This demonstration reviews usage of Care Guidelines. Details of the workflow will likely vary somewhat, depending on practice policy & clinic layout, though this should give you a good idea of NextGen functionality.

This has been prepared with EHR 5.8 & KBM 8.3. Subsequent updates may display cosmetic & functional changes.

Use the keyboard or mouse to pause, review, & resume as necessary.
Introduction

- Care Guidelines are basically reminders that can be employed to help providers & staff keep track of health maintenance & disease management measures, especially those that need to be addressed on a recurring basis.

- Think of it as the page near the front of a paper chart you may have had in the past with a “do-list” that you had to manually review & update—only now the program will help you do some of that.
Introduction

• Some examples are:
  * Vaccinations
  * Mammograms
  * Colon cancer screening
  * Recurring lab tests

• Initially we will start with a relatively small handful of evidence-based recommendations, supported by entities like the CDC & the USPSTF.

• Over time we may add more Guidelines, based upon changing recommendations or specialty needs.
Introduction

• Those who have used NextGen for a few years will notice that Guidelines have been in existence in some form for a while. However, they were so dysfunctional that we have not attempted to use them.
• We now feel like, while they’re not perfect, they are behaving well enough to start utilizing them in our practice.
Introduction

• NextGen has used various terminology for Guidelines over the years, including:
  * Care Guidelines
  * Clinical Guidelines
  * Guidelines
  * Protocols
  * Recommended Care

• Unfortunately, you’ll still see a mixture of these terms that can lead to some confusion.
Introduction

• If you want to try to make some sense of how they currently appear to be using these terms, here goes.

* Care Guidelines = Clinical Guidelines: The global term for all Guidelines & Recommended Care. These are made up of:

  1) **Guidelines** (formerly, & sometimes still, known as **Protocols**): These are tangible things to do, e.g. vaccinations & recurring tests like mammograms, pap smears, & blood work.

  2) **Recommended Care**: Less tangible things to consider, like “best practice” considerations for disease management.
Introduction

• Try not to worry too much about the inconsistent terms.
• For the most part, I’ll refer to Guidelines as recurrent tests & procedures. The program should tell you when these are due, remember the date they’re done, & remind you when they’re due again later on. This is what we’ll mainly focus on.
• Think of Recommended Care as a list of suggestions or FYIs. They’re generally not dated or “checked off.”
Activating Guidelines

• Guidelines have to be “activated,” or assigned to a patient.
• All adults should have the Health Maintenance Guideline activated.
• Patients with some chronic diseases will need to have specific Guidelines activated for these problems as well.
• Patients may also have concurrent illnesses or risks that modify Guidelines, e.g. changing start age, frequency, or eliminating them.
Our example patient is a 56 year old female with diabetes, hypertension, & tobacco abuse.

Guidelines are accessed through a link at the top of the tabbed workflow in NextGen. Click Care Guidelines.
This opens the **Care Guidelines** popup. At the top of this you’ll see a miniature version of the **Order Management grid**, which can come in handy.

**Notice:** As of this writing, this popup is one that is afflicted with the display problems that NextGen so kindly bestowed upon us in KBM 8.3. So when you first open it, its appearance may be flawed or confusing. Expanding or collapsing a panel is a fairly easy way to correct the display problem—though it’s annoying to have to do such a thing.
Here we've navigated a little farther down the popup to the Clinical Guidelines section. Click Add/Update.
We’ll start by adding the Health Maintenance Guideline. Click in the **Condition Box**, & select **Health Maintenance** from the ensuing picklist.
The Health Maintenance Modifiers popup appears. (There are different versions for males & females.) If the patient has none of the items shown, you would select **No risk indicators**.
Let’s look at this popup for a minute. There are several conditions here that modify test selection, age, or frequency. They’re generally self-explanatory. E.G., if the patient has had a total hysterectomy, you can check the box to exclude pap smears.
Notice the blue **Information Buttons**. These give you further help when deciding when to use these checkboxes. E.G., the **Atherosclerosis, high risk of** Info Button gives you some conditions that convey higher-than-average cardiovascular risk.

**USA HM Lipid Disorder**

**These conditions convey increased risk of atherosclerotic diseases, meriting enhanced lipid screening:**
- First-degree male relative under age 50 or female under age 60 with cardiovascular disease.
- Diabetes.
- Hypertension.
- Tobacco abuse.
- Obesity (BMI 30 or higher).
- Provider judgment, individualized to patient.

When this is added, lipid screening will be recommended every 5 years starting at age 20, instead of the normal-risk USPSTF recommendations. This patient smokes, so we’ll add this.
A picklist will appear prompting you to select a diagnosis justifying this high risk. Sometimes there are multiple logical choices. Here we could select **V15.82**.

If there wasn't a choice you like, you could click the **Blank Line** at the top to get the full diagnosis search popup.

You could also just click **Cancel** to proceed without a diagnosis.
Since she’s a smoker, we wonder if perhaps we should indicate she’s at high risk of osteoporosis. But we’ve previously calculated a FRAX score of 5.9%, so the Info Popup tells us we don’t need to start DEXA screens yet.
As the **Info Popup** confirms, since she’s a smoker (& a diabetic), she needs early pneumonia vaccines, so we’ll check that checkbox.

We’ll use the tobacco use diagnosis for this as we did before.
We’ll plan on giving her Prevnar today, & Pneumovax in 2 months. Check **Pneumonia revaccination indicator**.

Click in the Revaccination interval box, & change it to 2 months.
That's all we need to do, so click **Save & Close**.
A list of Health Maintenance measures that are due appears. If some of these have been recently documented in the system, the **Last Addressed & Due** dates will reflect that.
Click in the **Condition box** once more, & select **Diabetes** from the picklist.
Click in the **Diagnosis box** & add the appropriate **Diabetes** diagnosis. You have the full search tool, or you can often find the diagnosis on the patient’s previous diagnosis list.
Click **Add** to include the **Diabetes Guidelines**.

You could repeat these steps to add the **Hypertension Guidelines** as well.
All our Guidelines are added, with several flagged as due.

Note the item **Consider statin**. This is an example of **Recommended Care**.
You can return to the **Risk Indicators Health Maintenance popup** if you need to update the Health Maintenance Modifiers.

You also have the opportunity to remove Guidelines; this would most often be used if you added the wrong one by accident.

For now though, just click **Save & Close**.
Back on the Care Guidelines popup, you see a summary of all the Guidelines & Recommended Care that have been added. Since nothing has been done yet, everything is listed as due today.

Navigate up to the top of the popup...
...and you’ll see the Guidelines you’ve added. The number on the red badge indicates the number of actual items that are due. In general, true Guidelines add to this count, while Recommended Care usually does not.

Click Save & Close.
You return to the tabbed workflow (the **Intake** tab in this example). The badge also shows here, indicating 15 items are due.

Why doesn’t the badge say 18—the sum of the items on the previous popup? If a test appears on more than one Guideline, it only counts it once here. And it only looks at the one that is due soonest. E.G., the Diabetes Guidelines call for a microalbumin every year, while the Hypertension Guidelines call for one every 3 years. NextGen combines those into a microalbumin every year.
Using Guidelines

Once you have Guidelines activated, during an encounter they serve as prompts for all of the routine things that should be semi-automatic, so you don’t have to remember them, then hunt & peck all through the chart to figure out what is due.
You can see at a glance at the top of each template that there are Guidelines due. And, as illustrated above, you could open the Care Guidelines popup & see what they are.

But your routine workflow may take care of some of these things. E.G., your clinic may have standing orders for diabetics to have a sugar at all visits, a HbA1c every 3 months, & a microalbumin every year. While rooming the patient, the nurse would click Standing Orders...
...and enter the results for these tests. (Details about this process are reviewed in another exercise.)

When done click Save & Close.
Since HbA1c & microalbumin are among the Guidelines, & you’ve just satisfied those requirements, the due count reduces by 2.
Later in the visit the provider does a physical exam, including a diabetic foot exam.

By documenting at least one finding in each of the Visual, Pulse, & Sensory sections, you satisfy the Diabetic Guideline for a foot exam, so the Due Count reduces one more.
In the course of the visit the nurse gives Tdap & Prevnar, & the Due count drops a couple more.

(If it was during flu season, we’d give that vaccine as well.)
Now let’s look at **Care Guidelines** to see where we stand.
Among the things due, she tells you that she had a mammogram in January, so let's update that. Select Mammogram, then click the Status dropdown button.

Select Performed Elsewhere, then select the date; you'll often have to approximate.
Then click **Update**.
The mammogram now shows as completed, & next due in January 2016. (We'll do the same thing for the Pap + HPV.)
Scrolling through the list, we see that BMP, lipid panel, HIV screening are due. We'll also go with a Fecal Immunochemical Test for colon cancer screening.

It's actually possible to place those orders here, but in our system it is easier to do it through the Order Module.
Order the afore-mentioned tests.
Back on the **Care Guidelines** popup, when the test results have returned, the status for those tests will change to **result received** (or **Completed**), & their due-dates will advance.
Back on the tabbed workflow, the badge count has now dropped further.
Use the PHQ tool to complete depression screening, & that'll knock off another one.
Work through everything else in a similar fashion. While it seems like a lot in this example, once everything is addressed for the first time, items will just come up a few at a time throughout the year as they become due again.

Here are some tips you’ll need to know:

1) Lab results, office lab results, vaccines, diabetic foot exams, & depression screening will automatically satisfy Guidelines when they’re completed or result is received.

2) For other things, mainly radiographic studies, pap smears & diabetic eye exams, you’ll need to manually enter their completion.

3) You may need to ignore prompts for flu shots if it is not flu season (though the EHR is getting better about that).

4) And sometimes things just don’t work perfectly. If necessary, manually update/complete the Guideline.
Finally, note that you could manually update Recommended Care items, like Consider statin. But these are just FYI Best Practice suggestions, & don't add to the badge count, so you don't really accomplish much by doing that.
Other Tips

While Guidelines are helpful, they're not perfect, & there are a few technical limitations, glitches, & practical considerations to deal with.

So here are some things that could come in handy to know.
We’ve added a section on the Care Guidelines popup where you can add notes about things that aren’t covered in the established Guidelines. For instance, here we’ve indicated that we need to repeat CT of the chest 6 months after the last scan.

You also have a spot to record cardiac risk & FRAX calculations.
If desired, you can use the Filter dropdown arrow to display only items related to a specific Guideline.

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Status</th>
<th>Due</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy</td>
<td>Hold Testing</td>
<td>08/12/2</td>
<td></td>
</tr>
<tr>
<td>Consider antplatelet drugs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider statin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilated eye exam</td>
<td>due</td>
<td>08/12/2</td>
<td></td>
</tr>
<tr>
<td>First line meds—thiazides, ACE, VARB, CCB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal &lt;140/90 under age 60; &lt;150/90 over age 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza vaccine</td>
<td>due</td>
<td>08/12/2</td>
<td></td>
</tr>
<tr>
<td>Recommend sodium restriction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>Completed</td>
<td>08/13/2</td>
<td></td>
</tr>
<tr>
<td>Pneumococcal vaccine</td>
<td></td>
<td>10/12/2</td>
<td></td>
</tr>
<tr>
<td>Occult Blood, Fecal, IA</td>
<td>Completed</td>
<td>08/13/2</td>
<td></td>
</tr>
<tr>
<td>Mammogram</td>
<td>Completed</td>
<td>01/1/22</td>
<td></td>
</tr>
<tr>
<td>Td, preservative free, (7 yrs and older)</td>
<td></td>
<td>08/12/2</td>
<td></td>
</tr>
</tbody>
</table>
There is also a **Due within** option. This could come in handy if you only wanted to see things coming due soon.

Unfortunately, this just doesn't work right now.
It is technically possible to place orders for Guideline items here, which would be handy. However, in our environment, it is simpler for users to place orders through the Order Module, Diagnostics tab, or whatever other way you've learned to do it.
Individual Guideline items can be removed. For example, suppose our patient is allergic to flu vaccine. Select it on the Activate Clinical Guidelines popup, then click Remove.
The information popups can be helpful reminders about current recommendations, tempered with a few conservatively-rounded corners to help them be as broadly applicable in NextGen as possible for our practices.

For instance, here is the Atherosclerosis, high risk of info popup.
Here are the two info popups related to breast cancer.

USA HM Breast Ca

**Standard screening is mammogram every 2 years age 50-75.**

**Enhanced screening is mammogram every year age 40-75.**

**Employ enhanced screening for:**
- First-degree relative with breast cancer.
- Personal history of previous breast cancer or atypical hyperplasia.
- BRCA +.
- Provider judgment.
- Patient request.

You may wish to use Breast Cancer Risk Tool at www.cancer.gov/bcrisktool to aid in your determination of higher-than-average risk.

**Info Hm Breast MRI**

**Recommendations for Breast MRI Screening as an Adjunct to Mammography**

**Recommend Annual MRI Screening (Based on Evidence)**
- BRCA mutation
  - First-degree relative of BRCA carrier, but untested
  - Lifetime risk ~20-25% or greater, as defined by BRCAPRO or other models that are largely dependent on family history or equal to 10 years at the time of revaccination.

**Recommend Annual MRI Screening (Based on Expert Consensus Opinion)**
- Radiation to chest between age 10 and 30 years
- Li-Fraumeni syndrome and first-degree relatives
- Cowden and Bannayan-Riley-Ruvalcaba syndromes and first-degree relatives

**Insufficient Evidence to Recommend for or Against MRI Screening**
- Lifetime risk 15-20%, as defined by BRCAPRO or other models that are largely dependent on family history
- Lobular carcinoma in situ (LCIS) or atypical lobular hyperplasia (ALH)
- Atypical ductal hyperplasia (ADH)
- Heterogeneously or extremely dense breast on mammography
- Women with a personal history of breast cancer, including ductal carcinoma in situ (DCIS)

**Recommend Against MRI Screening (Based on Expert Consensus Opinion)**
- Women at <15% lifetime risk
Here are the colon cancer, prostate cancer, & osteoporosis info popups.

**USA HM Colon Ca**

Screening methods include: Colonoscopy every 10 years OR Fecal Immunochemical Testing (FIT) for occult blood every year.

- Standard screening period is age 50-75.
- Enhanced screening period is age 40-75.
- Employ enhanced screening for:
  - First-degree relative with colorectal cancer.
  - Inflammatory bowel disease (Ulcerative Colitis or Crohn's Disease).
  - Provider judgment as to age, timing, and indications.

**Notes and NextGen Limitations:**
- Don't routinely screen patients age 76-85, but can consider screening on an individualized basis.
- Don't screen over age 85.
- A combination of sigmoidoscopy and FOBT is still acceptable if preferred.

**USA HM Osteoporosis**

Standard screening is bone density study in females at age 65.
- Repeat bone density study in 2 years.
- If both studies are normal, discontinue screening.

Enhanced screening is bone density study in females every 2 years starting at age 50.
- Employ enhanced screening for women age 50-64 if FRAX 10-year major osteoporotic fracture risk is >9.3% (i.e., that of a 65 YOWF with no other risk factors).

**USA HM Prostate CA**

Prostate Cancer Screening
- Routine PSA screening is not recommended.
- Perform PSA only upon patient request after discussion of risks vs. benefits.
Here is the pneumonia vaccine info popup. This is particularly useful now that two different pneumococcal vaccines are recommended for adults in a variety of circumstances that can be a little hard to remember. (And be warned: the recommendations may well change again in late 2014.)

USA HM Pneumococcal

Pneumococcal Vaccine Recommendations

Definitions:
PPSV: Polysaccharide vaccine--Pneumovax.
PCV: Conjugate vaccine--Prevnar.

Routine Vaccination
PPSV once at age 65 for most people.
Repeat at age 65 for those previously vaccinated; for those vaccinated age 61-64, repeat 5 years after that vaccination date.

Enhanced Vaccination
For age 2-64 with chronic diseases (cardiovascular, lung, DM, liver, alcoholism, immunocompromise, CKD, nephrotic syndrome, cochlear implants, CSF leaks, upon initial diagnosis of HIV, smokers, residents of longterm care facilities, and functional/anatomic asplenia--including sickle cell disease):
--PCV, followed by PPSV23 at least 8 wks later. (If PPSV has already been given, give PCV at least 1 year later.)
--If patient receives PCV from age 2-18, give another dose after 19th birthday.

For age 19-64 with immunocompromise, CKD, nephrotic syndrome, or functional/anatomic asplenia--including sickle cell disease:
--Give 2nd dose of PPSV 5 years after the first dose.
The complexity of the adult pre-65 pneumococcal vaccine recommendations makes it just about impossible for the Guidelines to work perfectly. A good strategy when first applying the Guideline would be to think ahead of time what needs to be done. For example, “I have a 45 year old smoker. He needs Prevnar today, then Pneumovax in 2 months.” So I’ll give Prevnar, check the Pneumonia revaccination indicator checkbox, then set the Revaccination interval to 2 months.
But that requires a lot of forethought, & won’t always be practical. This might be a good time to just make use of the Notes/Reminders/Comments field to leave yourself a clue.
Speaking of vaccines, the **Order Module** now allows you to record historical vaccines using a partial date, as seen here. While that is logical, the Guidelines don’t seem to recognize such dates. So the workflow is smoother if you record an actual (though estimated) date, such as January 1 or the first of the month, when the patient can’t be more specific.
Recall for Diabetic Foot Exams I said you’d satisfy the Foot Exam guideline by documenting at least one finding in each of the Visual, Pulse, & Sensory sections. Well, through trial & error I’ve discovered that it sometimes seems to take TWO items from Visual to make the beast work. I assume this is a flaw, but you might keep this in mind.
LOTS of patients have both diabetes & hypertension. The Hypertension Guideline adds nothing that isn’t already on the Diabetes Guideline. While there is no harm in adding both guidelines, to save time just add Diabetes.
When you first add a Guideline, it USUALLY recognizes if a required test has recently been done, like the lipid panel here. But this doesn’t seem to work 100% of the time, so you may need to manually update the Completed Date at first. After that, it should take care of itself.

Also, sometimes when you apply a Guideline to an established patient, it seems like all the dates don’t fully sort themselves out until the next encounter.
There will be some test results we don’t get back electronically in the system, or some times when a patient has had the test done elsewhere. A good example is a mammogram report your patient gives you from elsewhere. You can tick the Guideline off as completed as illustrated above, but if you would like to enter the RESULT as well, you have an option to do that by going to the Histories Tab, Diagnostic Studies section, & clicking Add.
Click in the Diagnostic study type box & select **Mammography** in the ensuing popup.
Click in the **Diagnostic study** box & select **MAMMOGRAM, SCREENING** in the ensuing popup.
Add the date; you can indicate that it is approximate.

<table>
<thead>
<tr>
<th>Performed</th>
<th>Study</th>
</tr>
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<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Study Date

Date performed: 08/01/2014

Approx. date performed

Location:
Enter result details as appropriate, then click Add To Grid.
When done click **Save & Close**. By following these steps, the test result will be recorded on the patient’s chart, & the Guideline will simultaneously be satisfied.
Notes About The Guidelines Themselves

• We currently have Guidelines set up for a small handful of conditions, though they will cover a lot of our patients’ needs.

• These Guidelines are evidence- or consensus-based to the extent possible, & follow recommendations from authoritative sources, such as USPSTF, CDC, ACIP, AAFP, AHA, ADA, occasionally tempered by practical concerns, technical limitations, or P4P requirements.
What Guidelines Do We Have Established?

• We may establish some other Guidelines in the future, but it has thus far been...challenging...to get these things to work, so these will give us a good starting point to gain experience & test behavior.

• These are not expected to cover every possible clinical scenario, & provider judgment will always be required to individualize general recommendations.
What Guidelines Do We Have Established?

• We currently have Guidelines set up for the following conditions:
  • Health Maintenance
  • Diabetes
  • Hypertension
  • Thyroid replacement
  • Abdominal aortic aneurysm screening

• The following slides will briefly summarize the measures included on each of these.
Health Maintenance Guidelines

• Breast cancer screening
  – For average-risk females, mammogram Q 2 years age 50-75.
  – For high-risk females, mammogram Q 1 year age 40-75.

• Cervical cancer screening
  – For females age 21-29, pap smear Q 3 years.
  – For females age 30-65, pap + HPV testing Q 5 years.
Health Maintenance Guidelines

• Colon cancer screening
  – For average risk patients:
    • Fecal Immunochemical (or similar) occult blood test Q 2 years age 50-75.
    or
    • Colonoscopy Q 10 years age 50-75.

• Depression screening
  – PHQ-2 or other screening tool once yearly starting age 12.
Health Maintenance Guidelines

• HIV screening
  – At least once during age 15-65.

• HPV vaccine

• Influenza vaccine
  – Yearly for everyone.
Health Maintenance Guidelines

• Lipid screening
  – For average-risk males, lipid panel Q 5 years starting age 35.
  – For average-risk females, lipid panel once at age 45.
  – For high-risk males & females, lipid panel Q 5 years starting age 20.
Health Maintenance Guidelines

• Osteoporosis screening
  - For average-risk females:
    • Bone density study at age 65.
    • Repeat in 2 years.
    • If still normal, discontinue testing.
  - For high-risk females:
    • Bone density study Q 2 years starting at age 50.
Health Maintenance Guidelines

Pneumonia vaccines

PPSV: Polysaccharide vaccine (Pneumovax)
PCV: Conjugate vaccine (Prevnar)

• Routine vaccination:
  – PPSV at age 65 for everyone.
    • If given age 61-64, repeat 5 years after that.
Health Maintenance Guidelines

Pneumonia vaccines

PPSV: Polysaccharide vaccine (Pneumovax)
PCV: Conjugate vaccine (Prevnar)

• Enhanced vaccination:
  – For age 2-64 with chronic diseases (cardiovascular, lung, DM, liver, alcoholism, immunocompromise, CKD, nephrotic syndrome, cochlear implants, CSF leaks, upon initial diagnosis of HIV, smokers, residents of longterm care facilities, or functional/anatomic asplenia—including sickle cell disease):
    • PCV followed by PPSV at least 8 weeks later. (If PPSV already given, give PCV at least 1 year later.)
    • If PCV given age 2-18, give another dose after 19th birthday.
  – For age 19-64 with immunocompromise, CKD, nephrotic syndrome, or functional/anatomic asplenia—including sickle cell disease:
    • Give 2nd dose of PPSV 5 years after the first dose.
Health Maintenance Guidelines

• Tetanus vaccination:
  – Tetanus vaccine Q 10 years starting age 12.
  – At least one dose after age 12 should be Tdap.
Abdominal Aortic Aneurysm Guidelines

- Limited abdominal ultrasound once age 65-75 for men who have ever smoked.
Diabetes Guidelines

- BMP yearly.
- Dilated eye exam yearly.
- Comprehensive foot exam yearly.
- HbA1c Q 3 months.
- Lipid panel yearly.
- Urine microalbumin yearly.
Hypertension Guidelines

• BMP yearly.
• Urine microalbumin Q 3 years.
Thyroid Replacement Guidelines

• TSH Q 2 years.
This concludes the NextGen Guidelines demonstration.

If life gives you lemons, make lemonade, but if life gives you salmon, don’t make salmonella.

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