**9/14/2017 V14.1**

~~Change bicarb<=21 to bicarb<24 to be consistent with VA lab limits~~

**9/21/2017 V14.2**

Added more absolute contra ADR reactions to Glipizide; added absolute contra ADR rx to Biguanide, Pio

**9/22/2017 V14.3mkg**

Additional word choice corrections (tracked)

**10/2/2017 V14.4withComments**

Changes in response to v 14.3mkg

**10/2/2017 V14.5**

Same content as v14.4, but comments removed, changes accepted, tracking off; added “absolute contraindication” instead of simply “contraindicated/contraindication”; correction to Table 1; added text to distinguish One Drug Scenario cases (alphabetic) from Two Drug Scenario Cases (numeric) and link from Two Drug Scenario Cases to Two Drug Scenario Examples in Appendix.

**10/5/2017 v14.5**

Change, “In the event there are patients with **HbA1c < 6** or **glycosylated hemoglobin < 8**, they will receive an alert that these values are low.” To In the event there are patients with **HbA1c < 7** or **glycosylated hemoglobin < 9**, they will receive an alert that these values are low.” To be consistent with QA measures and other Medsafe project.

**10/17/2017 v14.5**

Replace SGOT with AST and replace SGPT with ALT

**10/19/2017 v15.0**

Additional messages for Metformin, Blocked add & blocked Increase dose; now there are 3 for each; one when no eGFR ever; one when eGFR>=45; one when eGFR<45

**11/7/2017 v15.1**

Update to Rules doc wrt input from Mary Goldstein; added to Rules doc additional text about ADR’s to sulfa and wish list item to consult with allergist/pharmacy;

Update to Rules doc wrt input from Stephen Ku; added footnote about keeping creatinine criteria for biguanide; added to Rules and encoded 2 primary messages when adding or increasing biguanide and eGFR<=45<60; added osteoporosis as relative contra to Pio, as well as cirrhosis

**11/9/2017 v15.1**

Continue Update to Rules doc wrt input from Stephen Ku: added GLP-1 agonist as bad drug partner of saxagliptin

**11/14/2017 v15.1**

Added, to existing ALERT when patient has active prescription of metformin and 30<=eGFR<45, to monitor eGFR every 3-4 months

**11.20/2017 v15.1**

Minor re-wording

**11/21/2017 v15.1**

Added message about sax and dose adjustment per Ku.

**1/9/2018 v16**

Add definition/clarification of “active prescription”

**1/16/2018 v16**

Clarification of start date of prescription.

**1/30/2018 v17**

Added Absolute contra = ADR anaphylaxis to biguanide; ADR anaphylaxis to pio or rosi; ADR anaphylaxis to SGLT2 inhibitors

**2/15/2018 v 17**

Added new message: "The CDS is display all possible therapeutic drug options. Please select one that is the most appropriate for the patient."

**3/19/2018 v17**

Changed out of scope line from: Patient has an active prescription for 3 or more oral hypoglycemic drugs

To: Patient has an active prescription for 3 or more **encoded** DM medications

**3/21/2018 v17**

Changes wrt bad drug partner

Out of scope condition #3 was:

Patient has an active prescription for two drugs, at least one of which is a DM medication, that are normally not prescribed together (these are “Bad drug partners,” described in the previous section)

Now

Patient has an active prescription for two drugs, at least one of which is a DM **encoded** medication, that are normally not prescribed together (these are “Bad drug partners,” described in the previous section) **and the DM encoded medication is not contraindicated**.

Definition of Bad Drug Partners was:

List of drugs that change, interfere with, or otherwise negatively affect the action of the listed DM drug. This may be a drug in the same class, a DM drug in a different class, or a drug in a different therapeutic area. Some action needs to be taken. In the evaluation of drugs to add, if a patient already has an active prescription of a bad drug partner, the candidate drug will be ruled out and will not appear as a therapeutic option. If a patient has active prescriptions for two drugs in the same class, there will be a message to stop one of the drugs, and no drugs will be recommended.

Now:

List of drugs that change, interfere with, or otherwise negatively affect the action of the listed DM drug. This may be a drug in the same class, a DM drug in a different class, or a drug in a different therapeutic area. Some action needs to be taken. In the evaluation of drugs to add, if a patient already has an active prescription of a bad drug partner, the candidate drug will be ruled out and will not appear as a therapeutic option. If a patient has active prescriptions for two **encoded** drugs in the same class, **and the drugs are not contraindicated,** there will be a message to stop one of the drugs, and no drugs will be recommended **(out of scope, described previously).  If a patient has active prescriptions for two encoded drugs in the same class and the drugs are contraindicated, then both drugs will be substituted.  If a patient has an active prescription for one encoded drug that is contraindicated and one drug that is used for a different therapeutic treatment (and is not a DM medication), the encoded drug will be substituted. If a patient has an active prescription of one encoded drug and a second prescription for a non-encoded drug, the patient is out of scope, as described previously, and we do not actually check that the encoded drug is contraindicated.**

**4/3/2018 v18 many changes; no 3 drug scenario**

Definition of bad drug partner now reads

List of drugs that change, interfere with, or otherwise negatively affect the action of the listed DM drug. This may be a drug in the same class, a DM drug in a different class, or a drug in a different therapeutic area. Some action needs to be taken. In the evaluation of candidate drugs to add, if a patient already has an active prescription of a bad drug partner of that candidate drug, the candidate drug will be ruled out and will not appear as a therapeutic option. The behavior of the CDS when the patient has active prescriptions of bad drug partners is described in the section ‘Two Drug Scenario”

~~Bicarb changes~~

* + ~~Bicarbonate < 24 or Bicarbonate<22 or Bicarbonate<23 in past year (cutoff value dependent upon actual laboratory measurement used)~~

Out of scope changes

* 1. Unchanged
  2. Unchanged.
  3. Patient has an active prescription for two drugs, only one of which is a DM encoded medication, that are normally not prescribed together (these are “Bad drug partners,” described in the previous section) and the DM encoded medication is not contraindicated
  4. unchanged

Addition to Two drug Scenario, include actions with bad drug partners

* Actions in the presence of bad drug partners:
  + As mentioned [Section 3.0](#_Drugs_Therapies), there will be no drug recommendations if the patient has active prescriptions of two drugs that are normally not taken together (“bad drug partners”), one of which is a DM medications and the other is not. Instead, there will be a primary message stating that the patient has active prescriptions for two drugs that are not normally taken together, and to please stop one. (Specific example: presence of pioglitazone and gemfibrozil).
  + If one of bad drug partners is a DM medication, and the other is not, and the DM medication is contraindicated, then there will be a substitution for the DM medication. (Specific example: presence of pioglitazone contraindicated and gemfibrozil).
  + If the bad drug partners are from the same DM medication class and are not contraindicated, there will be a message to stop one. In addition,
    - If one or both of the drugs are not at maximum dose, and its dose can be increased, we will recommend increasing dose (or blocked increase dose)
    - If one of the drugs is not at maximum dose, but it’s dose cannot be increased because of a “do not intensify uncontrollable” criteria, then we will recommend adding a drug
  + If the bad drug partners are from the same DM medication class and are contraindicated, we will recommend substituting both drugs

**4/10/2018 v18**

Change relative contraindication bicarb back to bicarb<24

Update Wish list (Appendix L)

Fix Reformatting issues with Appendix and Table of Contents; enable links in Reference section

**4/16/2018 v18**

Now using “first line drug, second line drug” rather than “compelling” and “relative” indications for drug evaluation/recommendations. (neglected to update earlier)

Include nph Insulin as out of scope, along with insulin and insulin syringe.

Now first line and second line drug are Presence of DM-2 OR Absence of DM-2 and Presence of DM-meds, to be consistent with eligibility of “pres of DM-2 or DM-meds”