

## **Clinical Decision Support-Reference Documentation**

**All interventions approved by and built with resources aligned to the NorthShore Clinical Decision Support Committee.**

**Funding Source: NorthShore internally developed.**

**Release dates listed below.**

### **Amb Asthma Action Plan**

Asthma affects 18.9 million Americans, including 9.5% of all children in the United States. In 2010, there were 439,000 hospital admissions and 3,404 deaths due to asthma.

(<http://www.cdc.gov/nchs/fastats/asthma.htm>) According to the National Heart, Lung and Blood Institute of the National Institutes of Health

(<http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm>) “A written asthma action plan detailing for the individual patient the daily management (medications and environmental control strategies) and how to recognize and handle worsening asthma is recommended for all patients” Source: [http://www.nhlbi.nih.gov/guidelines/asthma/08\\_sec4\\_lt\\_ovw.pdf](http://www.nhlbi.nih.gov/guidelines/asthma/08_sec4_lt_ovw.pdf)

The NorthShore Asthma Action Plan is completed annually for all patients between the ages of 5 and 56 with a diagnosis or problem list attribute including asthma. It addresses medication management how to recognize and respond to worsening asthma.

Released on 05/30/08.

### **Amb CHF ACE/ARB RX**

Congestive heart failure (CHF) is a chronic disease affecting approximately 5.7 million Americans with approximately one million hospitalizations every year

(<http://www.cdc.gov/nchs/data/databriefs/db108.htm>). Proper management of CHF patients can prevent hospitalizations and as such is labeled as an ambulatory care sensitive condition. (source: [http://www.cdc.gov/pcd/issues/2012/11\\_0260.htm](http://www.cdc.gov/pcd/issues/2012/11_0260.htm))

Angiotensin converting enzyme inhibitors (ACE) and/or angiotensin receptor blockers (ARB) are recommended medication therapies for patients with various stages of CHF.

(source: <http://circ.ahajournals.org/content/112/12/e154.full.pdf+html>) The NorthShore best practice alert for CHF ACE/ARB targets cardiologists (excludes medical assistants) caring for patients 18 years of age or older with a diagnosis of congestive heart failure who are currently not prescribed either an ACE or ARB treatment regimen.

<http://circ.ahajournals.org/content/112/12/e154.full.pdf+html>

Released on 10/24/08.

### **Amb MI/CAD Nutrition/Activity Counseling**

Coronary artery disease (CAD) is the worldwide leading cause of death accounting for 600,000 deaths in the US each year. Every year, 715,000 Americans experience a myocardial infarction (MI) (<http://www.cdc.gov/heartdisease/facts.htm>) A healthy diet and regular physical activity can help prevent the onset and reduce the exacerbation of heart disease. (<http://www.nhlbi.nih.gov/health/health-topics/topics/cad/printall-index.html>) The NorthShore MI/CAD Nutrition/Activity Counseling BPA alerts providers of patients with a diagnosis in the CAD/MI diagnosis grouper once a year to counsel their patients on the benefits of a health diet and exercise.

Released on 05/30/08.

### **Amb Once in a Lifetime Cystic Fibrosis Mutation**

Reducing waste in delivering healthcare is essential. Classifying select laboratory tests that are biologically incapable of change as “once in a lifetime” and preventing their repeated/costly expenditure is essential to fiduciary responsible healthcare. (Clin Chim Acta. 2014 Jan 1;427:154-7). The laboratory test that screens a patient for genetic predisposition for cystic fibrosis is one such example

(<http://www.pathologyinformatics.com/sites/default/files/2012Powerpoints/58KaulFri.pdf>) .

A given patient cannot alter their own DNA and as such the results of one screen can be expected to be the same on subsequent screens. The NorthShore BPA for cystic fibrosis mutation shall fire for an ordering provider attempting to order the genetic screen for cystic fibrosis on a patient who was previously tested with results posted in the medical record. The provider is directed to the previous result for review.

Released on 04/30/12.

### **Amb Smoking Status Reviewed**

Tobacco use causes more than 440,000 deaths per year in the United States and harms nearly every organ in the human body.

([https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm)) Physician engagement with patients actively smoking greatly increases the likelihood that the patient will be successful in quitting (<http://www.rwjf.org/content/dam/web-assets/2003/01/helping-addicted-smokers-quit>). The NorthShore BPA reminds the provider to document a smoking status on any patient 13 years of age or older as part of an initial assessment.

Once populated, the BPA no longer fires, but the smoking status is reviewed at each encounter type as part of the intake assessment.

Released on 11/30/10.

### **Amb PBRN HTN-Higher than Normal AOBP**

There are over 67 million Americans over 20 years of age with hypertension which is the second leading cause of death in the United States.

(<http://www.cdc.gov/bloodpressure/facts.htm>) Nearly 85% of patients who regularly visit their medical providers and have hypertension are not diagnosed

(<http://www.iom.edu/Reports/2010/A-Population-Based-Policy-and-Systems-Change-Approach-to-Prevent-and-Control-Hypertension.aspx>) Hypertension that is undiagnosed goes untreated, potentially uncontrolled and increases risk of hospitalization and death.

The NorthShore PBRN HTN-Higher than Normal AOBP BPA alerts the provider if a patient has had blood pressure measures taken suggestive of hypertension. The BPA suggests that the patient undergo a more reliable test of their blood pressure through an automated office blood pressure exam to confirm the potential diagnosis of hypertension.

The decision algorithm was developed at NorthShore using patient data and lead to NorthShore receipt of a first place award in innovative medical informatics

(<http://www.healthcare-informatics.com/article/healthcare-informatic-inovator-awards-first-place-winner-northshore-university-health-system>)

Released on 03/29/12.

### **Breast Cancer Screening**

With over 200,000 new cases and nearly 41,000 deaths per year, breast cancer is the leading cause of cancer in females in the United States and the first or second leading cause of cancer related death depending on the patient's ethnicity

(<http://www.cdc.gov/cancer/breast/statistics/>). Current best practice guidelines

recommend screening non-high risk patients every two years

(<http://www.uspreventiveservicestaskforce.org/uspstf/uspbrca.htm>). The NorthShore Health Maintenance alert was developed on the most recent recommendations from the U.S. Preventative Services Task Force and is activated for a female patient's encounter if her breast cancer screening is due or overdue according to protocol.

Released on 10/4/04.

### **Colorectal CA Screening**

Colon cancer is the 3<sup>rd</sup> most common cancer for all sexes in the United States and kills more than 50,000 patients every year

([http://www.cdc.gov/cancer/colorectal/basic\\_info/facts.htm](http://www.cdc.gov/cancer/colorectal/basic_info/facts.htm)). Early detection and treatment reduces mortality and improves outcomes. The most recent recommendations from the U.S. Preventative Services Task Force propose screening intervals for a variety of testing methods including colonoscopy.

<http://www.uspreventiveservicestaskforce.org/uspstf08/colocancer/colors.htm>

The NorthShore Health Maintenance alert is activated for any patient 50 years of age or older without documented evidence of having a colonoscopy performed in the past 10 years.

Released on 08/11/04.

### **Diabetes HGB A1C Routine (q 6 months) - Ages 18 – 75**

Diabetes affects over 25 million Americans, contributes to over 250,000 deaths and costs the United States \$245 billion dollars annually (<http://www.diabetes.org/diabetes-basics/diabetes-statistics/>). Hemoglobin A1C testing measures the degree to which diabetes management has successfully controlled blood glucose levels over an extended period of time (~3 months) as opposed to random glucose measurements. Patients with uncontrolled blood glucose levels are at higher risk of heart disease, blindness, kidney failure, stroke and nerve damage. The American Diabetes Association (ADA) specifically recommends that healthcare providers "Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control)." ([http://care.diabetesjournals.org/content/36/Supplement\\_1/S11.full](http://care.diabetesjournals.org/content/36/Supplement_1/S11.full))

The NorthShore BPA for diabetes hemoglobin A1C actively reminds the ordering provider of any patient between the ages of 18 and 75 who have not undergone an A1C test in the preceding 6 months and encourages the provider to order the test.

Released on 02/03/07.

### **Diabetes HGB A1C Routine across the board including inpatient**

Diabetes affects over 25 million Americans, contributes to over 250,000 deaths and costs the United States \$245 billion dollars annually (<http://www.diabetes.org/diabetes-basics/diabetes-statistics/>). Hemoglobin A1C testing measures the degree to which diabetes management has successfully controlled blood glucose levels over an extended period of time (~3 months) as opposed to random glucose measurements. Patients with uncontrolled blood glucose levels are at higher risk of heart disease, blindness, kidney failure, stroke and nerve damage. The American Diabetes Association (ADA) specifically recommends that healthcare providers "Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control)." ([http://care.diabetesjournals.org/content/36/Supplement\\_1/S11.full](http://care.diabetesjournals.org/content/36/Supplement_1/S11.full))

The NorthShore BPA for diabetes hemoglobin A1C actively reminds the provider if the patient has not undergone an A1C test in the preceding 6 months and encourages the provider to order the test.

Released on 02/03/07.

### **Flu Vaccine Adult**

Influenza (flu) kills 3,000-49,000 Americans each year (<http://www.cdc.gov/flu/keyfacts.htm>). On average more than 110,000 patients are hospitalized each year (<http://www.cdc.gov/flu/about/qa/hospital.htm>). Receiving an annual vaccination against influenza is the single best way to prevent getting the flu. The NorthShore Health Maintenance alert is activated for any patient who is 18 years of age or older that does not have an annual influenza vaccination administration recorded. For more information on this year's influenza vaccination recommendations and flu activity, please visit : <http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html>  
Released on 04/15/02.

### **PAP Smear Routine**

There are approximately 12,000 newly diagnosed cervical cancer cases each year in the United States (<http://www.cdc.gov/cancer/cervical/index.htm>). Cervical cancer is the easiest female cancer to prevent with active screening and follow-up ([http://www.cdc.gov/cancer/cervical/basic\\_info/screening.htm](http://www.cdc.gov/cancer/cervical/basic_info/screening.htm)). Screening recommendations have been issued for a variety of age ranges (<http://www.uspreventiveservicestaskforce.org/uspstf/uspsscerv.htm>). The NorthShore Health Maintenance alert was developed on the most recent recommendations from the U.S. Preventative Services Task Force and is activated during a patient's encounter if a routine screen has not been recorded and is warranted according to protocol.  
Released on 08/11/04.

### **Pneumococcal Vaccine**

*Streptococcus pneumoniae* causes potentially deadly pneumonia (5% mortality) meningitis (16%) and bacterial sepsis (15%) in addition to the more common ear infections and sinusitis. Although widely available, 73 million Americans should receive this vaccination, but haven't (<http://www.adultvaccination.org/professional-resources/public-health-toolkit/pneumo-fact-sheet-hcp.pdf>). The vaccine has shown to be 50-85% effective in healthy adults (<http://www.cdc.gov/vaccines/vpd-vac/pneumo/vacc-in-short.htm>). The NorthShore Health Maintenance alert is activated for a patient who is 65 years of age or older without a prior vaccination recorded.  
Released on 08/31/06

### **Tetanus Booster**

Tetanus is a vaccine preventable disease with a mortality rate approaching 20%. The bacteria causing tetanus (*Clostridium tetani*) is ubiquitous throughout the environment/soil (<http://www.cdc.gov/vaccines/vpd-vac/tetanus/fs-parents.html>). The vaccine is known to be nearly 100% effective in preventing tetanus. According to the CDC, adults 19 years of age or older should receive a tetanus booster once every 10 years (<http://www.cdc.gov/vaccines/vpd-vac/tetanus/default.htm#vacc> ). The NorthShore Health Maintenance alert is activated for a patient whose last recorded tetanus vaccine is greater than 10 years prior to the encounter or not recorded.  
Released on 02/03/08.