or other knowledgeable healthcare professional.

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One Prince Street
Alexandria, VA 22314