Discharge Medications: Reaching and Sustaining our Goal of 100%

Presented by:

Randell R. De Martino, MD, MS

Cheryl R. Jackson, DNP, MS, RN, CPHQ
I have no financial conflicts of interest
Outline

- What do we mean by “Discharge Medications”?
- Why are they important?
- Medication use in VQI
- How to approach prescribing
- Tools for success
Discharge Medications

- A hospitalization is a “check-point” event
- Medication reconciliation
- Opportunity to ensure appropriate medical therapies are prescribed
QI Webinar Series

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**Outpatient Setting**

- Patient with vascular disease in need of surgical procedure
- Emergent/Urgent
- Elective

**Inpatient Setting**

- Pre-operative evaluation
- Operative Procedure
- Discharge
- Follow Up

**Providers**

- Primary Care
- Cardiologists
- Radiologists

- Surgeon

**Medication Prescribing by Surgeon**

- Less control of medications

**Opportunities**

- Medication assessment
- Peri-operative risk assessment

- Post Operative and Discharge Orders
- Medication reconciliation
- Initiate new medications
- Patient education

- Reassess medication use
- Provider/Patient education
- Communication

**Barriers**

- Unknown prior cardiovascular care
- Urgency
- Possible allergies

- Systems of care
- Provider education
- Ownership of medical management

- Multiple Providers
- Ownership of medical management
- Fewer return visits to surgeons
- Compliance/insurance
What Meds are we talking about?

For today’s discussion we will focus on 2 medications

- Antiplatelet medications
- Statins
Antiplatelet Medications

- Most commonly used is aspirin
- Widely available since 1899
- Available over the counter in several doses
- Other medications include clopidogrel (Plavix), prasugrel (Effient) and some others...
Statins

- HMG-CoA reductase inhibitors
- Inhibit cholesterol synthesis in the liver
- Can profoundly reduce cholesterol levels
Recommendation for Statins

- Start Statins in all patients with

ACC/AHA Prevention Guideline

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Endorsed by the American Academy of Family Physicians, American College of Cardiology, American College of Physicians, American Heart Association, American Medical Association, American Academy of Preventive Medicine, American Academy of Nurse Practitioners, American Association of Nurse Anesthetists, Association of Rehabilitation Nurses, American Society of Vascular Surgery, and American Association of Cardiovascular and Pulmonary Rehabilitation

Patients with PAD should be initiated in a statin

Class 1A Recommendation
Start Antiplatelet medications in all patients with:

- Cardiac disease
- Stroke/TIA
- PAD

2011 ACCF/AHA Focused update of the guideline for the management of patients with peripheral artery disease (updating the 2005 guideline)

A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines

Developed in Collaboration with the following Societies and Organizations:

- American Association for Vascular Surgery
- Society for Vascular Surgery
- Endovascular Society of North America
- Society of Vascular Interventional Radiology
- Endovascular Society of North America

Patients with PAD should be initiated on an AP medication

Class 1A Recommendation
### Table 5. High-, Moderate-, and Low-Intensity Statin Therapy (Used in the RCTs Reviewed by the Expert Panel)*

<table>
<thead>
<tr>
<th>High-Intensity Statin Therapy</th>
<th>Moderate-Intensity Statin Therapy</th>
<th>Low-Intensity Statin Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily dose lowers LDL-C, on average, by approximately ≥50%</td>
<td>Daily dose lowers LDL-C, on average, by approximately 30% to &lt;50%</td>
<td>Daily dose lowers LDL-C, on average, by &lt;30%</td>
</tr>
<tr>
<td><strong>Atorvastatin (40†)−80 mg</strong></td>
<td><strong>Atorvastatin 10 (20) mg</strong></td>
<td><strong>Simvastatin 10 mg</strong></td>
</tr>
<tr>
<td><strong>Rosuvastatin 20 (40) mg</strong></td>
<td><strong>Rosuvastatin (5) 10 mg</strong></td>
<td><strong>Pravastatin 10−20 mg</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Simvastatin 20−40 mg‡</strong></td>
<td><strong>Lovastatin 20 mg</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Pravastatin 40 (80) mg</strong></td>
<td><strong>Fluvastatin 20−40 mg</strong></td>
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<tr>
<td></td>
<td><strong>Lovastatin 40 mg</strong></td>
<td><strong>Pitavastatin 1 mg</strong></td>
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<tr>
<td></td>
<td><strong>Fluvastatin XL 80 mg</strong></td>
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<tr>
<td></td>
<td><strong>Fluvastatin 40 mg BID</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Pitavastatin 2−4 mg</strong></td>
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</tbody>
</table>
For patients with cardiovascular disease, both antiplatelets and statins are shown to reduce the risks of
- Heart attack
- Stroke
- Vascular death
Perioperative management with antiplatelet and statin medication is associated with reduced mortality following vascular surgery

Randall R. De Martino, MD, MS, a,b Jens Eldrup-Jorgensen, MD, c Brian W. Nolan, MD, MS, a David H. Stone, MD, a Julie Adams, MD, d Daniel J. Bertges, MD, d Jack L. Cronenwett, MD, a and Philip P. Goodney, MD, MS, a on behalf of the Vascular Study Group of New England, Lebanon, NH; Rochester, Minn; Portland, Me; and Burlington, Vt

- Review of >14,000 patients in the VSGNE
- Reviewed patients undergoing:
  - CEA/CAS/AAA/LEB
Preop and Discharge Medication Use

Proportion of patients on optimal medical therapy:

- 2005: 55%
- 2006: 59%
- 2007: 64%
- 2008: 68%
- 2009: 70%
- 2010: 67%
- 2011: 69%
- 2012: 66%

P trend <0.01
Preop and Discharge Medication Use

Proportion of patients on optimal medical therapy:

- **Carotid**
  - CAS: 78%
  - CEA: 74%

- **Bypass**
  - Infragenual: 60%
  - Suprainguinal: 57%

- **AAA**
  - oAAA: 57%
  - EVAR: 56%
Preop and Discharge Medication Use

Proportion of patients on optimal medical therapy:

- 0%
- 25%
- 50%
- 75%
- 100%

Center

86%
Participation in the Vascular Quality Initiative is associated with improved perioperative medication use, which is associated with longer patient survival.

- Follow up study using national VQI data from all centers
- >28,000 first time cases performed across centers
Number of years of VQI participation

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
<th>Year 10</th>
<th>Year 11</th>
<th>Year 12</th>
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</thead>
<tbody>
<tr>
<td>Carotid</td>
<td>69%</td>
<td>71%</td>
<td>72%</td>
<td>73%</td>
<td>75%</td>
<td>78%</td>
<td>80%</td>
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<td>79%</td>
<td>83%</td>
<td>82%</td>
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<tr>
<td>Aneurysm</td>
<td>47%</td>
<td>47%</td>
<td>49%</td>
<td>52%</td>
<td>55%</td>
<td>57%</td>
<td>59%</td>
<td>59%</td>
<td>63%</td>
<td>64%</td>
<td>65%</td>
<td>82%</td>
</tr>
<tr>
<td>Bypass</td>
<td>52%</td>
<td>49%</td>
<td>51%</td>
<td>52%</td>
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<td>63%</td>
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<td>67%</td>
</tr>
<tr>
<td>PVI</td>
<td>55%</td>
<td>51%</td>
<td>54%</td>
<td>56%</td>
<td>65%</td>
<td>62%</td>
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<td>62%</td>
<td>60%</td>
<td>65%</td>
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</table>
Efforts to improve medication use have been underway in the VQI for about a year.

Targeted efforts were in:
- Push reports
- Education
Want to Improve 5-Year Survival? Check the Meds...

Antiplatelet (AP) and statin medications are an important component to treatment, but a third of eligible post-op VQI patients leave the hospital without these medications. Those patients on AP and statins had a 14% absolute survival benefit and 40% adjusted improved survival.

Survival by Discharge Medications

<table>
<thead>
<tr>
<th>No AP or statin</th>
<th>AP &amp; Statin</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="source" alt="Diagram showing survival rates" /></td>
<td></td>
</tr>
</tbody>
</table>

- For every 25 patients treated, discharge on an antiplatelet agent and statin medication is associated with 3.5 additional patients alive at 5 years!
- VQI participation is highly associated with improvement in medication use

Conclusion:

Medical management is associated with improved survival after a number of vascular procedures. Importantly, VQI participation improves the use of medical management, demonstrating that involvement in an organized quality effort can affect patient outcomes.

National QI Initiative to Increase Statin Use

AP/Statin Rate, Centers in VQI 2011-Present

Mean rate = 79.9%

Presentation
Publication
Push Reports

Mean + 3SD
Mean - 3SD
Regional Participation Is Important

Discharge Statin Use

Region ID


P < 0.05

P = NS
Not all patients are getting appropriate medical treatment before or after their vascular operation

Some centers can reach 100%, others less so

Type of surgery seems to impact medication use

Medication use after surgery is associated with overall survival
Learning Points

- Length of participation in VQI appears to improve medication use
  - Participation in regional meeting may be important
  - Review of center level data is necessary
  - Processes need to be developed at each institution to make improvements
Does your patient have an indication for statin use?

- Answer for nearly all patients in VQI will be yes because they have clinically evident atherosclerotic cardiovascular disease

- That may not apply to all patients...
  - Maybe a younger patient with vasculitis
  - Popliteal artery aneurysm, etc
Aspirin Prescribing

- Fairly simple

- Aspirin 75-325mg (typically 81mg) daily
  - To reduce the risk of MI, stroke, or vascular death
    - Level IB recommendation
  - Higher doses (325mg) have been associated with higher bleeding risks without other clinical benefit

- Clopidogrel (Plavix) is a reasonable alternative to aspirin
A tad more complex

Statins carry the risk of
  – Muscle aches
  – Liver damage
  – Elevated blood sugar

Start with do they need to be on a statin?
Baseline laboratory measurements
- Fasting lipid panel
- ALT
- CK (if indicated)

Initiate high vs intermediate does statin as indicated by guidelines

Reassess lipid panel in 4-12 weeks

Many reactions to medication may be mediated by reduction of dose or transition to a different statin
Uncomfortable Prescribing

- Most common reason
  - I don’t manage these medications
  - Not appropriate for me to start therapy
  - PCP needs to start/monitor
  - Etc, etc

- Not a reason to skip treatment
Uncomfortable Prescribing

- Check baseline labs
- Prescribe appropriate dose statin
- Inform PCP of medication change and allow follow up
Tools available

- Data!
- Online resources through M2S
Discharge Medication Communications

As part of the QI process, vascular specialists are encouraged to communicate with primary care physicians, patients and other providers regarding the use of discharge medications.

Below please see links to sample communications currently in use within the VQI:

**Risk Factor Modification**

Risk Factor Modification Letter – Patient
Risk Factor Modification Letter – Physician

**Sample Letters by Type of Medication (Hospital Setting)**

**Aspirin**
Letter to Patient
Letter to Physician

**ACE Inhibitor**
Letter to Patient
Letter to Physician

**Beta Block**
Letter to Patient
Letter to Physician

**Statin**
Letter to Patient
Letter to Physician

**Multiple Medications**
Letter to Patient
Letter to Physician
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- Letter to Physician

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Discharge Medications: Reaching and Sustaining our Goal of 100%

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Randell R. De Martino, MD, MS
Cheryl R. Jackson, DNP, MS, RN, CPHQ
## Discharge Medications Data

**2012 and 2013 Procedures (as of 6/1/2014)**  
Excludes missing, not treated for medical reason, and non-compliant

<table>
<thead>
<tr>
<th>Procedure</th>
<th>% Antiplatelet &amp; Statin</th>
<th>% Antiplatelet only</th>
<th>% Statin only</th>
<th>% Neither</th>
<th>Number of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEA</td>
<td>72%</td>
<td>18%</td>
<td>5%</td>
<td>5%</td>
<td>79</td>
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<tr>
<td>EVAR</td>
<td>46%</td>
<td>8%</td>
<td>27%</td>
<td>19%</td>
<td>52</td>
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<tr>
<td>INFRA</td>
<td>69%</td>
<td>23%</td>
<td>4%</td>
<td>4%</td>
<td>26</td>
</tr>
<tr>
<td>OAAA</td>
<td>43%</td>
<td>29%</td>
<td>0%</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>PVI</td>
<td>57%</td>
<td>28%</td>
<td>4%</td>
<td>11%</td>
<td>101</td>
</tr>
<tr>
<td>SUPRA</td>
<td>70%</td>
<td>22%</td>
<td>0%</td>
<td>9%</td>
<td>23</td>
</tr>
<tr>
<td><strong>Overall (Cadence)</strong></td>
<td><strong>61%</strong></td>
<td><strong>20%</strong></td>
<td><strong>8%</strong></td>
<td><strong>10%</strong></td>
<td><strong>288</strong></td>
</tr>
<tr>
<td>Your Region</td>
<td>73%</td>
<td>19%</td>
<td>4%</td>
<td>5%</td>
<td>4413</td>
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<tr>
<td>VQI</td>
<td>72%</td>
<td>19%</td>
<td>4%</td>
<td>4%</td>
<td>128772</td>
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</table>
Problem Statement

The first step in decreasing mortality rate and increasing graft patency at one year and five years in the PVI patient is to prescribe antiplatelet and statin therapy at discharge (Steppacher, 2014). Yet, only 61% of eligible PVI patients at Cadence Health are discharged on these medications (M2S, 2014).
Peripheral vascular surgical patients have a high rate of associated cardiovascular disease.

According to De Martino et al. (2014) only eight percent of patients undergoing major vascular procedures have non-diseased coronary arteries. These patients have a higher risk of heart attack and stroke compared to the normal population.

75% of patients with peripheral artery disease ultimately die from cardiovascular disease (De Martino et al., 2014).

Evidence shows that patients who have had peripheral vascular interventions (PVI), which include arterial bypass surgery and endovascular procedures, benefit from antiplatelet and statin therapy (De Martino et al., 2014; Brown et al., 2011).
Grafts fail for two reasons: 1) stenosis and 2) thrombus formation (Brown et al., 2011).

The solution to increase graft patency and survival rate is for patients to take antiplatelet and statin medications after their procedures (Brown et al., 2011; DeBruin et al., 2014).

A 15 study meta-analysis showed the use of platelet inhibitors resulted in improved venous and artificial graft patency compared to no treatment (Brown et al., 2011).

In prescribing statins, de Bruin et al. (2014) reported a reduction of mortality and cardiac events in patients receiving lipid lowering therapy (De Bruin et al., 2014).
Analysis of Context

- Cadence Health
  - Central Dupage Hospital
  - Delnor Community Hospital
  - Bed capacity of 490
  - High private insurance based payor mix and Medicare patients with Part A and B supplemental coverage
  - The average age of the PVI patient at Cadence Health is 66 years old
  - February 2012 – Formed a regional vascular study group, The Mid-America Vascular Study Group (MAVSG), through the SVS VQI.
  - Stakeholders
Scope of Project

- Educate PVI providers
- Revise vascular discharge order sets
- Utilize the expertise of pharmacists and care coordinators
- Ensure that 76% of all eligible PVI patients are discharged from Cadence Health on an antiplatelet and statin medication within six months of project implementation
- Ensure that 95% of eligible PVI patients are discharged on an antiplatelet and statin medication at one year of project implementation
5 Year Survival By Discharge Medication - VSGNE

24% Improved 5 Year Survival of 15,000 VSGNE patients if Discharged after Surgery on Statin and Anti-platelet Agents

79% Both
74% Statin
72% Anti-Platelet
55% None

SE<0.1 Log rank p<0.01


Quality Update
The Plan-Do-Check-Act (PDCA) process improvement model

- **Plan.** Recognize an opportunity and plan a change.
- **Do.** Test the change. Carry out a small-scale study.
- **Check (Study).** Review the test, analyze the results and identify what was learned.
- **Act.** Take action based on what was learned in the study step: If the change did not work, go through the cycle again with a different plan. If successful, incorporate what was learned from the test into wider changes. Use what was learned to plan new improvements, beginning the cycle again.
## Implementation

<table>
<thead>
<tr>
<th>PDCA Cycle</th>
<th>Implementation/Outcomes</th>
<th>Analysis</th>
</tr>
</thead>
</table>
| Plan       | - Revise 100% of PVI provider discharge order sets to reflect AP and statin medication options.  
- Notify all PVI providers of the new SVS guidelines and initiative.  
- Meet with care coordinators to identify programs to aid patients in obtaining medications, if needed.  
- Prescribe antiplatelet and statin medication for all PVI patients at hospital discharge. Target – 25% increase at six months post implementation and another 25% increase at one year post implementation. | - Completed. Utilized IT and Pharmacist.  
- Completed. Meetings and email.  
- Completed. In-house medication assistance programs, pharmaceutical company programs, government subsidies, and retail pharmacies (Meijer, Walmart, and Target).  
- Completed. Will discuss in later slides.  
- January 2016 |
## Implementation

<table>
<thead>
<tr>
<th>PDCA Cycle</th>
<th>Implementation/Outcomes</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Educate/train prescribers September, 2014</td>
<td>Completed. Vascular surgeons, IR, and vascular APNs were shown discharge order medication templates and were able to add to their own order sets.</td>
</tr>
<tr>
<td></td>
<td>• Implement the project January, 2015</td>
<td>• Done.</td>
</tr>
</tbody>
</table>

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**QI Webinar Series**

SVS | PSO
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Discharge statin/antiplatelet orders

**Antiplatelets**

- Aspirin chew tablet
  - Oral, EVERY DAY, POST-OP FLOOR
- Clopidogrel (PLAVIX) tablet
  - Oral, EVERY DAY, POST-OP FLOOR
- Clopidogrel (PLAVIX) tablet
  - [To be Given in the PACU]
  - Oral, ONCE, PACU

**Statins**

- Simvastatin (ZOCOR) tablet
  - [Age Greater than or Equal to 70]
  - Oral, EVERY NIGHT AT BEDTIME, POST-OP FLOOR
- Rosuvastatin (CRESTOR) tablet
  - [Age Less than 70]
  - Oral, EVERY NIGHT AT BEDTIME, POST-OP FLOOR
- Hepatic Function Panel - If Not Previously on a Statin
  - Oral, ONCE

**Antiplatelet (home dose if patient is on antiplatelet as outpatient)**

- Aspirin tablet
  - [81mg]
  - Oral, ONCE, Starting 3/7/15, PRE-OP AREA
- Aspirin-EC (ECOTRIN) enteric-coated tablet
  - [325mg]
  - Oral, ONCE, Starting 3/7/15, PRE-OP AREA

**Statin (home dose if on statin as outpatient)**

- Atorvastatin (LIPITOR) tablet
  - Oral, ONCE, Starting 3/7/15, PRE-OP AREA
- Simvastatin (ZOCOR) tablet
  - Oral, ONCE, Starting 3/7/15, PRE-OP AREA
- Rosuvastatin (CRESTOR) tablet
  - Oral, ONCE, Starting 3/7/15, PRE-OP AREA
DID YOU KNOW...

Recommendation for patients undergoing arterial intervention:

Based on published reports documenting the improved overall survival in cardiovascular patients as well as the theoretical benefits of maximizing the patient’s antiplatelet medications dedicated to the prevention of arterial thrombosis, the SVS/PFO Arterial Quality Committee adopted the following recommendations:

- All medically eligible patients should be discharged on antiplatelet medications.
- Antiplatelet agents should be discharged on an antiplalet (P2Y12) inhibitor (e.g., ticagrelor).
- For purposes of these recommendations, “medically eligible” is defined as follows:
  - For antiplatelet agents, those patients not on oral anticoagulants or those without a documented intolerance to antiplatelet agents.
  - For statins, those patients not on dialysis or those without a documented intolerance to statins.

Cheryl Jackson’s Doctor of Nursing Practice (System’s Leadership) project is to increase the percentage of eligible peripheral vascular patients discharged on antiplatelet and statin medications to be in alignment with the SVS recommendation by:

- Dissemination of SVS recommendation to the Vascular and Interventional Radiology Partners
- Revising Epic discharge orders as needed
- Data abstraction
- Biannual updates

The Arterial Quality Committee focused on these medications being prescribed at discharge because data indicate that this improves absolute 5-year survival by more than 20% in these patients. Further, while pretreatment medication is not always controllable, VQI members have complete control over medications prescribed at discharge. For this reason, and considering that few patients are actually intolerant to these medications, the AQC has set a goal of 95% adherence to this recommendation for VQI members.
## Outcome Analysis

<table>
<thead>
<tr>
<th>PDCA Cycle</th>
<th>Implementation/Outcomes</th>
<th>Analysis</th>
</tr>
</thead>
</table>
| Check      | • Perform daily checks for medication compliance prior to the PVI patient’s discharge.  
• Verify that 76% of eligible PVI patients are discharged on an antiplatelet and statin medication at six months after project implementation (June, 2015).  
• Verify that 95% of eligible PVI patients are discharged on an antiplatelet and statin medication at one year after project implementation (January, 2016).  
• Data will be displayed in table format including aggregate data of all statin and antiplatelet medication prescribed, then separated by antiplatelet only, statin only, and neither. | • Change in the process  
• Completed. Reports verified that goal was met.  
• January 2016  
• Completed |
Outcome Analysis

- Validity

Well, we’re both fruit.

- Interventional Radiologists

SVS | PSO
PATIENT SAFETY ORGANIZATION
### Discharge Medications – After Education and Training – Project Implementation

**January 1, 2015 – June 30, 2015 Procedures (as of September 2015)**

Excludes missing, not treated for medical reason, and non-compliant

<table>
<thead>
<tr>
<th>Procedure</th>
<th>% Antiplatelet &amp; Statin</th>
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<th>% Statin only</th>
<th>% Neither</th>
<th>Number of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEA</td>
<td>96%</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
<td>22</td>
</tr>
<tr>
<td>EVAR</td>
<td>33%</td>
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<td>75%</td>
<td>25%</td>
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<td>0%</td>
<td>36</td>
</tr>
<tr>
<td>SUPRA</td>
<td>50%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td>2</td>
</tr>
<tr>
<td>Overall (Cadence Health)</td>
<td>77%</td>
<td>21%</td>
<td>0%</td>
<td>2%</td>
<td>66</td>
</tr>
<tr>
<td>Regional</td>
<td>75%</td>
<td>20%</td>
<td>3%</td>
<td>2%</td>
<td>1,661</td>
</tr>
<tr>
<td>VQI (National)</td>
<td>76%</td>
<td>19%</td>
<td>2%</td>
<td>3%</td>
<td>25,585</td>
</tr>
</tbody>
</table>

(M2S, 2015)
Sample PCP Letter Template

Physician Letter for Risk Modification

Date: @TD@
RE: @NAME@
UCM MRN: @MRN@
DOB: @DOB@

Dear Dr. @PCP@,

We had the pleasure of seeing @NAME@ in our office recently in consultation. @CAPHE@ has a history of Peripheral Vascular Disease (PVD). As you know, PVD is linked to other adverse cardiovascular events, and there are a number of risk factor modification measures that have been demonstrated by a growing body of literature to improve the long-term outcomes of these patients.

Our group is an active participant in The Society for Vascular Surgery’s Vascular Quality Initiative (SVS VQI), which actively promotes risk factor modification measures including such things as: exercise regimens, smoking cessation, statin therapy, anti-platelet therapy, and control of hypertension in patients undergoing vascular procedures.1-3

In preparation for a vascular intervention, we may have started new medications on our mutual patient, and we wanted to make sure that you are aware. If @NAME@ has been started on a new medication, and you have no objections, please make arrangements for the appropriate clinical follow-up, which we would like to defer to you as the primary physician.

New medications started:
(VAS VQI MEDS STARTED)

(Note: Is there a SmartLink for new meds started in clinic?)

Thank you very much for your consideration and continued care of our shared patient. Please do not hesitate to contact our office at (XXX) XXX-XXXX or via EpicConnect if you have any questions.

Sincerely,

@ME@

(VAS VQI MEDS STARTED) Type: Multi Beta-blocker Statin ACE Inhibitor/ARB Anti-platelet therapy


(Steppacher, 2014)
## Outcome Analysis

### Discharge Medications – After Email Communications (Re-education)

February 1, 2015 – July 31, 2015 Procedures (as of September 2015)

Excludes missing, not treated for medical reason, and non-compliant

<table>
<thead>
<tr>
<th>Procedure</th>
<th>% Antiplatelet &amp; Statin</th>
<th>% Antiplatelet only</th>
<th>% Statin only</th>
<th>% Neither</th>
<th>Number of procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEA</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>19</td>
</tr>
<tr>
<td>EVAR</td>
<td>50%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td>2</td>
</tr>
<tr>
<td>INFRA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>OAAA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>PVI</td>
<td>82%</td>
<td>18%</td>
<td>0%</td>
<td>0%</td>
<td>28</td>
</tr>
<tr>
<td>SUPRA</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>1</td>
</tr>
<tr>
<td>Overall (Cadence Health) Regional</td>
<td>88%</td>
<td>10%</td>
<td>0%</td>
<td>2%</td>
<td>50</td>
</tr>
<tr>
<td>VQI (National)</td>
<td>76%</td>
<td>20%</td>
<td>2%</td>
<td>3%</td>
<td>21,139</td>
</tr>
</tbody>
</table>

(M2S, 2015)
### Recommendations/Implications

<table>
<thead>
<tr>
<th>PDCA Cycle</th>
<th>Implementation/Outcomes</th>
<th>Analysis</th>
</tr>
</thead>
</table>
| Act        | • If the project was unsuccessful, go through the cycle again with a different plan. If successful, incorporate changes into the day-to-day practice of PVI providers.  
• Success = ≥ 76% overall prescribed  
• Benchmark against other hospitals within the region and nationally who participate in the SVS VQI. | • Project was successful for the first six months. The goal of 76% was surpassed. Continue with current processes.  
• Antiplatelets and statins are in the PVI discharge order sets.  
• New vascular providers will use the established order sets and will be educated to this evidence based, best practice. |
Recommendations/Implications

- **Sustainability**
  - System level changes were implemented
    - The antiplatelet and statin medications are imbedded in the discharge order sets
    - Electronic Medical Record
    - Process easily transferable

- **Implication**
  - Correlate Go With the Flow project to readmission rates for the PVI patient population
Lessons Learned

- Identify all stakeholders
- Validity
- Be patient
- Be vigilant
- Be realistic
Dissemination of Findings

- Organization (System)
  - Stakeholders
  - Direct care givers
  - Upper management

- Publications
  - Association of peri-Operative Registered Nurses
  - Journal of Vascular Nursing
The first step in decreasing mortality rate and increasing graft patency at one year and five years in the PVI patient is to prescribe antiplatelet and statin therapy at discharge.
# QI Project Charter – Template

## Project Overview

### Problem Statement:

### Goal:

### Scope:

### Deliverable(s):

### Resources Required:

## Key Metrics

### Outcome Metrics:

<table>
<thead>
<tr>
<th>Milestone / Description:</th>
<th>Date (mm/yy):</th>
</tr>
</thead>
</table>

### Process Metrics:

## Milestones

## Team Members

### Exec Sponsor:

### Sponsor:

### Project Leader:

### Clinical Sponsor:

### Process Owner:

### Team Members:
**Problem Statement: Discharge Medication Example from Hospital A**
Only 61% of eligible vascular procedure patients at Hospital X are discharged on antiplatelets and statins. Increasing the prescribing rate of antiplatelet and statin therapy for vascular procedure patients at discharge increases graft patency and increases survival at one year and five years post procedure.

**Problem Statement**
What is wrong with our current process? Why do we care? Create a statement that is specific, measurable and relevant. Include data or use placeholders until you get the data.

**Goal: Example**
- Twenty-five percent increase in prescribing rates at six months postproject implementation. Verify that 76% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at six months after project implementation (June, 2015).
- Another 25% increase at one year post implementation. Verify that 95% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at one year after project implementation (January, 2016).

**Goal: What do we want to achieve and when do we want to achieve it?**
Problem Statement: Discharge Medication Example from Hospital A

Only 61% of eligible vascular procedure patients at Hospital X are discharged on antiplatelets and statins. Increasing the prescribing rate of antiplatelet and statin therapy for vascular procedure patients at discharge increases graft patency and increases survival at one year and five years post procedure.

Problem Statement

What is wrong with our current process? Why do we care? Create a statement that is specific, measurable and relevant. Include data or use placeholders until you get the data.

Goal: Example

- Twenty-five percent increase in prescribing rates at six months postproject implementation. Verify that 76% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at six months after project implementation (June, 2015).
- Another 25% increase at one year post implementation. Verify that 95% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at one year after project implementation (January, 2016).

Goal: What do we want to achieve and when do we want to achieve it?
### QI Project Charter

#### Key Metrics

<table>
<thead>
<tr>
<th>Outcome Metrics: Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased one and five year survival rates for vascular procedure patients that were discharged on antiplatelet and statin medications.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Metrics: Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verify that 76% of eligible vascular procedure patients were discharged on an antiplatelet and statin medication at six months after project implementation using VQI and/or EMR data.</td>
</tr>
<tr>
<td>Verify that 95% of eligible PVI patients were discharged on an antiplatelet and statin medication at one year after project implementation using VQI registry data and reports using VQI and/or EMR data.</td>
</tr>
</tbody>
</table>

#### Milestones

<table>
<thead>
<tr>
<th>Milestone / Description Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm baseline information using VQI data</td>
</tr>
<tr>
<td>Notify and educate all vascular procedure providers on the new initiative.</td>
</tr>
<tr>
<td>Contact IT for guidance in adding templates</td>
</tr>
<tr>
<td>Meet with care coordinators to identify programs to aid patients in obtaining medications, if needed.</td>
</tr>
<tr>
<td>Revise 100% of provider discharge order sets to reflect AP and statin medication options.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>“How will you know the project is successful?”</td>
</tr>
<tr>
<td>e.g., LOS, surgical site infections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Metrics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>“How will you ensure the interventions you implement are being completed?”</td>
</tr>
<tr>
<td>e.g., % pts on progressive care unit, % discharged patients on statins and anti-platelets Rx</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Milestone / Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete ‘QI Project Overview’</td>
</tr>
<tr>
<td>Confirm baseline outcome metric</td>
</tr>
<tr>
<td>Identify root cause / hypothesis</td>
</tr>
<tr>
<td>Identify potential improvement(s)</td>
</tr>
<tr>
<td>Implement improvement(s)</td>
</tr>
<tr>
<td>Evaluate progress &amp; confirm action plan</td>
</tr>
</tbody>
</table>
References


QUESTIONS??????