Summary of Prepared Testimony

Raymond V. Gilmartin,
President, Chairman and Chief Executive Officer,
Merck and Co., Inc.

before the
United States Senate Committee on Finance

November 18, 2004

- The Food and Drug Administration approved Vioxx only after Merck had extensively studied the medicine.

- Merck continued to extensively study Vioxx after it was approved for marketing to gain more clinical information about the medicine.

- Merck has promptly disclosed the results of numerous Merck-sponsored studies to the FDA, physicians, the scientific community and the media and participated in a balanced, scientific discussion of its risks and benefits.

- Until data from the APPROVe clinical trial became available in September, the combined data from randomized controlled clinical trials showed no difference in confirmed cardiovascular event rates between Vioxx and placebo and Vioxx and NSAIDs other than naproxen.

- While epidemiological studies have an important role to play, given their inherent limitations, when both epidemiological studies and randomized controlled clinical studies are available, the randomized controlled clinical trials are the most persuasive evidence.

- As soon as the data from the APPROVe study became available, Merck acted quickly to withdraw the medicine from the market.

Prepared Testimony

Raymond V. Gilmartin,
President, Chairman and Chief Executive Officer,
Merck and Co., Inc.

before the
United States Senate Committee on Finance

November 18, 2004

Mr. Chairman, Senator Baucus, members of the Committee, my name is Ray Gilmartin and I am chairman, president and chief executive officer of Merck & Co. On behalf of the 60,000 men and women of Merck, I am pleased to have the chance to come before you to tell you more about who we are and what we stand for.

On the afternoon of September 24th, Dr. Peter Kim, President of Merck Research Laboratories, called to alert me to information he had received just that morning. The information was from an independent, external board of physicians and scientists monitoring the safety of patients in a major trial on Vioxx. He told me that in the trial we sponsored – known as APPROVe –there was an increased risk of confirmed cardiovascular events beginning after 18 months of continuous daily treatment in patients taking Vioxx compared to those taking placebo.

That call triggered a series of events that led, within four days of that call, to Merck contacting the FDA to tell them that we were going to withdraw Vioxx from the market.

The decision that we made to voluntarily withdraw Vioxx was difficult in several ways. Vioxx was the only nonsteroidal anti-inflammatory medicine or NSAID that was demonstrated to provide pain relief similar to high-dose NSAIDs and proven to reduce the risk of developing debilitating gastrointestinal side effects compared to those on NSAIDs. This was an important benefit for many who suffered from the pain of arthritis and other conditions. An estimated 15,000 Americans die each year from gastrointestinal bleeding associated with NSAID use.

Many patients counted on Vioxx to help them when no other medicine would. We believed that it would have been possible for Merck to continue to market Vioxx with labeling that would incorporate the new data.

On another level, however, the decision we made to withdraw Vioxx was easy. Given the availability of alternative therapies and the questions raised by the data, withdrawing Vioxx was consistent with an ethic that has driven Merck actions and decisions for more than one hundred years. Merck puts patients first.

I am pleased today to assist the Committee in better understanding this decision and the events that led to it. I would like to make three points clear at the outset.

First, the Food and Drug Administration approved Vioxx only after Merck had extensively studied the medicine and found it to be safe and effective. Merck continued to extensively study Vioxx after it was approved for marketing to gain more clinical information about the medicine.

Second, over the past six years, since the time Merck submitted a New Drug Application for Vioxx to the FDA, we have promptly disclosed the results of numerous Merck-sponsored studies to the FDA, physicians, the scientific community and the media and participated in a balanced, scientific discussion of its risks and benefits.

Third, until APPROVe, the combined data from randomized controlled clinical trials showed no difference in confirmed cardiovascular event rates between Vioxx and placebo and Vioxx and NSAIDs other than naproxen. When data from the APPROVe study became available, Merck acted quickly to withdraw the medicine from the market.

In my few minutes, I welcome the chance to review each of these points and welcome your questions.

Merck's Actions in Response to Questions on Vioxx Safety

Mr. Chairman, as you know, no medicine is absolutely safe; all medicines have side effects. To determine both its risks and benefits, Merck extensively studied Vioxx before seeking regulatory approval to market it and we continued to conduct studies after the FDA approved Vioxx.

I have provided, with this statement, a timeline of our Vioxx research and development process to aid in the Committee's understanding of the events.

Our original New Drug Application to the FDA for Vioxx included data on more than 5,000 patients with osteoarthritis. The clinical trials compared the effects of Vioxx to other non-naproxen NSAIDs and to placebo, and included data on patients who had been on Vioxx for longer than one year. In these studies, there was no difference in the rate of cardiovascular events between Vioxx and placebo, or between Vioxx and non-naproxen NSAIDs.

Prior to the FDA's approval of Vioxx, we had initiated a study known as VIGOR. That study was designed to compare the gastrointestinal safety profile of Vioxx at twice its maximum recommended chronic dose with naproxen.

We chose naproxen for this study instead of placebo because we intended to test Vioxx in patients with rheumatoid arthritis. These are among the patients who we hoped would benefit from taking Vioxx. It would not have been ethical or practical to subject people suffering from arthritis pain to a placebo for a long time.

The preliminary results from the VIGOR trial became available to Merck in March, 2000. In the trial, there was a higher cardiovascular event rate in patients taking Vioxx than naproxen. These data were of concern to us.

It is important to note that, because the VIGOR study compared two drugs – Vioxx and naproxen – and not Vioxx and placebo, it was not possible to make a determination, based on the VIGOR study alone, whether naproxen was having a beneficial cardiovascular effect, or whether Vioxx was having a detrimental cardiovascular effect.

To help us evaluate the meaning of the VIGOR study, Merck took the step of looking into data from two trials we had already initiated in which patients with memory impairment or Alzheimer's were given Vioxx or placebo. We found that there was no difference in cardiovascular event rates in these two trials.

These data, our earlier clinical data, and a pharmacological study that showed that naproxen had strong anti-platelet effects similar to aspirin, when it is taken regularly twice a day, as it was in VIGOR, led us to conclude that the best explanation for the difference in VIGOR was an effect of naproxen.

As Merck continued to monitor the safety of Vioxx, we recognized the value and interest in obtaining additional cardiovascular safety data on Vioxx and discussed how to obtain placebo-controlled data in the population of patients with pain in whom Vioxx was indicated. Among the issues we had to consider was the ethical difficulty in giving placebo, rather than a pain-relief medicine, to patients in pain over a longer period of time.

After deliberations with numerous outside advisers, Merck developed and discussed with the FDA a plan to prospectively analyze the cardiovascular event rates from three, large, placebo-controlled studies, two of which were already underway.

It was preliminary information from one of those long-term trials – the APPROVe study – that led to Merck's decision to withdraw Vioxx.

Merck's Disclosure of Safety-related Information on Vioxx

Merck has promptly disclosed the results of Merck-sponsored studies of Vioxx to the FDA, physicians, the scientific community and the media. By doing so, we fostered – both internally and externally – a robust scientific discussion of the risks and benefits of Vioxx.

In March 2000, when we received the results of the VIGOR study, we promptly issued a news release providing its conclusions and we submitted its results to the FDA. The cardiovascular results of VIGOR were widely reported and discussed at the time. Just two months later, we submitted the initial VIGOR results to the New England Journal of Medicine for publication and presented the data at a major scientific meeting.

We also worked diligently with the FDA to review the data and develop revised prescribing information. This revised prescribing information included the cardiovascular data from VIGOR and a cardiovascular precaution.

Since the time of our release of the VIGOR study data, there has been a healthy scientific discussion of the safety of Vioxx and other COX-2 inhibitors. This discussion has occurred within Merck's laboratories and at external scientific forums.

Merck supported that discussion. However, when researchers published articles or gave speeches that presented misleading or inaccurate information about Vioxx, Merck sought to set the record straight about a medicine that provided significant benefits to patients.

We are confident that a careful and complete examination of Merck's conduct shows that, at all times, we acted responsibly and in a manner consistent with Merck's commitment to patient safety and our rigorous adherence to scientific investigation, openness and integrity.

Merck Acted Based on Data from a Placebo-Controlled Clinical Study

In light of the history of our detailed examination of the cardiovascular safety of Vioxx, Dr. Kim's September 24th call to me was unexpected. Our clinical data – from our original application to the FDA seeking approval of Vioxx to that day – had shown no difference between Vioxx and placebo.

Mr. Chairman, Merck believed wholeheartedly in Vioxx. I believed wholeheartedly in Vioxx. In fact, my wife was a user of Vioxx until the day we withdrew it from the marketplace.

Much has been made of epidemiological studies conducted over the past few years about Vioxx.

Two points are worth noting about these studies.

First, because of the design limitations inherent in epidemiological studies, their results must be interpreted with caution. For example, years of epidemiological studies on hormone replacement therapy (HRT) appeared to indicate that HRT was heart and cancer protective. In fact, recent well-controlled clinical studies have proven the opposite.

Second, the epidemiological data were inconsistent. I have included with this statement a timeline of epidemiological studies involving Vioxx or other NSAIDs that illustrate this point.

While epidemiological studies have an important role to play, given their inherent limitations, when both epidemiological studies and randomized controlled clinical studies are available, the randomized controlled clinical trials are the most persuasive evidence.

Prior to APPROVe, there was no demonstrated increased risk of cardiovascular events for patients taking Vioxx compared to patients taking placebo or NSAIDs other than naproxen in randomized controlled clinical trials. And, we only found an increased risk of cardiovascular events because Merck continued to study Vioxx for such a long time period. In fact, Vioxx and aspirin are the only two NSAIDS for which there is significant, publicly available long-term safety data.

When Dr. Kim contacted me to describe the risk, Merck acted.

Conclusion

In conclusion, Mr. Chairman, throughout Merck's history, it has been our rigorous adherence to scientific investigation, openness and integrity that has enabled us to bring new medicines to people who need them.

I am proud that we followed that same rigorous scientific process at every step of the way with Vioxx. Mr. Chairman, I would be pleased to answer the questions that you or the Committee might have.

VIOXX TIMELINE
Key Dates for VIGOR and Long-term, Placebo-controlled Studies Implemented to Provide Cardiovascular Safety Data

1993	Studies published in which indobufen (Circulation, 1993, 87:162-164) and the non-selective NSAID flurbiprofen (European Heart Journal, 1993, 13, 951-957) are shown to reduce cardiovascular (cv) events.
1998	
April	Results of FitzGerald study first presented. Among the results of the study was the surprising discovery that COX-2 specific inhibitors reduced the urinary excretion of prostacyclin metabolite. Based on these results, it was, for the first time, hypothesized that COX-2 specific inhibitors may alter the balance between prostacyclin and thromboxane and thereby increase the risk of cv events.
	Trial of VIOXX versus placebo in the prevention of Alzheimer's in patients with Mild Cognitive Impairment (MCI) begins.
Nov	Vioxx New Drug Application (NDA) submitted to the U.S. Food & Drug Administration (FDA). The application included data on approximately 5,400 osteoarthritis patients who participated in 8 double-blind, placebo-controlled and active-comparator studies. In these studies, similar rates of investigator-reported thrombotic cardiovascular adverse events were seen with VIOXX, placebo, and comparator NSAIDs (ibuprofen, diclofenac, or nabumetone).
1999	
Jan	VIOXX Gastrointestinal Outcomes Research[1] (VIGOR) trial initiated.
Feb	First trial of VIOXX versus placebo for the treatment of Alzheimer's disease begins.
April	Public meeting of FDA Advisory Committee on VIOXX NDA.
May	VIOXX approved by the FDA.
Oct	Adenomatous Polyp Prevention On VIOXX[2] (APPROVe) trial protocol finalized.

2000

Feb	APPROVe trial enrollment begins.
March	Preliminary results from VIGOR become available to Merck.
March	News release on preliminary results of VIGOR issued by Merck.
March	Preliminary VIGOR results submitted to the FDA.
March	Merck unblinded to safety data from two ongoing Alzheimer's studies – one for prevention and one for treatment – that compare VIOXX to placebo. These data show no difference in cardiovascular event rates between VIOXX and placebo.
April	Second trial of VIOXX versus placebo for the treatment of Alzheimer's begins.
May	Preliminary VIGOR data submitted to the *New England Journal of Medicine* for publication.
May	VIGOR presented at Digestive Disease Week.
June	Final VIGOR data submitted to FDA in a Supplemental New Drug Application, which included draft prescribing information.
Nov	The GI and cardiovascular safety findings from VIGOR published in *The New England Journal of Medicine.*
	First VIOXX versus placebo trial in the treatment of Alzheimer's disease ends.
	In preparation for VIGOR Advisory Committee, second interim analysis of safety data from Alzheimer's prevention and treatment trials conducted, again showing no difference in cardiovascular event rates between VIOXX and placebo.

2001

Feb	Public meeting of FDA Advisory Committee on VIGOR.
May	Second trial of VIOXX versus placebo for treatment Alzheimer's disease stopped.
Oct	Pooled analysis of cardiovascular data from Phase II/III studies published in Circulation. Analysis demonstrated that VIOXX was not associated with excess cardiovascular thrombotic events compared with either placebo or non-naproxen NSAIDs.
Sept	Merck and Oxford University sign letter of intent to conduct the VIOXX in Colorectal Cancer Therapy: definition of Optimal Therapy^3 (VICTOR) trial.
Nov	APPROVe enrollment completed.

2002

April	U.S. Prescribing Information for VIOXX updated with VIGOR information and data from two placebo-controlled studies
April	First patient is enrolled in VICTOR trial.
June	Pooled analysis of placebo-controlled studies in patients with Alzheimer's and MCI presented at EULAR. The incidence of

serious cardiovascular adverse events in this population was similar on VIOXX and placebo.

2003

March	VIOXX in Prostate cancer (ViP) trial protocol finalized.
April	Trial of VIOXX versus placebo in MCI ends.
June	ViP trial enrollment begins.
	Updated pooled analysis of Alzheimer's treatment and MCI data presented at EULAR. The cardiovascular event rate in patients taking VIOXX 25 mg continued to be similar to the rate in patients taking placebo; mean duration of treatment was 1.2 years in VIOXX group and 1.3 years in placebo group.
Oct	Updated pooled analysis published in the American Heart Journal. Analysis demonstrated that VIOXX was not associated with excess cv thrombotic events compared with either placebo or non-naproxen NSAIDs.

2004

Sept	APPROVe External Data Safety Monitoring Board notifies Merck of its recommendation to end APPROVe trial.
Sept	APPROVe, ViP and VICTOR trials terminated early.
Sept	Merck voluntarily withdraws VIOXX from the market.
Nov	APPROVe trial scheduled to end.

2005

Aug	ViP trial enrollment scheduled to be completed.

2011

Aug	ViP trial scheduled to end.

---

[1] In VIGOR, Vioxx 50 mg once daily (n=4,047) – a dose twice the highest recommended chronic dose -- was compared to a common therapeutic dose of naproxen 500 mg twice daily (n=4,029) in patients with rheumatoid arthritis (median length of participation was nine months). The study assessed the incidence of serious GI events and the most serious, or "complicated," GI events, which included perforations, obstructions or major bleeding (PUB) in the upper GI tract. The study was designed to exclude patients requiring aspirin for cardioprotection.

In VIGOR, Vioxx 50 mg once daily significantly reduced the risk of serious GI events by 54 percent and the risk of complicated GI events by 57 percent compared to naproxen 500 mg twice daily. A total of 56 patients treated with Vioxx experienced a serious GI event compared to 121 patients taking naproxen, and a total of 16 patients receiving Vioxx had a complicated GI event versus 37 patients taking naproxen. In the study, the reduction in risk for serious and complicated GI events with Vioxx was maintained in patients both at high risk for developing a PUB and in patients without risk factors. Such

risk factors include: prior history of a PUB, age of 65 or older, *Helicobacter pylori* infectionor concomitant use of corticosteroids.

In VIGOR, a statistically significant higher incidence of serious cardiovascular thrombotic events was seen in patients receiving Vioxx 50 mg once daily compared to patients treated with naproxen 500 mg twice daily. A total of 45 serious cardiovascular thrombotic events occurred among 4,047 patients taking Vioxx compared to 19 among 4,029 taking naproxen. This was largely due to a difference in the incidence of non-fatal heart attacks: 18 for Vioxx and 4 for naproxen. The number of cardiovascular thrombotic deaths was similar in patients treated with Vioxx (n=7) compared to naproxen (n=6).

2. APPROVe was a multi-center, randomized, placebo-controlled, double-blind study to determine the effect of 156 weeks (3 years) of treatment with rofecoxib on the recurrence of adenomatous polyps of the large bowel in patients with a history of colorectal adenomas. The study included approximately 2600 patients aged 40-96; approximately 62% male. Aspirin was allowed in the study.

In APPROVe there was an increased relative risk for confirmed cardiovascular events, such as heart attack and stroke, beginning after 18 months of treatment for patients taking VIOXX as compared to placebo. Results for the first 18 months of the study did not show an increased risk of confirmed CV events on VIOXX and in this respect, the results are similar to the results of two prior placebo controlled studies described in the current U.S. labeling for VIOXX.

Merck followed the recommendation of the study's External Safety Monitoring Board and terminated this trial on September 30, 2004.

3. VICTOR was a randomized, double-blind, placebo-controlled, international, multicenter study of VIOXX in 7,000 colorectal cancer patients following potentially curative therapy. The primary hypothesis tested in the study was that VIOXX administered for two years will result in greater overall survival compared with placebo. CV events were monitored by the VICTOR trial investigators and Merck as part of the adverse events monitoring conducted as part of the study. The study was stopped on September 30, 2004.

4. ViP was a randomized, double-blind, placebo-controlled, multicenter study to evaluate the effects of VIOXX in decreasing the risk of prostate cancer. The study protocol called for 15,000 male patients, aged = 50 and = 75 years, with a life expectancy of greater than 6 years, with PSA = 2.5 ng/mL and = 10 ng/mL to be enrolled. The primary hypothesis to be tested in the study was that the risk of developing prostate cancer over six years of treatment will be lower in patients treated with VIOXX 25 mg/day than in patients treated with placebo; and that treatment with VIOXX would be generally safe and well tolerated. Cardiovascular adverse events were monitored by an external safety monitoring board as a part of the study. The trial was halted on September 30, 2004.

###

Forward-Looking Statement

This document contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. These statements involve risks and uncertainties, which may cause results to differ materially from those set forth in the statements. The forward-looking statements may include statements regarding product development, product potential or financial performance. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. Merck undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise. Forward-looking statements in this press release should be evaluated together with the many uncertainties that affect Merck's business, particularly those mentioned in the cautionary statements in Item 1 of Merck's Form 10-K for the year ended Dec. 31, 2003, and in its periodic reports on Form 10-Q and Form 8-K (if any) which the company incorporates by reference.

Timeline of Epidemiological Studies Involving VIOXX or NSAIDs[1]

Jan 2002 — A retrospective cohort study by **Ray et al** is published in *The Lancet*. Objective was to measure the effects of non-aspirin NSAIDs, including naproxen, on risk of serious coronary heart disease (CHD). Study concludes that in a high-risk patient population of people 50 years and older, non-selective non-aspirin NSAIDs neither increased nor decreased risk of serious CHD. Analysis evaluated 6,362 cases from the Tennessee Medicaid program during 181,441 periods of new NSAID use in 128,002 people and the same number of periods of non-use of NSAIDs among 134,642 people.

May 2002 — Three separate case-control studies are published in *Archives of Internal Medicine*. Each showed that use of naproxen reduced the risk of heart attacks. These studies were first presented at the American College of Rheumatology meeting in 2001.

Solomon et al: Objective was to determine whether NSAIDs have a similar effect or whether they differ in their effects on the risk of acute myocardial infarction (AMI). Study concludes that the findings do not support a relationship between the use of NSAIDs as a group and risk of heart attacks. However, use of naproxen was associated with a significant reduction in the risk of AMI (adjusted odds ratio, 0.84; 95% confidence interval, 0.72-0.98; P =.03). Analysis evaluated 4,425 cases from the N.J. Medicare/ Medicaid Program against a control group of 17,700 subjects.

Watson, et al: Objective of the study was to examine the risk of acute thromboembolic cardiovascular events (heart attack, sudden death and stroke) with naproxen use among patients with rheumatoid arthritis. The study concludes that patients with rheumatoid arthritis and a current prescription for naproxen had a reduced risk of acute major thromboembolic CV events relative to those who did not take naproxen in the past year. Analysis evaluated 809 cases from British General Practice Research Database against a control group of 2,285 subjects. Study sponsored by Merck.

Rahme, et al: Objective of the study was to compare the effect of naproxen to other NSAIDs in the prevention of acute myocardial infarction (AMI) in an elderly population. The study concludes that compared to other NSAIDs, concurrent use of naproxen has a protective effect against AMI. Analysis evaluated 4,163 cases from Canadian RAMQ and Med-Echo databases against a control group of 14,160 subjects. Study sponsored by Merck.

[1] **Editor's Note:** Timeline is not an exhaustive list of every study ever conducted to evaluate the safety of NSAIDs and COX-2 inhibitors; selected studies have been identified to illustrate the wide divergence of results from observational studies.

Oct 2002 A retrospective cohort study by **Ray et al** is published in *The Lancet*. Objective was to assess occurrence of serious coronary heart disease (CHD), specifically acute myocardial infarction (AMI) and cardiac death, in patients taking Vioxx, celecoxib or other NSAIDs. Study concludes use of Vioxx at doses greater than 25 mg could be associated with an increased risk of serious CHD; in contrast, there was no evidence of increased risk among users of Vioxx at doses of 25 mg or less, celecoxib, naproxen or ibuprofen. Analysis evaluated 5,316 events from the Tennessee Medicaid program among 251,046 NSAID users and 202,916 non-users.

Oct 2002 A database cohort analysis by **Levy et al** is presented at the American College of Rheumatology meeting. Objective was to assess the correlation between COX-2 use and heart attacks among persons prescribed a COX-2 inhibitor, ibuprofen, or naproxen for at least 50 consecutive days. Study concludes long-term use of either of the COX-2 inhibitors (Vioxx and celecoxib) separately is not associated with an increase risk of heart attack compared with naproxen or ibuprofen. When users of COX-2 inhibitors were combined, there was an increased risk compared with users of ibuprofen or naproxen combined. Analysis evaluated 645 events from the Kaiser Permanente database among 172,260 subjects.

Feb 2003 A population-based, retrospective cohort study by **Mamdani et al** is published in *Archives of Internal Medicine*. Objective was to compare the rates of acute myocardial infarction (AMI) among elderly patients taking COX-2 inhibitors, naproxen and non-aspirin NSAIDs. Study concludes no increased short-term risk of AMI among users of COX-2 inhibitors and no short-term reduced risk of AMI with naproxen. Analysis evaluated 701 events from administrative health care databases in Ontario among 66,964 users and 100,000 non-users.

Nov 2003 A case-control study by **Kimmel et al** is presented at the American Heart Association annual meeting. Objective was to determine the risk of nonfatal heart attacks in users of COX-2 inhibitors compared with users of non-aspirin NSAIDs. Study concludes there was no increased risk of heart attacks overall from COX-2 inhibitors, or from VIOXX separately and that nonselective, non-aspirin NSAIDs were associated with a reduced risk of heart attack. Analysis evaluated 1,718 cases against 6,800 controls from the Delaware Valley Case-Control Network. Study sponsored by Merck and Pharmacia.

Mar 2004 A population-based analysis by **Whelton et al** is presented at the American College of Cardiology meeting. Objective was to determine the risk of acute myocardial infarction (AMI) or stroke with Vioxx, celecoxib, and non-selective NSAIDs in hypertensive patients. Study concludes Vioxx significantly increases the risk of AMI or stroke compared with non-users of NSAIDS and there was no increased risk among users of celecoxib or non-selective NSAIDs. Analysis evaluated 3,723 users against 1,798 users from a private medical insurance healthcare claims database. Study sponsored by Pfizer.

Mar 2004 A case-control study by **Kimmel et al** is published in the *Journal of the American College of Cardiology*. Objective was to determine the risk of nonfatal heart attacks in users of non-selective, non-aspirin NSAIDs and the interaction between non-aspirin NSAIDs and aspirin. Study concludes non-selective, non-aspirin NSAIDs are associated with a reduced risk of heart attack. Analysis

evaluated 581 events from the Philadelphia community among 4,153 control subjects.

Apr 2004 — A case-control study by **Solomon et al** is published in *Circulation*. Objective was to assess the risk of acute myocardial infarction (AMI) among users of Vioxx, celecoxib, and NSAIDs in an elderly population. Study concludes Vioxx all doses combined was associated with a significant increased risk of AMI compared to celecoxib. Non-significant differences were found comparing Vioxx to ibuprofen, naproxen, other NSAIDs and to those not taking NSAIDs. The risk was higher in persons taking greater than 25 mg of Vioxx and during the first 90 days of use but not thereafter. Analysis evaluated 10,895 cases from two state-sponsored pharmaceutical benefits program in the U.S. among 54,475 patients 65 years and older. This study was first presented at the American College of Rheumatology meeting in 2003. Study sponsored by Merck.

May 2004 — A population-based retrospective cohort study by **Mamdani et al** is published in *The Lancet*. Objective was to compare the rates of admission for congestive heart failure (CHF) in elderly patients who were given COX-2 inhibitors or non-selective NSAIDs. Study concludes there is a higher risk of admission for CHF in users of Vioxx and non-selective NSAIDs (diclofenac, naproxen and ibuprofen) but not celecoxib in comparison to non-users of NSAIDs. Analysis evaluated 654 events from administrative healthcare databases in Ontario among 45,097 users of NSAIDs/COX-2 inhibitors and 100,000 non users.

June 2004 — A cohort study by **Garcia Rodriguez et al** is published in *Circulation*. Objective was to estimate the effect of non-aspirin NSAIDs on the occurrence of AMI and death from CHD. Study concludes there was no risk reduction of NSAIDs on the occurrence of MI. Analysis evaluated 4,975 cases from the General Practice Research Database in the U.K. against a control of 20,000 subjects.

Aug 2004 — A case-control study by **Graham et al** is presented at the International Conference on Pharmacoepidemiology and Therapeutic Risk Management. Objective was to determine if NSAID use increases the risk of AMI or sudden cardiac death (SCD) and if the risk is similar among COX-2 selective agents. Study concludes Vioxx use at doses greater than 25 mg increases the risk of AMI and SCD; Vioxx at 25 mg or less had an increased risk compared with celecoxib; and that several other NSAIDs increased the risk of AMI and SCD. Analysis evaluated 8,199 cases from Kaiser Permanente against a control group of 32,796 subjects. Funding provided by FDA.

Aug 2004 — A retrospective cohort study by **Rahme et al** is presented at the International Conference on Pharmacoepidemiology and Therapeutic Risk Management. Objective was to assess the rates of hospitalizations for acute myocardial infarction (AMI) in an elderly cohort. 52,029 patients were taking non-selective NSAIDs and 71,543 patients were taking rofecoxib, with 14,056.4 and 37,371.0 person-years of exposure, respectively. Based on the regression model, the adjusted hazard ratios of hospitalizations for MI was 1.03 (0.83-1.27) for rofecoxib vs. ibuprofen/diclofenac. Study concludes there was no difference in the rate of hospitalizations for AMI among Vioxx and the non-selective NSAIDs ibuprofen and diclofenac. Study sponsored by Merck.

Aug 2004 A retrospective cohort study by **Shaya et al** is presented at the International Conference on Pharmacoepidemiology and Therapeutic Risk Management. Objective was to examine the cardiovascular risk of COX-2 inhibitors compared to non-specific NSAIDS in a high risk Medicaid population. Analysis evaluated medical and prescription claims for Maryland Medicaid enrollees, COX-2 users numbered 1208 and non-naproxen NSAID users numbered 5274. Study concludes that COX-2 inhibitors did not increase cardiovascular risk over non-naproxen NSAIDs in a high risk population.

###

Forward-Looking Statement

This document contains "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. These statements involve risks and uncertainties, which may cause results to differ materially from those set forth in the statements. The forward-looking statements may include statements regarding product development, product potential or financial performance. No forward-looking statement can be guaranteed, and actual results may differ materially from those projected. Merck undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise. Forward-looking statements in this press release should be evaluated together with the many uncertainties that affect Merck's business, particularly those mentioned in the cautionary statements in Item 1 of Merck's Form 10-K for the year ended Dec. 31, 2003, and in its periodic reports on Form 10-Q and Form 8-K (if any) which the company incorporates by reference.