Optimizing Your EMR—Making it More Efficient, More Accurate and More Relevant

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Patrick J. White, MPH
Nothing to disclose
A little bit about us . . . What got us interested in this?
How to make documentation a team sport . . . leveraging clinical staff to make your EMR work for you
What do we do over and over and over again?

- Stress ECGs
- Stress echocardiograms
- Stress nuclear studies
- Holter monitors
- Event monitors
- Device interrogations (e.g., pacemakers, ICDs, implantable loop recorders)
- Tilt table tests

• Procedural documentation is ripe for the picking
Step 1: Establish governance and build consensus
Step 2: Why reinvent the wheel?

Others have already set the standard. Follow their lead.

- Data standards exist for the:
  - American College of Cardiology
  - American Heart Association
  - American Society of Echocardiography
  - American Society of Nuclear Cardiology
  - Heart Rhythm Society
Step 3: Define your data elements

Stress ECG (aka Exercise stress test)

Clinical Indication:
Current Medications:
Held Cardiac Medications (Duration):
Medications Administered During the Test:

Exercise Protocol:
Total Exercise Time:
Workload Achieved:
Baseline HR:
Baseline BP:
Peak HR:
Peak BP:
Estimated VO\textsubscript{2} max:
One Minute HR Recovery:

Symptoms:
Reason for Termination:

Resting ECG findings: Rhythm, conduction block, and ST/T wave abnormalities.

Peak Stress ECG findings: Ischemic changes, arrhythmias, and Duke treadmill score (if Bruce protocol).

Conclusion: Resting ECG, exercise capacity, hemodynamic response to exercise, heart rate response to exercise, ECG response to exercise, presence of arrhythmias, risk (based on Duke treadmill score, and comparison to prior studies.)
Step 4: Build your template
Step 5: Define roles and responsibilities and train on them

- Physicians
- Nurses
- ECG techs
- Respiratory therapists
- Holter techs
- Nuclear techs
- Echo sonographers
- Device representatives
- Informaticists
Step 6: Set up an audit process to assess compliance
Demo
Key Take Aways

- Work within your current governance structure to garner consensus about which procedures you’d like to template
- Follow national data standards
- Define your data elements
- Train based on roles and responsibilities
- Audit, audit, audit
Questions
How to document and keep your coders and compliance officers happy
So, why do we write progress notes?

• First and foremost, it is a communication tool
  – It serves as the basis for planning patient care
  – It is the medium by which health care providers and other healthcare professionals connect with one another
  – It documents the care and services provided to the patient
  – It can be a legal aid in documenting the patient’s wishes
So, what’s the other reason we write progress notes?

• It is essential for correct billing/reimbursement
  
  – Evaluation and Management (E & M) services
    • Outpatient and Inpatient
  
  – Current Procedural Technology codes (e.g., ECG)
    • Outpatient and Inpatient
  
  – Medicare Severity-Diagnostic related grouping (MS-DRGs)
    • Inpatient
Types of Evaluation & Management Notes

Outpatient/Ambulatory:
- Established Level 1—99211
- Established Level 2—99212
- Established Level 3—99213
- Established Level 4—99214
- Established Level 5—99215
- New Level 1—99201
- New Level 2—99202
- New Level 3—99203
- New Level 4—99204
- New Level 5—99205

Inpatient:
- Established Level 1—99231
- Established Level 2—99232
- Established Level 3—99233
- New Level 1—99221
- New Level 2—99222
- New Level 3—99223
Step 1: Understand what’s expected of you

<table>
<thead>
<tr>
<th>Level</th>
<th>History</th>
<th>Exam</th>
<th>Medical Decision-Making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions/Quantifiers</td>
<td>CC = Chief Complaint</td>
<td>Refer to 1997 exam guidelines</td>
<td>Diagnosis</td>
</tr>
<tr>
<td></td>
<td>HPI = History of Present Illness: location, quality, severity, duration, timing, context, modifying factors, associated signs/symptoms</td>
<td></td>
<td>Q</td>
</tr>
<tr>
<td></td>
<td>ROS = review of systems: Constitutional, Eyes, ENT, Respiratory, CV, GI, GU, NS, Inguinal, Neuro, Psych, Endocrine, Hema/Lymph, Allergies/Immunologic</td>
<td></td>
<td>Amount of Data</td>
</tr>
<tr>
<td></td>
<td>PFSH = Past, family or social history</td>
<td></td>
<td>Risk</td>
</tr>
<tr>
<td>Established Patient or exceed 2 of 3 key components: History, Exam, Medical Decision Making</td>
<td></td>
<td></td>
<td>Q</td>
</tr>
<tr>
<td>Establish Pt 00211</td>
<td>Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician. Usually the presenting problem is minimal. Typically, 5 minutes are spent with the patient. Documentation appropriate to the service performed is required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chief Complaint</td>
<td>1-3 HPI</td>
<td>1-5 bullet points in 1 or more system</td>
</tr>
<tr>
<td>99212</td>
<td>Prob. Focused Hx</td>
<td>Prob. Focused Exam</td>
<td>1 point in 2 or 3 columns = Straightforward Decision-Making</td>
</tr>
<tr>
<td>10 minutes</td>
<td></td>
<td></td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>Chief Complaint</td>
<td>1-3 HPI</td>
<td>1 system ROS</td>
</tr>
<tr>
<td>99213</td>
<td>Exp. Prob. Focused Hx</td>
<td>Exp. Prob. Focused Exam</td>
<td>2 points in 2 of 3 columns = Low Complexity Decision-Making</td>
</tr>
<tr>
<td>15 minutes</td>
<td></td>
<td></td>
<td>2 points</td>
</tr>
<tr>
<td></td>
<td>Chief Complaint</td>
<td>4-5 HPI or Status 3 Chronic Cond</td>
<td>2-3 system ROS</td>
</tr>
<tr>
<td>99214</td>
<td>Detailed Hx</td>
<td>Detailed Exam</td>
<td></td>
</tr>
<tr>
<td>25 minutes</td>
<td></td>
<td></td>
<td>3 points</td>
</tr>
<tr>
<td></td>
<td>Chief Complaint</td>
<td>4-5 HPI or Status 3 Chronic Cond</td>
<td>10+ ROS</td>
</tr>
<tr>
<td>99215</td>
<td>Complete Hx</td>
<td>Complete Exam</td>
<td></td>
</tr>
<tr>
<td>40 minutes</td>
<td></td>
<td></td>
<td>4 points</td>
</tr>
</tbody>
</table>

American College of Cardiology
Step 2: Establish governance and build consensus
Step 3: Understand the components

**Established Patient (based on 1997 guidelines)**

<table>
<thead>
<tr>
<th>Level</th>
<th>History</th>
<th>Exam</th>
<th>Medical Decision-Making</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Diagnosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 minimal problem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 stable or improved</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>problem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Est problem to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>worsening</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>New problem to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>examiner, no add'l</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>new workup planned</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>New problem to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>examiner, add'l workup</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>planned</td>
</tr>
</tbody>
</table>

**Established patient visit**

Office or other outpatient visit for the evaluation and management of an established patient that may not require the presence of a physician. Usually the presenting problem is minimal. Typically, 5 minutes are spent with the patient. Documentation appropriate to the service performed is required.

**Examples**

- **99211**
  - Chief Complaint: History of Present Illness
  - 15 bullet points in 1 or more systems
  - 1 point
  - 1 point
  - 1 point

- **99212**
  - Chief Complaint: History of Present Illness
  - 1-3 systems
  - 2 points
  - 2 points
  - 2 points

- **99213**
  - Chief Complaint: History of Present Illness
  - 1 system
  - 3-7 bullet points
  - 3 points
  - 3 points
  - 3 points

- **99214**
  - Chief Complaint: History of Present Illness
  - 4-9 bullet points
  - 4 points
  - 4 points
  - 4 points

- **99215**
  - Chief Complaint: History of Present Illness
  - Multi-system
  - 5-10 bullet points
  - 5 points
  - 5 points
  - 5 points

**Notes**

- **99211**
  - 1 point in 2 of 3 columns = Straightforward Decision-Making

- **99212**
  - 2 points in 2 of 3 columns = Low Complexity Decision-Making

- **99213**
  - 3 points in 2 of 3 columns = Moderate Decision-Making

- **99214**
  - 4 points in 2 of 3 columns = High Complexity Decision-Making
Step 4: Template what’s templatable

- Chief complaint/Reason for visit
- History of present illness or chronic conditions
  - HPI—Up to at least 4 qualities
  - Chronic conditions—At least 3
- Review of systems
- Past history
  - Medical
  - Surgical
  - Social
  - Family
Step 4: Template what’s templatable

- Based on the 1997 CMS Single System Cardiovascular Examination
  - Much preferred option to the General Multisystem Examination
  - Trust me, you don’t want to be examining the Ears, Nose, Mouth, and Throat, Breasts, Lymphatics, and Genitourinary systems

- Complete vs. Focused
  - Need to decide what components are included in the focused exam
# Physical Exam Requirements

## Cardiovascular Examination

<table>
<thead>
<tr>
<th>System/Body Area</th>
<th>Elements of Examination</th>
</tr>
</thead>
</table>
| **Constitutional** | Measurement of **any three of the following seven** vital signs: 1) sitting or standing blood pressure, 2) supine blood pressure, 3) pulse rate and regularity, 4) respiration, 5) temperature, 6) height, 7) weight (May be measured and recorded by ancillary staff)  
General appearance of patient (e.g., development, nutrition, body habitus, deformities, attention to grooming) |
| **Head and Face** | Inspection of conjunctivae and lids (e.g., xanthelasma) |
| **Ears, Nose, Mouth and Throat** | Inspection of teeth, gums and palate  
Inspection of oral mucosa with notation of presence of pallor or cyanosis |
| **Neck** | Examination of jugular veins (e.g., distension; a, v or cannon a waves)  
Examination of thyroid (e.g., enlargement, tenderness, mass) |
| **Respiratory** | Assessment of respiratory effort (e.g., intercostal retractions, use of accessory muscles, diaphragmatic movement)  
Auscultation of lungs (e.g., breath sounds, adventitious sounds, rubs) |
| **Cardiovascular** | Palpation of heart (e.g., location, size and forcefulness of the point of maximal impact; thrills; lift; palpable S3 or S4)  
Auscultation of heart including sounds, abnormal sounds and murmurs  
Measurement of blood pressure in two or more extremities when indicated (e.g., aortic dissection, coarctation)  
Examination of:  
- Carotid arteries (e.g., waveform, pulse amplitude, bruits; apical-carotid delay)  
- Abdominal aorta (e.g., size, bruits)  
- Femoral arteries (e.g., pulse amplitude, bruits)  
- Pedal pulses (e.g., pulse amplitude)  
- Extremities for peripheral edema and/or varicosities |

## System/Body Area

### Chest (Breasts)

**Gastrointestinal (Abdomen)**  
Examination of abdomen with notation of presence of masses or tenderness  
Examination of liver and spleen  
Obtain stool sample for occult blood from patients who are being considered for thrombolytic or anticoagulant therapy

### Genitourinary (Abdomen)

**Lymphatic**

**Musculoskeletal**  
Examination of the back with notation of kyphosis or scoliosis  
Examination of gait with notation of ability to undergo exercise testing and/or participation in exercise programs  
Assessment of muscle strength and tone (e.g., flaccid, cog wheel, spastic) with notation of any atrophy and abnormal movements

### Extremities

**Skin**  
Inspection and/or palpation of skin and subcutaneous tissue (e.g., stasis dermatitis, ulcers, scars, xanthomas)

**Neurological/Psychiatric**  
Brief assessment of mental status including  
- Orientation to time, place and person,  
- Mood and affect (e.g., depression, anxiety, agitation)

## Content and Documentation Requirements

<table>
<thead>
<tr>
<th>Level of Exam</th>
<th>Perform and Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Focused</td>
<td><strong>One to five</strong> elements identified by a bullet.</td>
</tr>
<tr>
<td>Expanded Problem Focused</td>
<td><strong>At least six</strong> elements identified by a bullet.</td>
</tr>
<tr>
<td>Detailed</td>
<td><strong>At least twelve</strong> elements identified by a bullet.</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>Perform all elements identified by a bullet; document every element in each box with a shaded border and at least one element in each box with an unshaded border.</td>
</tr>
</tbody>
</table>
Step 4: Template what’s templatatable

- Most difficult to template
- Exception is “Amount of Data”
- Consider using problem-based or problem-oriented charting
- Avoid charting by exception
Step 5: Don’t chart/document by exception

- “. . . Normal conjunctivae.”
- “. . . Normal oral mucosa.”
- “. . . Normal muscle strength.”
- “. . . Normal gait.”
- “. . . Normal mood and affect.”
- “. . . Alert and oriented to person, place, and time.”
Step 5: Set up an audit process to assess compliance
Types of Evaluation & Management Notes

Outpatient/Ambulatory:
• Established Level 1—99211
• Established Level 2—99212
• Established Level 3—99213
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• Established Level 5—99215
• New Level 1—99201
• New Level 2—99202
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• New Level 5—99205

Inpatient:
• Established Level 1—99231
• Established Level 2—99232
• Established Level 3—99233
• New Level 1—99221
• New Level 2—99222
• New Level 3—99223

Outpatient/Ambulatory:
• Established Level 1-4
• Established Level 5
• New Level 1-3
• New Level 4-5

Inpatient:
• Established Level 1-2
• Established Level 3
• New Level 1
• New Level 2-3
Key Take Aways

- Review current coding requirements for E & M services
- Work within your current governance structure to garner consensus about note template content
- Template what’s templatable
- Set up an audit process to assess compliance
Questions
Other efficiencies from the front line
Tip Tip Crap Workflows + Technology + Workflow = Fast crap

Tip 2: Invest heavily in training the trainers
Tip 3: Education is a continuous process
Tip 4: Standardize where at all possible
Tip 5: Embrace Change—Plan, Do, Study, Act (PDSA)
Tip 6: Fully utilize the computer within the exam room
Tip 7: Use template formatting shortcuts
Tip 8: Leverage your staff to help manage your in-box
Tip 9: Embrace your patient portal
Tip 10: Standardize patient education

Aortic Valve Replacement Surgery

Surgery Overview

Aortic valve replacement is a surgery done for aortic valve stenosis and aortic valve regurgitation. The surgery is either an open-heart surgery or a minimally invasive surgery. In an aortic valve replacement surgery, the damaged valve is removed and replaced with an artificial valve.

View a slideshow on aortic valve replacement surgery.

How is it done?

During open-heart valve surgery, the doctor makes a large incision in the chest. Blood is circulated outside of the body through a machine to add oxygen to it (cardiopulmonary bypass or heart-lung machine). The heart may be cooled to slow or stop the heartbeat so that the heart is protected from damage while surgery is done to replace the valve with an artificial valve.

The artificial valve might be mechanical (made of man-made substances). Others are made out of animal tissue, often from a pig.

More information

- How this surgery is done
- How to prepare for this surgery
Key Take Aways

- Workflows, workflows, workflows
- Training is a never ending process
- Standardize where possible
- Template where possible
- Leverage your clinical staff where possible
- Embrace your patient portal
Questions
Structured Data Reporting in Cardiology – The CardioEncounters Project

Jeffrey Westcott, MD, FACC, FSCAI
Medical Director, Cardiac Catheterization Lab
Swedish Heart and Vascular Institute
Chair, Cardiology Steering Board
Epic Medical Systems
Personal Disclosures

• Jeffrey Westcott
  – None related to this topic
CardioEncounters

- Project Goals & Challenges
- Demo
- The Process: Collaboration with Epic
- Lessons Learned & Vision
- The Future
Project Goals

- Enhance culture within cardiology practice that data is important.

- Fix a problem at a local level and enhance the whole Epic community by sharing it with everybody else.

- Increase Participation in the PINNACLE Registry.

- Apply knowledge to other specialties.
ACC Goals

- Improve care in chronic cardiovascular disease (CAD, HTN, afib/flutter, HF)

- Increase efficiency and effectiveness of clinical encounter documentation

- Facilitate participation in the PINNACLE Registry (→ MU Stage 2 menu objective)
Data Collection & Submission

Capture Data within Workflow

Discrete Data Elements for Reporting

Reduce Note Writing Time

NoteWriter
Data Collection & Submission

NoteWriter notes and other clinical workflows

Crystal Report exported to XML

Administrative utility

Data to ACC & confirmation
Project Challenges

- Promote Adoption
- Follow Evolving Guidelines
- Improve/Standardize Processes
- Compare Yourself to Others
Project Challenges

- Promote Adoption
- Follow Evolving Guidelines
- Improve/Standardize Processes
- Compare Yourself to Others
Follow Evolving Guidelines

- CHA2DS2-VASc Score
- Risk Calculators (Lipid, STS, etc.)
- 2013 ACC / AHA CV Prevention Guidelines
- JNC 8 Guidelines for High Blood Pressure Management
- CV Diagnostic Testing Appropriate Use Criteria
- HAS-BLED Bleeding Risk
- SYNTAX
Project Challenges

Promote Adoption

Follow Evolving Guidelines

Improve/Standardize Processes

Compare Yourself to Others
Compare Yourself to Others

- Clarity
- KPIs
- Reporting Workbench
- Universe

- CAD
- AFib
- Hypertension
- Heart Failure

Epic

PINNACLE

Available Now
Project Challenges

- Promote Adoption
- Follow Evolving Guidelines
- Improve/Standardize Processes
- Compare Yourself to Others
Promote Adoption

1. Guideline-based care
   - Standardize Processes
   - Comparison to peers

2. PINNACLE is a qualified registry for MU stage 2 reporting.

3. Swedish Medical Center Experience
Swedish Heart & Vascular Clinic
Outpatient Evaluation on 3/16/2014

Patient: Joe Cardiology
DOB: 12/17/1968
PCP: Smith, John A

Reason for Visit
Chief Complaint
Patient presents with:
- RECHECK
  - CAD, fluid status and atrial fibrillation

Coronary Artery Disease
Assessment
- The patient has no angina
- There is a new diagnosis of stable angina in the past 12 months
Plan
- Continue the current program
- Coronary artery disease was discussed in detail with the patient
- 12 months of dual antiplatelet therapy is indicated post drug eluting stent
- Lifestyle modifications discussed include adhering to a heart healthy diet, maintenance of a healthy weight, regular exercise and medication compliance
- A stress echocardiogram will be scheduled at the next visit
- Next planned office visit is in six months

Subjective - Objective
- There has been a previous stent procedure utilizing drug eluting stents on 9/18/2013
- Current antiplatelet therapy includes aspirin 81 mg and plavix 75 mg
- He remains stable since his September procedure without angina. He is exercising regularly

Atrial Fibrillation and Atrial Flutter
Assessment
- The patient has paroxysmal atrial fibrillation
- This is non-vascular in etiology
- The patient's CHADS2 score is 2
- The yearly stroke risk with a CHADS2 score of 2 is 1.27% on warfarin and 2.5% not on warfarin
- Patient is not on warfarin for medical reason (see comments below)
- Patient is already on dual antiplatelet therapy with recent DES and would be at excessive risk for bleeding on triple therapy. Reassess when off plavix.
### Assessment

**CCS Angina Class**
- no angina
- CCS class I - angina only during strenuous or prolonged physical activity
- CCS class II - angina only during vigorous physical activity
- CCS class III - angina with activities of daily living
- CCS class IV - angina with minimal activity, or at rest

**Onset of new or stable angina in the past 12 months?**
- Yes
- No

**Is there stable angina?**
- Yes
- No

**Is there unstable angina?**
- Yes
- No

**Prior cardiac events - enter the approximate date of the last event**
- Approximate date
- Myocardial infarction
- CABG
- PCI - DES
- PCI - BMS
- PCI - POBA

**Current anti-platelet therapy**
- asprin 81 mg
- asprin 325 mg
- prasugrel 10 mg
- ticagrelor 90 mg
- asprin 162 mg
- plavix 75 mg
- prasugrel 5 mg

**MI, valve surgery, heart transplant, CABG, PCI or new stable angina diagnosis in the last 12 months?**
- Yes
- No

**If so, has the patient been referred to cardiac rehabilitation?**
- patient has been referred
- no referral for medical reason
- no referral for system reason
- completed program

### Comments including cardiac rehabilitation issues

![Comment Input Area]
Chest pain
- Yes
- No

Exertional dyspnea
- There is exertional dyspnea which is a possible anginal equivalent

Cardiac imaging studies that have been performed

**Exercise stress cardiography**
- Negative for myocardial ischemia
- Positive for myocardial ischemia
- Equivocal for myocardial ischemia

**Myocardial perfusion imaging**
- Negative for myocardial ischemia
- Positive for myocardial ischemia
- Equivocal for myocardial ischemia

**Dobutamine stress echocardiography**
- Negative for myocardial ischemia
- Positive for myocardial ischemia
- Equivocal for myocardial ischemia

Additional Comments
- Insert SmartText
### Chest Pain

#### Location
- **Subternal**
- **Left precordial**
- **Right precordial**
- **Across the lower chest**
- **Upper back**
- **Left arm**
- **Right arm**
- **Both arms**
- **Anterior neck**
- **Left neck**
- **Right neck**
- **Left jaw**
- **Right jaw**
- **Right jaw**

#### Radiation
- **Left arm**
- **Right arm**
- **Both arms**
- **Back**
- **Neck**
- **Left jaw**
- **Right jaw**
- **Teeth**

#### Quality
- **Dull**
- **Sharp**
- **Burning**
- **Squeezing**
- **Shooting**
- **Plunging**
- **Aching**
- **Stabbing**
- **Weight on my chest**
- **Band like**
- **Feeling**
- **Light feeling**

#### Precipitating Factors
- **Exertion**
- **Walking**
- **Stairs**
- **Emotional Stress**
- **Intercourse**
- **Occurs at rest**
- **Occurs after meals**
- **Cold exposure**
- **Swallowing**
- **Movement of the chest**
- **Breathing**
- **Awakens with pain**

#### Mitigating Factors
- **Rest**
- **Rest in less than 5 min**
- **Rest in more than 5 min**
- **Nitroglycerin**
- **Antilaid**
- **Drinking liquid**
- **Analogesics**

#### Patterns
- **Recent onset**
- **Stable pattern**
- **Increasing in severity**
- **Increasing in frequency**

#### Characterization of Chest Pain
- **Typical for angina**
- **Atypical for angina**
- **Probably musculoskeletal**
- **Suggestive for angina**
- **Unlikely to be heart related**
- **Probably due to reflux**

### Exertional Dyspnea
- There is exertional dyspnea which is a possible anginal equivalent.
Plan

- Continue current program
- Coronary artery disease was discussed in detail
- 12 months of DAPT is indicated post DES

Lifestyle modifications discussed
- adhering to a heart healthy diet
- maintenance of a healthy weight
- regular exercise
- avoidance of tobacco products
- medication compliance
- regular monitoring of cholesterol and blood pressure

Change medications as follows:
### Schedule stress echo

<table>
<thead>
<tr>
<th></th>
<th>today</th>
<th>ASAP</th>
<th>in a few weeks</th>
<th>in 6 months</th>
<th>in 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in 2 years</td>
<td>at the next visit</td>
<td>before the next visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Schedule nuclear stress test

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in 2 years</td>
<td>at the next visit</td>
<td>before the next visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Schedule dobutamine stress echo

<table>
<thead>
<tr>
<th></th>
<th>today</th>
<th>ASAP</th>
<th>in a few weeks</th>
<th>in 6 months</th>
<th>in 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in 2 years</td>
<td>at the next visit</td>
<td>before the next visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Schedule ETT

<table>
<thead>
<tr>
<th></th>
<th>today</th>
<th>ASAP</th>
<th>in a few weeks</th>
<th>in 6 months</th>
<th>in 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in 2 years</td>
<td>at the next visit</td>
<td>before the next visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Next office visit

<table>
<thead>
<tr>
<th></th>
<th>one week</th>
<th>two weeks</th>
<th>three weeks</th>
<th>one month</th>
<th>three months</th>
<th>six months</th>
<th>one year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional comments and plans

Insert SmartText

### Subjective - Objective

He remains stable since his September stent procedure without angina. He is exercising regularly.
**Assessment**

### Classification of atrial fibrillation / flutter
- Paroxysmal atrial fibrillation
- Atrial fibrillation - initial episode
- Permanent atrial fibrillation
- Persistent atrial flutter
- Atrial flutter - initial episode
- Permanent atrial flutter

### Type
- Non-valvular
- Valvular

### Transient / reversible causes
- Cardiac surgery in the past three months
- Pregnancy
- Hyperthyroidism
- Pneumonia
- Pericarditis

### Other causes of atrial fibrillation or flutter
- Insert SmartText

---

### Atrial Fibrillation and Atrial Flutter

#### Assessment
- The patient has paroxysmal atrial fibrillation
- This is non-valvular in etiology
- The patient's CHADS2 score is 2
- The yearly stroke risk with a CHADS2 score of 2 is 1.27% on warfarin and 2.5% not on warfarin
- Patient is not on warfarin for medical reason (see comments below)
- Patient is already on dual antiplatelet therapy with recent DES and would be at excessive risk for bleeding on triple therapy. Reassess when off plavix.
- The patient's current rhythm is normal sinus rhythm

#### Plan
- Attempt to maintain sinus rhythm
- Atrial fibrillation discussed with patient, goals of anticoagulation therapy discussed with the patient
- Continue current program and notify us for increased frequency or duration of afib episodes
- Aspirin + clopidogrel will be continued for anticoagulation, bleeding issues discussed
- Beta blocker will be continued for rhythm control
- Next planned office visit is in six months

#### Subjective - Objective
- The average number of days between episodes of atrial fibrillation is 90 days
- The average duration of atrial fibrillation episodes is < 48 hours

### Hyperlipidemia

#### Assessment
- Statin therapy is indicated in this patient. The category that best applies to this patient is: adults with clinical atherosclerotic cardiovascular disease
- The patient is tolerating high intensity statin therapy

#### Plan
- Continue current therapy
- Goals of therapy were discussed with the patient today
- Lifestyle management was discussed with the patient today including adhering to a healthy diet, regular exercise, avoidance of tobacco products and maintenance of a healthy weight
- Obtain a fasting lipid panel in 6 months
- Discussion today included medication compliance, weight management, low cholesterol diet, daily physical activity and lipid lowering medications

### Follow Up Visit - Interval History

**Joe Cardiology is a 45 y.o. male being seen in follow up. He continues to do well after his stent procedure without angina. He is tolerating his medications well and is compliant. See comments above.**

### Medications

- Close Calculator
### CHADS2 VASc Calculator

<table>
<thead>
<tr>
<th><strong>Age</strong></th>
<th>&lt;65</th>
<th>65-74</th>
<th>&gt;=75</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td>male</td>
<td>female</td>
<td></td>
</tr>
<tr>
<td><strong>Heart failure</strong></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Stroke/TIA/embolism</strong></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Vascular disease hx</strong></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

**CHADS2 VASc Score** | 3 | Calculate Score | Clear Values

A score of 3 is associated with a yearly stroke rate of 3.2%
<table>
<thead>
<tr>
<th>Drug</th>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warfarin</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>patient is not on warfarin for medical reason</td>
<td>patient is not on warfarin for patient reason</td>
</tr>
<tr>
<td>(See comment below)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dabigatran</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Apixaban</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Aspirin</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Issues concerning anticoagulation**

Patient is already on dual antiplatelet therapy with recent DES and would be at excessive risk for bleeding on triple therapy. Reassess when off plavix.
### Current Rhythm

<table>
<thead>
<tr>
<th>Normal Sinus Rhythm</th>
<th>Underlying Atrial Fibrillation with Ventricular Paced Rhythm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinus Bradycardia</td>
<td>Atrial Flutter with 2 to 1 Conduction</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
<td>Atrial Flutter with 3 to 1 Conduction</td>
</tr>
<tr>
<td>Atrial Flutter</td>
<td>Atrial Flutter with 4 to 1 Conduction</td>
</tr>
<tr>
<td>Atrial Fibrillation with Controlled Ventricular Response</td>
<td>Atrial Flutter with Variable Conduction</td>
</tr>
<tr>
<td>Atrial Fibrillation with Rapid Ventricular Response</td>
<td>Junctional Rhythm</td>
</tr>
</tbody>
</table>

### Patient’s Estimate of the Average Interval, in Days, Between Episodes of Atrial Fibrillation

- **Estimated Duration of Usual Atrial Fibrillation Episodes**
  - < 48 hours
  - > 48 hours to 7 days
  - > 7 days to 3 months
  - > 3 months

- **Has Patient Had Cardioversion?**
  - Yes
  - No
  - Date

- **Has Patient Had Atrial Fibrillation Ablation?**
  - Yes
  - No
  - Date

- **Recurrence of Atrial Fibrillation since Ablation?**
  - Yes
  - No
  - Date

- **Events Possibly Related to Atrial Fibrillation or Anticoagulation**
  - Click for Events

### Additional Comments

[Editorial Tools and Text Insertion Area]
<table>
<thead>
<tr>
<th>Event Description</th>
<th>Yes</th>
<th>No</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>systemic embolism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, non-intracranial, location unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intracranial hemorrhage</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>minor hemorrhage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, non-intracranial, intra-articular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, non-intracranial, intra-ocular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, non-intracranial, intra-spinal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, non-intracranial, pericardial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>major hemorrhage, retroperitoneal / intra-abdominal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>transient ischemic attack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ischemic stroke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hemorrhagic stroke</td>
<td>Yes</td>
<td>No</td>
<td>5/18/12</td>
</tr>
</tbody>
</table>

**Intracranial hemorrhage as defined as bleeding into or around the brain potentially caused by one of the following: Hemorrhagic conversion of a primary ischemic stroke, subarachnoid hemorrhage, intracerebral hemorrhage. If the patient also has loss of brain function, also indicate that the patient has had a hemorrhagic stroke.**

**Hemorrhagic stroke is defined as bleeding into or around the brain that results in transient or permanent neurologic deficit.**
### Rhythm Management Strategy

<table>
<thead>
<tr>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>attempt to maintain sinus rhythm</td>
<td>schedule cardioversion</td>
</tr>
<tr>
<td>continue atrial fibrillation with rate control</td>
<td>schedule cardioversion with TEE</td>
</tr>
<tr>
<td>refer for possible atrial fibrillation ablation</td>
<td>schedule atrial fibrillation ablation</td>
</tr>
<tr>
<td>refer for possible atrial flutter ablation</td>
<td>schedule atrial flutter ablation</td>
</tr>
</tbody>
</table>

### Instructions

<table>
<thead>
<tr>
<th>Task</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>atrial fibrillation discussed with patient</td>
<td>goals of anticoagulation therapy discussed with the patient</td>
</tr>
<tr>
<td>notify us if any bleeding issues</td>
<td>the importance of careful monitoring of warfarin was stressed</td>
</tr>
<tr>
<td>continue current program</td>
<td>notify us for increased frequency or duration of afib episodes</td>
</tr>
</tbody>
</table>

### Continue the following anticoagulants

- aspirin
- warfarin
- dabigatran
- rivaroxaban
- apixaban
- aspirin + clopidogrel

### Start on the following anticoagulants

- aspirin
- warfarin
- dabigatran
- rivaroxaban
- apixaban
- aspirin + clopidogrel

### Continue the following antiarrhythmics

- amiodarone
- beta blocker
- diltiazem
- dcafeïne
- dronedarone
- flecainide
- propafenone
- sotalol
- verapamil

### Start the following antiarrhythmics

- amiodarone
- beta blocker
- diltiazem
- dcafeïne
- dronedarone
- flecainide
- propafenone
- sotalol
- verapamil

### Current rate control medications include

- beta blocker
- diltiazem
- verapamil
- digoxin

### Start on the following rate control medications

- beta blocker
- diltiazem
- verapamil
- digoxin

### Studies ordered this encounter include

<table>
<thead>
<tr>
<th>Study</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>echocardiogram</td>
<td>ECAT recorder</td>
</tr>
<tr>
<td>stress echo</td>
<td>BMP</td>
</tr>
<tr>
<td>24 hr holter</td>
<td>CMP</td>
</tr>
<tr>
<td>48 hr holter</td>
<td>thyroid function study</td>
</tr>
<tr>
<td>cardiac event monitor</td>
<td>pulmonary function studies with diffusing capacity</td>
</tr>
</tbody>
</table>

### Next office visit

- one week
- two weeks
- three weeks
- one month
- three months
- six months
- one year
Four Statin Benefit Groups - 2013 ACC/AHA Blood Cholesterol Guidelines

- adults with clinical atherosclerotic cardiovascular disease
  - low-density lipoprotein cholesterol (LDL-C) >190 mg/dL
- individuals 40-75 yo with diabetes, and LDL-C 70-189 mg/dL without clinical ASCVD
  - no ASCVD or diabetes, 40-75 yo, LDL-C 70-189 mg/dL, 10 year ASCVD risk of 7.5% or higher

Recommended therapy for patients with clinical ASCVD

- high intensity statin therapy
- moderate intensity statin therapy if not a candidate for high intensity statin therapy
- moderate intensity statin therapy if age >75

The patient’s estimated 10 year risk for a first ASCVD event is

LDL goal for patients being managed with goal based therapy

- LDL goal is 70 mg/dL or less
- LDL goal is 100 mg/dL or less
- LDL goal is 130 mg/dL or less

HDL goal for patients being managed with goal based therapy

- HDL goal is >40 mg/dL
- HDL goal is >50 mg/dL

Current lipid status

- is at goal on current medications
- is close to goal on current medications
- is not at goal presently
- is being followed by primary care
- is observing a low fat diet
- is not observing a low fat diet
- could benefit from weight reduction
- could benefit from regular exercise
- is exercising regularly
- is on maximal statin therapy
- does not tolerate statins due to side effects
- does not have recent lipid values for review
- is tolerating high intensity statin therapy
- is tolerating moderate intensity statin therapy
- is not tolerating high intensity statin therapy
- is not tolerating moderate intensity statin therapy

Medications

- clopidogrel (PLAVIX) 75 mg Oral Tab: Take 1 Tab by mouth every day.
- aspirin 81 mg Oral Chew tab: Take 1 Tab by mouth every day.
- Atorvastatin (LIPITOR) 80 mg Oral Tab: Take 1 Tab by mouth every day.
- metoprolol XL (TOPROL XL) 50 mg Oral SR 24-Hr Tab: Take 1 Tab by mouth every day.
- lisinopril (AKA PRINIVIL) 10 mg Oral Tab: Take 1 Tab by mouth every day.

Review of Systems

- Review of Systems
  - Constitutional: Negative.
  - Eyes: Negative.
  - Respiratory: Negative for cough and shortness of breath.
  - Cardiovascular: Positive for palpitations and leg swelling. Negative for chest pain, orthopnea, claudication and PND.
  - Gastrointestinal: Negative.
  - Genitourinary: Negative.
  - Skin: Negative.

Follow Up Visit - Interval History

Joe Cardiology is a 45 yo, male being seen in follow up. He continues to do well after his stent procedure without angina. He is tolerating his medications well and is compliant. See comments above.
Plan

- Continue current therapy
- Goals of therapy discussed with the patient today
- Lifestyle modification discussed
  - Weight management care plan discussed
  - Increase statin dose (see medication list)
  - Decrease statin dose (see medication list)
  - Stop statin for one month to see if myalgias resolve
  - Change statin being prescribed (see medication list)
  - Add sustained release niacin (see medication list)
  - Add a fibrate (see medication list)
  - Add ezetimibe (see medication list)
  - Add coenzyme Q10 to treat or prevent myalgias
  - Follow up with primary care for lipid management

Obtain a fasting lipid panel

<table>
<thead>
<tr>
<th></th>
<th>today</th>
<th>in three months</th>
<th>through the primary care provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>next week</td>
<td><strong>in 6 months</strong></td>
<td></td>
<td>recent results will be obtained from primary care</td>
</tr>
<tr>
<td>in one month</td>
<td>at the time of the next appointment</td>
<td></td>
<td>patient will forward recent results</td>
</tr>
<tr>
<td>in two months</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other labs

- advanced lipid panel
- TSH
- CRP
- CK
- liver panel

Patient instructions

- medication compliance
- low cholesterol diet
  - increased plant sterols and stanols
  - increased dietary viscous fiber
- daily physical activity
  - lipid lowering medications
  - goals of therapy

Next office visit

- one week
- two weeks
- three weeks
- one month
- three months
- six months
- one year

Changes in medications / comments
### Four Statin Benefit Groups - 2013 ACC/AHA Blood Cholesterol Guidelines

- Adults with clinical atherosclerotic cardiovascular disease
- Low-density lipoprotein cholesterol (LDL-C) > 190 mg/dl
- Individuals 40-75 yo with diabetes, and LDL-C 70-189 mg/dl without clinical ASCVD
- No ASCVD or diabetes, 40-75 yo, LDL-C 70-189 mg/dl, 10-year ASCVD risk of 7.5% or higher

---

**Recommended therapy for 10 year risk of >7.5% is moderate or high intensity statin therapy**

- Moderate intensity statin therapy
- High intensity statin therapy

---

The patient's estimated 10 year risk for a first ASCVD event is
Calculator: 10 year risk of developing cardiovascular disease in men (Patient information)

Input:
- Age: 45 yr
- Systolic Blood Pressure: 154 mmHg
- Total Cholesterol: 241 mg/dL
- HDL Cholesterol: 38 mg/dL
- On blood pressure medication: Yes
- Cigarette smoker: No
- Diabetes present: No

Results:
- Risk: 17.8 %
Reason for Visit

Chief Complaint

- Recheck of the following problems:
  
  CAD, hyperlipidemia, atrial fibrillation and device check

Coronary Artery Disease

Assessment

- CCS angina class: III - angina with activities of daily living
- There is dyspnea on exertion which may be an anginal equivalent
- The patient has stable angina
- Patient has experienced a recurrence of chest pain. He was in the emergency department last Saturday with negative enzymes and electrocardiograms and is referred back for additional evaluation. He has been stable in the interim.

Plan

- CAD was discussed in detail
- Lifestyle modifications discussed include adhering to a heart healthy diet, avoidance of tobacco products, maintenance of a healthy weight and regular exercise
- Schedule coronary angiography and possible PCI

Subjective / Objective

- PCI with DES (LAD 3.0x24 promus) on 7/24/2013
- Current antiplatelet therapy includes aspirin 81 mg and clopidogrel 75 mg
- The patient has had recent symptoms of chest pain.
Atrial Fibrillation and Atrial Flutter

Assessment
• The patient has paroxysmal atrial fibrillation
• This is non-valvular in etiology
• The patient's CHA2DS2 VASc score is 3 (yearly stroke risk 3.2% off warfarin)
• Patient is not on warfarin for medical reasons
• This patient has been on dual antiplatelet therapy post stent procedure. The addition of warfarin would unnecessarily increase his bleeding risk. Reassess after DAPT complete.
• The patient's current rhythm is sinus rhythm

Plan
• Rhythm management strategy: attempt to maintain sinus rhythm
• Patient education and instructions: atrial fibrillation discussed with patient and notify us of bleeding issues

Hyperlipidemia

Assessment
• Statin therapy is indicated: adult with clinical atherosclerotic cardiovascular disease
• In this patient with ASCVD the treatment recommendation is high intensity statin therapy
• The patient is being followed by primary care and is tolerating high intensity statin therapy

Plan
• Discussion today included weight management and low cholesterol diet

Aortic Valve Disease

Assessment
• The patient has severe aortic stenosis

Plan
• Schedule cardiac catheterization
• Arrange for surgical consultation

Subjective / Objective
• Symptoms include fatigue, dyspnea on exertion and chest pain
• Echo results from 10/30/2014
  Aortic jet velocity: 4.6 m/sec
  Peak gradient: 72 mmHg
  Mean gradient: 45 mmHg
  Aortic valve area: 0.7 cm²
Device Management

Assessment
- Indication for pacemaker implantation - sinus node dysfunction
- The current underlying rhythm is normal sinus rhythm
- Current pacing mode is DDDR
- The patient is not pacemaker dependent
- Normal pacemaker function, normal lead status, adequate remaining battery life and no significant arrhythmias

Plan
- Next pacemaker check is in 6 months

Device Interrogation
- Date of interrogation is 10/30/2014
- RV lead
- Ventricular threshold 1 volts
- Ventricular pulse width 0.4 ms
- Battery
- Estimated battery longevity 6 years
- Device and lead detail
  Generator: Boston Scientific, model S603

Follow Up Visit - Interval History
Joe Cardiology is a 46 y.o. male being seen in follow up. See comments above. His aortic stenosis is now severe and we will arrange for cardiac catheterization and surgical consultation.
Medications

Current Outpatient Prescriptions

<table>
<thead>
<tr>
<th>Medication</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>metFORMIN (GLUCOPHAGE) 500 mg Oral Tab</td>
<td>Take 2 Tabs by mouth twice a day</td>
</tr>
<tr>
<td>clopidogrel (PLAVIX) 75 mg Oral Tab</td>
<td>Take 1 Tab by mouth every day.</td>
</tr>
<tr>
<td>aspirin 81 mg Oral Chew tab</td>
<td>Take 1 Tab by mouth every day.</td>
</tr>
<tr>
<td>Atorvastatin (LIPITOR) 80 mg Oral Tab</td>
<td>Take 1 Tab by mouth every day.</td>
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<tr>
<td>metoprolol XL (TOPROL XL) 50 mg Oral SR 24Hr Tab</td>
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</tr>
<tr>
<td>lisinopril (AKA PRINIVIL) 10 mg Oral Tab</td>
<td>Take 1 Tab by mouth every day.</td>
</tr>
</tbody>
</table>

Review of Systems

Review of Systems

Constitutional: Positive for fatigue.

HENT: Negative.

Eyes: Negative.

Respiratory: Positive for shortness of breath. Negative for cough.

Cardiovascular: Positive for chest pain and dyspnea on exertion. Negative for palpitations, orthopnea, claudication, leg swelling and PND.

Gastrointestinal: Negative.

Genitourinary: Negative.

Musculoskeletal: Negative.

Skin: Negative.

Neurological: Negative.

Endo/Heme/Allergies: Negative.

Psychiatric/Behavioral: Negative.
### Problem List

**Patient Active Problem List**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Date Noted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aortic stenosis</td>
<td>12/28/2014</td>
</tr>
<tr>
<td>Diabetes mellitus (HCC)</td>
<td>03/23/2014</td>
</tr>
<tr>
<td>CAD (coronary artery disease)</td>
<td>01/05/2014</td>
</tr>
<tr>
<td>Essential hypertension</td>
<td>01/05/2014</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>01/05/2014</td>
</tr>
<tr>
<td>Paroxysmal atrial fibrillation (HCC)</td>
<td>01/05/2014</td>
</tr>
</tbody>
</table>

### Physical Examination

**Vitals:** 130/60 RA, 178 lbs

**General:** Pleasant male in no acute distress

**HEENT:** pupils equal, no xanthelasmas, normal thyroid, referred murmur to both carotids, delayed carotid upstrokes.

**Lungs:** clear to percussion and auscultation; no wheezes, rales or rhonchi

**Cardiovascular:** grade 3/6 sem at the base radiating to the neck, no click, rub or gallop, regular rate and rhythm, no jugular venous distension

**Abdomen:** not examined

**Extremities:** distal pulses are intact, there is no edema

**Musculoskeletal:** No gross deformities.

**Neuro:** No gross focal abnormalities.

**Psych:** Affect is normal.

---

**Roger Jeffrey Westcott, MD**

08:14; 12/28/2014

cc: Roper, Embra A
Data Submission (2012 & 2014)

NoteWriter notes and other clinical workflows → Clarity

Crystal Report exported to XML → Administrative utility

Data to ACC & confirmation
Performance Reports to Participants

- Quarterly and monthly performance reports
- Performance rates provided at practice, office location, and individual provider levels
- Online dashboard
Performance Reports to Participants

SmartForms
- CAD
- Afib
- HF
- HTN
- Lipids
- Aortic Valve
- Mitral Valve
- Chest Pain

Your environment

Epic TS

Community Library

Epic TS

Available Now

Smart Data Elements (SDEs)
Clarity Extract
Submission Utility
Collaboration

• **Buy in**: Society and professional members have agreed the project has national importance.

• **Guidance**: Voice of ACC helped filter out conflicting development direction suggestions.

• **Commitment**: ACC leadership works closely with Cupid R&D and acts as liaison for other members.
Collaboration

- **Buy in**: Individual organizations see benefit in the collaboration experience: you help shape the product.

- **Guidance**: End users volunteer their time and resources to provide input on an ad-hoc basis.

- **Commitment**: End users are ready to get their hands dirty with some development and testing if needed!
Collaboration

• **Buy in**: Project is recognized as strategically significant and appropriate resources are assigned at the right time in the release cycle.

• **Guidance**: Epic facilitates on-site meetings, webcasts, testing sessions, and remote system access (i.e. Mural environment).

• **Commitment**: Set project milestones and deliverables for each stage.
The Potential

• The use of APSO format in EHR’s is transformative

• Tight integration of workflow (people!) with documentation is the way forward

• Multiple beneficial impacts: individual care, population health, lowered costs
Forms in the Future

Atrial Fibrillation

- Problem List
- Medications
- History
- Patient Instructions

Sync connections between forms.
Pinnacle Dashboards within Epic
Pinnacle Dashboards within Epic
Lessons learned

This is a culture change that requires strong leadership

Not all cardiology groups are ready for this

Develop an implementation plan

Teach MA’s and RN’s to operate at the top of their license

Use of a shared note improves workgroup efficiency and competency.
Common EMR/EHR Documentation Pitfalls

Nicole Knight, LPN, CPC, CCS-P
Personal Disclosures

• None
EHR Problem Areas

- CLONING
- Medical Necessity
- Chronic Problems
- E/M Grey Areas
CLONING
What does Cloning Mean?

• Copying and pasting the patient information in an Electronic Medical Record (EMR) from one date of service to another for the same patient.

• Documentation is also considered “cloned” when the medical documentation is exactly the same for different patients as may be documented through the use of templates.

• Cloned notes can make it difficult to distinguish notes from one date of service to another and may result in falsification of the medical record since the cloned note may not pertain to the visit to which it was copied.
Cloned notes can be used appropriately if...

• The documentation is applicable to the date of service;
• The chief complaint should carry through to the exam and history and should support the decisions made for medical necessity.
• Providers should always document the history of the present illness based on the patient’s conversation at that visit.
• Providers can copy the review of systems categories that are relevant to that day’s visit but should not copy the entire review of system documentation from a previous visit unless it is applicable.
• Providers can copy past medical, family and social history from a previous visit if it is reviewed with the patient and is relevant to that day’s visit.
**OIG on Cloning**

- When doctors, nurses, or other clinicians copy-paste information but fail to update it or ensure accuracy, inaccurate information may enter the patient’s medical record and inappropriate charges may be billed to patients and third-party health care payers. Furthermore, inappropriate copy-pasting could facilitate attempts to inflate claims and duplicate or create fraudulent claims.

- Over documentation is the practice of inserting false or irrelevant documentation to create the appearance of support for billing higher level services. Some EHR technologies auto-populate fields when using templates built into the system. Other systems generate extensive documentation on the basis of a single click of a checkbox, which if not appropriately edited by the provider may be inaccurate. Such features can produce information suggesting the practitioner performed more comprehensive services than were actually rendered.
Develop Policy and Procedures

• To address inappropriate use of these tools to minimize non-compliance. Common documentation risks that can result from cloning features include:
  • Vital signs that never change from visit to visit
  • Information “copied and pasted” from a different patient’s record
  • Documentation from another provider including their attestation statement
  • Identical verbiage used repeatedly for all patients seen by a provider for a specific timeframe with little or no modification regardless of the nature of the presenting problem or intensity of the service; at times, such verbiage includes contradictory indications (i.e., use of pronoun “he” instead of “she,” indication that patient has no pain when the documentation includes a record of pain)
• Providers must recognize that every patient is unique and must ensure that the health service provided is documented distinctly from all others.
• Example of cloning
Using Templates

• Template notes can
  – Save time?
  – Allow physicians to accurately document and improve quality of care while quickly determining the proper E/M code for the work performed
  – If a template is not compliant or not user friendly to the physician, can be cumbersome and time consuming

• Templates have some definite advantages
  – Note-taking can be faster?
  – Prepopulated template serves as a reminder to ask pertinent questions
  – Facilitate coding and prevent up coding and down coding?
  – Standardize data collection
  – Help ensure adequate documentation
  – Reduce or avoid dictation costs
  – Can embody evidence-based guidelines and decision-support tools
Disadvantages of Templates

• You may need a variety of different templates for different encounters
• They sometimes do not accommodate multiple complaints or enough detail.
• Increase the size of your medical record
• If the note is handwritten- Caution must be used to ensure legibility
Other Potential Risks Areas

• **Free Text**
  • **Advantages:** Preserves the narrative component of the medical record. Each visit appears different because the clinician created it specifically for the individual patient.
  • **Disadvantages:** Typing and/or dictation must be done for each patient by a clinician who would rather be seeing patients than typing. This typing, dictating or filling out templates can be onerous to the provider.

• **Tracking of user’s changes, deletions or modification to a specific subsystem**

• **Lack of policies and procedures related to coding and documentation related to EHR and retention policies**
EMR/EHR CALCULATORS
What about my EMR level of service calculator?

• Many EHR systems are set up by software companies and not auditors or coders, and can create problems with documentation requirements.

• EHRs can help coding accuracy, but providers need to have basic E&M knowledge in order to make informed decisions of EHRs that could lead to false elevations of coding levels.
EMR Code Calculators

• Example-95 examination guidelines:
• The difference between an expanded problem focused and detailed examination is the word “detail.”
• What is the interpretation of “detail?” No one, including Medicare can give us a definition of detail to distinguish the difference between EPF and detailed exam.
• How does your EHR system define detail to make that decision?
Continued - Calculators

- Does the provider “free text” - This does not calculate
- Is all documentation flowing through to the printed page?
- Does EMR correctly calculate based on E/M category?
- Established patients only require 2 of 3 key elements – MDM overarching criteria
- Systems are set up to list all the patient’s chronic problems. Some are also set up to count all the chronic problems in MDM.
- Counting a chronic problem that is not relevant or addressed in that day's encounter could give a higher level of MDM.
Tips for Using EMR Calculators

• Audit E/M code selection. Providers should be sure to compare the EMR’s E/M code recommendations to verify that EMR generated codes do not routinely represent different (higher or lower) levels of service.

• Review your notes to ensure that they are personalized, clinically accurate, clinically relevant, clinically useful, and complete. Sign notes only after they are reviewed.

• Invest time in customizing EHR templates to make them specific to your practice and to reflect your most common clinical encounters. Providers should also be aware of automatic macros and consider how, when and where they occur.

• Beware of the possibilities for inaccurate Information when using the following EHR tools:
  • Point and click
  • Copy/paste
  • Default entries
  • Dropdown menus

• Review notes for incorrect or inconsistent information, such as: ◦Discrepancies between HPI, ROS, and/or A/P - Documentation and signatures
MEDICAL DECISION MAKING (MDM)
CMS Guidance - Medical Necessity

“Medical necessity of a service is the overarching criterion for payment in addition to the individual requirements of a CPT® code. It would not be medically necessary or appropriate to bill a higher level of evaluation and management service when a lower level of service is warranted. The amount of documentation should not be the primary influence upon which a specific level of service is billed. Documentation should support the level of service reported. The service should be documented during, or as soon as possible after it is provided in order to maintain an accurate medical record.”
Medical Decision Making - MDM

• Involves
  1. The presenting problem
  2. Amount and/or complexity of data to be reviewed
  3. Risk
Demonstrating Medical Necessity in E/M Services

• Document all diagnoses that are managed during the visit

• For each established diagnosis, specify if the patient’s condition is stable, improved, worsening, etc.

• Make sure the rationale for ordering diagnostic tests is either documented or easily inferred

• Clearly describe management of the patient, (i.e., prescription drugs, over the counter medication, surgery, etc.)
Tips for documentation MDM

• Document any decision to obtain old records or decision to obtain additional history from the family, caretaker, or other source to supplement that obtained from the patient.

• Also document relevant findings from the review of old records, and/or the receipt of additional history from the family, caretaker, or other source to supplement that obtained from the patient.

• The results of discussion of laboratory, radiology, or other diagnostic tests with the physician who performed or interpreted the study are documented.

• The direct visualization and independent interpretation of an image, tracing, or specimen previously or subsequently interpreted by another physician are documented.
Tips for documentation MDM

• Comorbidities/underlying diseases or other factors that increase the complexity of medical decision-making by increasing the risk of complications, morbidity, and/or mortality are documented.

• If a surgical or invasive diagnostic procedure is ordered, planned, or scheduled at the time of the E/M encounter, the type of procedure, e.g., laparoscopy, are documented.

• If a surgical or invasive diagnostic procedure is performed at the time of the E/M encounter, the specific procedure is documented.

• The referral for or decision to perform a surgical or invasive diagnostic procedure on an urgent basis are documented or implied.
Why ask the question?

- The volume of work associated with documentation and order entry has increased with the introduction of electronic health records, quality monitoring initiatives, and increasingly complex billing regulations.
- Tasks that took a few seconds in the pre-electronic health record world can take several minutes in the electronic world.
- Visit notes have become lengthy documents, formatted on a billing template, complicating rather than facilitating the work of finding key information.
Scribe’s role

• Is to document in the medical record a physician’s visit with the patient.
• In a hospital setting, a scribe makes rounds with the physician and documents the visit.
• Scribing is not a billable service and is not always straightforward.
Protocols Necessary

• If your hospital or office uses scribes, establish a protocol that clearly outlines scribes to not render any opinions and to provide an accurate transcription of physicians’ comments.

• Medicare pays for medically necessary and reasonable services, and expects the person receiving payment to deliver services and create the record.

• The scribe should only write what the physician dictates and does, acting independently there is no payment for this activity.
Attestation Statements

• **Scribe**
  - “Entered by___________________, acting as scribe for Dr. ______________.”
    – Signature, Date, Time

• **Physician**
  - “The documentation recorded by the scribe accurately reflects the service I personally performed and the decisions made by me.”
    – Signature, Date, Time
Joint Commission Guidelines

• 2011, they did not endorse nor prohibit the use of scribes but does give the following guidelines:
  – Verbal orders may neither be given to, nor by, scribes (different than pending)
  – Signing (including name/title) and dating of all entries into the medical record required by both the physician and the scribe.
  – Scribing must be clearly outlined. Orientation and training must be given specific to the organization and the role.
  – Competency assessment and performance evaluations should be performed
  – Scribes must meet all information management, HIPAA, HITECH, confidentiality, and patient right standards.
What about Meaningful Use Requirements?

- As of January 2013, only credentialed medical assistants have been permitted to enter medication, radiology, and laboratory orders into the EHR to count toward meeting the Meaningful Use thresholds under the Medicare and Medicaid EHR Incentive programs.

- According to Meaningful Use 2 core measure 1, any licensed healthcare professionals can enter orders into the medical record for purposes of including the order in the numerator for the objective of computerized physician order entry (CPOE).

- The order must be entered by someone who could exercise clinical judgment in the event that the entry generates any alerts about possible interactions or other clinical decision support aids. This necessitates having the CPOE occur when the order first becomes part of the patient’s medical record, and before any action can be taken on the order.

- The Centers for Medicare and Medicaid Services (CMS) did not specify any particular credentialing agency for medical assistants, but did say that the credentialing would have to be obtained from an organization other than the employing agency.
What about Meaningful Use Requirements?

- Certification of medical scribes does not satisfy concerns about whether scribes should be allowed to use computerized order entry as part of the meaningful-use program for electronic health records.
- The growing medical scribe industry has yet to come together on a single broadly accepted training and certification process, though industry leaders say they will eventually do so.
- In response to comments about who is qualified to use computerized physician order entry, or CPOE—a Stage 2 requirement under the American Recovery and Reinvestment Act's EHR incentive program—federal rule writers said CPOE users should not be medical scribes, partly because “as there is no licensing or credentialing of scribes, there is no guarantee of their qualifications.”
Potential Cost of a Scribe

• **Example 1 – Unlicensed Healthcare Professional**
  • $15-$20/hour with 35% for benefits
  • $42,120-$56,160

• **Example 2 – Certified Medical Assistant**
  • $13-$17/hour with 35% for benefits
  • $36,504 - $47,736
Summary

- Scribes are a good addition when they:
  - Know the rules
  - Know your standard work
  - Know your culture/environment
  - Know your finances

- Next Steps – Develop your program
  - Include: Operations, Finance, Revenue Cycle, Compliance
Key Take Away

• Audit your EMR documentation
  • Medical Necessity (EMR Calculators)
  • Cloning (Templates)
  • Severity of diagnosis (Quality incentives, ICD-10, etc.)