Improving Care Delivery: Assessing and Addressing the Risk of Cardiovascular Disease for Patients with Diabetes

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Goals for Today’s Session

• Upon completion of this activity, participants should be able to return to their practices with ideas to improve adherence to current guidelines for reducing cardiovascular risks for patients with diabetes.
Conflicts of Interest

• We have no actual or potential conflict of interests in relation to this presentation

• We will not discuss off-label, experimental or investigational use of drugs or devices
Outline

• Intro to practice
• Together 2 Goal ® description
• Impact of Diabetes
• Background of problem
• Summary of evidence for reducing CV risk for patients with diabetes
• Improvement interventions
• Results to date
INTRODUCTION OF PRACTICE
Premier Medical Associates

- Formed 1993
- 100 providers
- 23 specialties
- 1:1 ratio PCP to specialists
- Part of Highmark Health
- Member of Allegheny Health Network

Specialties

- Allergy & Immunology
- Audiology
- Behavioral Health
- Cardiology
- Electrophysiology
- Dermatology
- Ear, Nose & Throat
- Family Medicine
- Gastroenterology
- General & Breast Surgery
- Hospitalists
- Infectious Disease
- Internal Medicine
- Laboratory Services
- Neurology
- Ophthalmology
- Optometry
- Pain Management
- Pediatrics
- Pulmonology
- Radiology
- Rheumatology
- Sleep Medicine
Premier Medical Associates

• 2016 377,000 outpatient visits
• All adult and pediatric offices have level 3 PCMH certification
• Allscripts Touchworks
• AMGA Analytics For Improvement member
Ideals of T2G

• To improve the care for 1 million patients with Type 2 Diabetes by 2019
• Sharing of best practices among the 150 participant groups
T2G Measures

- IM, FP, cardiology, endocrine, renal
- Type 2 Diabetes age 18-75
- % Hgba1c < 8
- % BP <140/90
- % medical attention to nephropathy
- % on statins
- D4 = percent meeting all 4 measures
11 Evidence Based Planks

http://www.together2goal.org/Improve/planks_improve.html
IMPACT OF DIABETES
Diabetes Stats-2014

• 29.1 million Americans have DM (9.3% of population)
• 8.1 million of them are not yet diagnosed
• Risk of death from CV disease ↑ 1.7x
• Risk of MI ↑ 1.8x
• Risk of stroke ↑ 1.5x

Diabetes and CV Disease

• Atherosclerosis is more common for patients with diabetes
• Their atherosclerotic burden is higher
• Their mortality is higher following a cardiovascular event
• 68% of those >65 yo with diabetes die from heart disease
• 16% of same population die from strokes

http://www.heart.org/HEARTORG/Conditions/More/Diabetes/WhyDiabetesMatters/Cardiovascular-Disease-Diabetes_UCM_313865_Article.jsp#.WJdVwNIrLcs
Costs Related to Diabetes

THE STAGGERING COSTS OF DIABETES IN AMERICA

Nearly
30 million Americans have diabetes.

30 million $1 in $3 Medicare dollars is spent caring for people with diabetes.

$322 billion Diabetes and prediabetes cost America per year.

86 million Americans have prediabetes.

$1 in $5 Health care dollars is spent caring for people with diabetes.

Learn how to fight this costly disease at diabetes.org/congress

BACKGROUND OF PROBLEM
## Baseline T2G Data-12/31/15

<table>
<thead>
<tr>
<th></th>
<th>PMA Baseline</th>
<th>Campaign baseline mean</th>
<th>Comparative standings</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBa1c control</td>
<td>70.8%</td>
<td>66.1%</td>
<td>20th</td>
</tr>
<tr>
<td>BP control</td>
<td>78.8%</td>
<td>67.2%</td>
<td>17th</td>
</tr>
<tr>
<td>Medical attention to Nephropathy</td>
<td>88.6%</td>
<td>84%</td>
<td>26th</td>
</tr>
<tr>
<td>Lipid management</td>
<td>68.9%</td>
<td>65.7%</td>
<td>35th</td>
</tr>
<tr>
<td>D4 bundle</td>
<td>40.7%</td>
<td>30.2%</td>
<td>9th</td>
</tr>
</tbody>
</table>
### Statin Therapy for Patients With Diabetes

#### SUMMARY OF CHANGES TO HEDIS 2016
- First-year measure.

#### Description
The percentage of members 40–75 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who were dispensed a statin of any dosage intensity that they remained on for at least 80 percent of the treatment period. Two rates are reported:

1. **Received Statin Therapy**: The percentage of members who were identified as having diabetes and were dispensed a statin of any dosage intensity during the measurement year.
2. **Statin Adherence 80 Percent**: The percentage of members who were identified as having diabetes and were dispensed a statin of any dosage intensity that they remained on for at least 80% of the treatment period.

#### Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPSD</td>
<td>Index prescription start date. The earliest prescription dispensing date for any statin medication of at least moderate intensity during the measurement year.</td>
</tr>
<tr>
<td>Treatment period</td>
<td>The period of time beginning on the IPSD through the last day of the measurement year.</td>
</tr>
<tr>
<td>PDC</td>
<td>Proportion of days covered. The number of days the member is covered by at least one statin medication prescription of appropriate intensity, divided by the number of days in the treatment period.</td>
</tr>
</tbody>
</table>

#### Calculating number of days covered for multiple prescriptions
If multiple prescriptions for different medications are dispensed on the same day, calculate number of days covered by a statin medication (for the numerator) using the prescriptions with the longest days supply. For multiple different prescriptions dispensed on different days with overlapping days supply, count each day within the treatment period only once toward the numerator.

If multiple prescriptions for the same medication are dispensed on the same day, each with a 30-day supply, sum the days supply, and use the total to calculate the number of days covered by a statin medication (for the numerator). For example, three prescriptions for the same medication are dispensed on the same day, each with a 30-day supply, sum the days supply for a total of 90 days covered by a statin. Subtract any days supply that extends beyond December 31 of the measurement year.

Use the drug ID provided by the NDC to determine if the prescriptions are the same or different.

#### Eligible Population: Rate 1—Received Statin Therapy

| Product Line | Commercial, Medicaid, Medicare (report each product line separately). |

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- One local insurers P4V program wants an 83% prescribing rate for maximum reimbursement.
### MA STARs Issue-Statin Prescribing Rate

<table>
<thead>
<tr>
<th></th>
<th>April 2016</th>
</tr>
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<tbody>
<tr>
<td>IM</td>
<td>55.6%</td>
</tr>
<tr>
<td>FP</td>
<td>53.9%</td>
</tr>
</tbody>
</table>
SUMMARY OF EVIDENCE FOR REDUCING CV RISK FOR DIABETES
4S Study (1997)

• Subgroup analysis of the Scandinavian Simvastatin Survival Study

• Demonstrated secondary prevention of CV events in patients with diabetes with known coronary artery disease with simvastatin 20-40mg

Heart Protection Study (2002)

- MRC/BHF Heart Protection Study
- Simvastatin 40 mg daily given to 20,536 high risk individuals
- Substantial benefit demonstrated for high risk individuals without pre-existing CVD, irrespective of what lipid levels were pre treatment
- Benefits that occurred were in addition to those from the use of aspirin, ACE/ARBs or β-blockers

CARDS (2004)

• Collaborative Atorvastatin Diabetes Study
• UK and Ireland
• Proved primary prevention of CV events with 10 mg atorvastatin
• Study terminated prematurely due to demonstration of benefit

CTT Collaborators (2008)

• Meta analysis of 14 randomized trials of statin therapy
• Subgroup analysis of 18,686 patients with diabetes
• Proved equivalent benefit for statins for both males and females with diabetes
• “...present guidelines might need to be revised to ensure that a statin regimen which is sufficient to produce a substantial reduction in LDL cholesterol is considered for all people with diabetes, irrespective of whether vascular disease has developed and irrespective of lipid profile”

In all patients ≥40 years of age with diabetes, moderate-intensity statin treatment should be considered in addition to lifestyle therapy.

# USPSTF Statin Use Statement

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
<th>Risk Assessment</th>
<th>Preventive Medication</th>
<th>Considerations for Implementation</th>
<th>Balance of Benefits and Harms</th>
<th>Other Relevant USPSTF Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults aged 40–75 y with no history of CVD, ≥1 CVD risk factors, and calculated 10-y CVD event risk ≥10%</td>
<td>Initiate use of low- to moderate-dose statins. Grade: B</td>
<td>Risk factors for CVD include dyslipidemia (LDL-C &gt;130 mg/dL or HDL-C &lt;40 mg/dL), diabetes, hypertension, and smoking. The USPSTF recommends using the ACC/AHA Pooled Cohort Equations to calculate 10-year risk of CVD events. The calculator derived from these equations takes into account age, sex, race, cholesterol levels, systolic blood pressure level, antihypertension treatment, presence of diabetes, and smoking status as risk factors.</td>
<td>Statins are a class of lipid-lowering medications that function by inhibiting the enzyme 3-hydroxy-3-methyl-glutaryl coenzyme A reductase. Statins reduce levels of total cholesterol and LDL-C and, to a lesser extent, triglycerides. The most directly applicable body of evidence for patients without a history of CVD demonstrates benefits with use of low- to moderate-dose statins.</td>
<td>The likelihood that a patient will benefit from statin use depends on his or her absolute baseline risk of having a future CVD event, a risk estimation that is imprecise based on the currently available risk estimation tools. Thus, clinicians should discuss with patients the potential risk of having a CVD event and the expected benefits and harms of statin use.</td>
<td>The USPSTF concludes with moderate certainty that initiating use of low- to moderate-dose statins in this population has at least a moderate net benefit.</td>
<td>The USPSTF has made other recommendations relevant to the prevention of CVD in adults, including aspirin use for the prevention of CVD, screening for coronary heart disease using electrocardiography, use of nontraditional risk factors in CVD risk assessment, screening for high blood pressure, screening for abnormal blood glucose levels and type 2 diabetes mellitus, interventions for tobacco smoking cessation, behavioral counseling to promote a healthful diet and physical activity for CVD prevention in adults, and screening for and management of obesity in adults. These recommendations are available on the USPSTF website (<a href="https://www.uspreventiveservicestaskforce.org">https://www.uspreventiveservicestaskforce.org</a>).</td>
</tr>
<tr>
<td>Adults aged 40–75 y with no history of CVD, ≥1 CVD risk factors, and calculated 10-y CVD event risk of 7.5%–10%</td>
<td>Discuss with patient and selectively offer use of low- to moderate-dose statins. Grade: C</td>
<td></td>
<td></td>
<td></td>
<td>The USPSTF concludes with moderate certainty that initiating use of low- to moderate-dose statins in this population has a small net benefit.</td>
<td></td>
</tr>
<tr>
<td>Adults 76 y and older with no history of CVD</td>
<td>No recommendation. Grade: I (insufficient evidence)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### USPSTF Aspirin Use Statement

#### Recommendation Summary

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
<th>Grade (What’s This?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults aged 50 to 59 years with a $\geq 10%$ 10-year CVD risk</td>
<td>The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.</td>
<td>B</td>
</tr>
<tr>
<td>Adults aged 60 to 69 years with a $\geq 10%$ 10-year CVD risk</td>
<td>The decision to initiate low-dose aspirin use for the primary prevention of CVD and CRC in adults aged 60 to 69 years who have a 10% or greater 10-year CVD risk should be an individual one. Persons who are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years are more likely to benefit. Persons who place a higher value on the potential benefits than the potential harms may choose to initiate low-dose aspirin.</td>
<td>C</td>
</tr>
<tr>
<td>Adults younger than 50 years</td>
<td>The current evidence is insufficient to assess the balance of benefits and harms of initiating aspirin use for the primary prevention of CVD and CRC in adults younger than 50 years.</td>
<td>I</td>
</tr>
<tr>
<td>Adults aged 70 years or older</td>
<td>The current evidence is insufficient to assess the balance of benefits and harms of initiating aspirin use for the primary prevention of CVD and CRC in adults aged 70 years or older.</td>
<td>I</td>
</tr>
</tbody>
</table>

Statin Side Effects

- USPSTF found risk of harms of low to moderate dose statins for 40-75 yo are small
- Not associated with cancers
- Not associated with severe liver enzyme elevations
- Not associated with severe muscle-related harms
- Placebo controlled trials do not support the conclusion that statin use causes myalgias

Controversy-Do Statins Increase DM Risk?

- 2010 Lancet report 9% increased risk for developing diabetes with statin use from a meta analysis of 13 statin trials
- 3/1/2012 FDA added warning to labels of statins about diabetes risk
- Caused a stir in the lay press

JUPITER Trial 2012

- More likely in higher potency statins
- Occurs in patients with baseline obesity, impaired fasting glucose, or some form of metabolic syndrome
- The cardiovascular event and mortality benefits of statin therapy for patients with diabetes outweighs the diabetes hazard

Controversy - Do Statins Increase Dementia Risk?

• FDA warned in 2012 that statins might be associated with memory loss or confusion
• Systematic review of RCTs that assessed cognitive function with statin use
• Neutral effects found in review

Clinical Inertia

• 17 years for clinical research findings to reach clinical practice
• Hope programs such as T2G will
  – Gather insights as to issues interfering with uptake
  – Align goals
  – Use real time data to stimulate change

Morris, Z. S., Wooding, S., & Grant, J. (2011). The answer is 17 years, what is the question: understanding time lags in translational research. *Journal of the Royal Society of Medicine, 104*(12), 510-520.
IMPROVEMENT INTERVENTIONS
“Care teams systematically evaluate each patient’s risk for cardiovascular disease, using a trusted risk assessment tool. For patients at risk, treatment plans include primary and secondary prevention in accordance with American Diabetes Association (ADA) recommendations for lifestyle, lipid-lowering and antihypertensive medications, and aspirin.”
Congratulations

2014 Hypertension Control Champions

Full list of Champions at millionhearts.hhs.gov
<table>
<thead>
<tr>
<th>REPORTING PERIOD</th>
<th>TOTAL PTS</th>
<th>NUM HTN PTS DENOMINATOR</th>
<th>HTN PTS IN CONTROL DENOMINATOR</th>
<th>CONTROL RATE</th>
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<tr>
<td>2015Q04</td>
<td>45,656</td>
<td>16,796</td>
<td>13,438</td>
<td>80%</td>
</tr>
<tr>
<td>2015Q03</td>
<td>43,568</td>
<td>16,313</td>
<td>12,771</td>
<td>78%</td>
</tr>
<tr>
<td>2015Q02</td>
<td>44,142</td>
<td>16,302</td>
<td>12,648</td>
<td>78%</td>
</tr>
<tr>
<td>2015Q01</td>
<td>45,019</td>
<td>16,379</td>
<td>12,170</td>
<td>74%</td>
</tr>
<tr>
<td>2014Q04</td>
<td>44,369</td>
<td>16,172</td>
<td>11,911</td>
<td>74%</td>
</tr>
<tr>
<td>2014Q03</td>
<td>45,399</td>
<td>15,775</td>
<td>11,440</td>
<td>73%</td>
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<tr>
<td>2014Q02</td>
<td>45,085</td>
<td>15,230</td>
<td>10,804</td>
<td>71%</td>
</tr>
<tr>
<td>2014Q01</td>
<td>45,078</td>
<td>15,121</td>
<td>10,254</td>
<td>68%</td>
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<tr>
<td>2013Q04</td>
<td>44,771</td>
<td>15,012</td>
<td>9,769</td>
<td>65%</td>
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<tr>
<td>2013Q03</td>
<td>44,303</td>
<td>14,636</td>
<td>9,465</td>
<td>65%</td>
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<tr>
<td>2013Q02</td>
<td>43,707</td>
<td>14,111</td>
<td>9,024</td>
<td>64%</td>
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<tr>
<td>2013Q01</td>
<td>43,366</td>
<td>13,494</td>
<td>8,432</td>
<td>62%</td>
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</table>
Other T2G Tips re: Assessing and Addressing CVD Risk

• Inclusion of point of care alerts
• Education of clinicians and care team member about the importance of CVD risk assessment for patients with type 2 DM
• Use the ACC/AHA Risk Calculator for patients with type 2 DM over age 40
• Delegate use of the calculator to other team members
• Incorporate automated tools in the EHR to calculate risks
• Risk scores should be in a discrete data field in the EHR
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Inclusion of Point of Care Alerts

- Allscripts EHR
- CQS point of care registry
- Turned on statin alert late in 2015
Other T2G Tips re: Assessing and Addressing CVD Risk

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• Risk scores should be in a discrete data field in the EHR
Using Risk Calculator and Educating Clinicians and Care Team Members

<table>
<thead>
<tr>
<th>Date</th>
<th>LDL</th>
<th>%</th>
<th>Date</th>
<th>LDL</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>08/31/1946</td>
<td>103</td>
<td>50.7</td>
<td>06/07/1943</td>
<td>87</td>
<td>28.7</td>
</tr>
<tr>
<td>04/28/1943</td>
<td>103</td>
<td>75.6</td>
<td>10/03/1944</td>
<td>138</td>
<td>45.5</td>
</tr>
<tr>
<td>11/05/1946</td>
<td>114</td>
<td>52.8</td>
<td>06/14/1950</td>
<td>32</td>
<td>40.7</td>
</tr>
<tr>
<td>10/25/1947</td>
<td>126</td>
<td>24.3</td>
<td>10/17/1941</td>
<td>78</td>
<td>37.9</td>
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<tr>
<td>06/13/1954</td>
<td>148</td>
<td>24.8</td>
<td>05/25/1946</td>
<td>84</td>
<td>24.3</td>
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<tr>
<td>06/12/1944</td>
<td>158</td>
<td>31.5</td>
<td>08/17/1944</td>
<td>84</td>
<td>25.6</td>
</tr>
<tr>
<td>10/24/1946</td>
<td>122</td>
<td>7.2</td>
<td>06/10/1949</td>
<td>95</td>
<td>30.5</td>
</tr>
<tr>
<td>11/08/1950</td>
<td>50</td>
<td>15.5</td>
<td>10/18/1944</td>
<td>147</td>
<td>29.6</td>
</tr>
<tr>
<td>06/22/1948</td>
<td>99</td>
<td>23.8</td>
<td>04/25/1941</td>
<td>86</td>
<td>41.2</td>
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<td>02/06/1941</td>
<td>103</td>
<td>47.5</td>
<td>05/19/1944</td>
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<td>53</td>
</tr>
<tr>
<td>10/01/1947</td>
<td>53</td>
<td>27.1</td>
<td>01/10/1943</td>
<td>108</td>
<td>33.2</td>
</tr>
</tbody>
</table>
Engaging Clinicians and Team Members - Clinical Pharmacists
Other T2G Tips re: Assessing and Addressing CVD Risk

• Inclusion of point of care alerts
• Education of clinicians and care team member about the importance of CVD risk assessment for patients with type 2 DM
• Use the ACC/AHA Risk Calculator for patients with type 2 DM over age 40
• Delegate use of the calculator to other team members
• Incorporate automated tools in the EHR to calculate risks
• Risk scores should be in a discrete data field in the EHR
Delegating use of Calculator--Nurse Navigators and Morning Huddles
Other T2G Tips re: Assessing and Addressing CVD Risk

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Incorporating Automated Tools
Incorporating Automated Tools

Allscripts - Windows Internet Explorer

Provider | Hide YTB
---|---
Chart | Daily | Clinical Desktop | Note | Task List | Workst | Documents | Encounter Form | Diagnosis | Visit Charges | Procedure Charges | HL

Chart
Select Patient

Search/Filter

- ASCVD Risk
- CHA2DS2-VASc for Risk of Stroke
- D.R.E Score
- HAS:BLED

Please select a calculator.
Incorporating Automated Tools
Incorporating Automated Tools
Other T2G Tips re: Assessing and Addressing CVD Risk

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- Incorporate automated tools in the EHR to calculate risks
- Risk scores should be in a discrete data field in the EHR
Incorporating Automated Tools and Capturing as Discrete Data
Demo of Calculator
RESULTS
Overall Prescribing Rate

Statin Prescribing Rates for DM Patients

Prescribing Rate

78
76
74
72
70
68
66
64


Months
## MA STARS Bonus

<table>
<thead>
<tr>
<th></th>
<th>April 2016</th>
<th>December 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>55.6%</td>
<td>84.6%</td>
</tr>
<tr>
<td>FP</td>
<td>53.9%</td>
<td>84.2%</td>
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</table>
## Together 2 Goal Improvements

<table>
<thead>
<tr>
<th>Measure</th>
<th>As of 12/31/15</th>
<th>As of 6/30/16</th>
<th>As of 9/30/16</th>
<th>Place in campaign</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGBa1c control rate</td>
<td>78.8%</td>
<td>71.7%</td>
<td>72.9%</td>
<td>15th</td>
</tr>
<tr>
<td>BP control rate</td>
<td>70.6%</td>
<td>80.6%</td>
<td>81.7%</td>
<td>13th</td>
</tr>
<tr>
<td>Medical attention to kidney disease</td>
<td>88.6%</td>
<td>89.2%</td>
<td>89.8%</td>
<td>24th</td>
</tr>
<tr>
<td>Statin prescribing rates</td>
<td>68.9%</td>
<td>72.9%</td>
<td>75.9%</td>
<td>13th</td>
</tr>
<tr>
<td>D4 Control bundle</td>
<td>40.7%</td>
<td>43.7%</td>
<td>47%</td>
<td>8th</td>
</tr>
</tbody>
</table>
Next steps

• Improve prescribing of appropriate intensity of statin
• ? Changes to standard prescribing based on pre-existent CVD
EMPА-REG OUTCOME (2015)

• Type 2 DM patients at high risk for CVD
• Empagliflozin 10mg or 25mg or placebo
• 7,020 patients observed for 3.1 years
• Found reduction of relative risk of:
  – 38% for death from CVD
  – 35% for hospitalization for HF
  – 32% for death from any cause

Contact Info

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• 412-457-0600