Study Shows that Low-Molecular Weight Heparin (LMWH) Was Associated With Reduced Hospital Costs of Venous Thromboembolism (VTE) Treatment Compared with Unfractioned Heparin (UFH)

-Patients treated with Lovenox® (enoxaparin sodium injection) were also less likely to be readmitted to hospital within 90 days-

Bridgewater, NJ, December 10, 2007 - Sanofi-aventis announced today the results of a study that demonstrated total hospital direct medical costs associated with VTE treatment are reduced by \$550 per patient when they were treated with the use of low-molecular weight heparin (LMWH) vs. unfractionated heparin (UFH) with 97.3% of LMWH patients receiving Lovenox. Patients who received LMWH were also less likely to be readmitted to the hospital with a VTE recurrence within 90 days. The findings were presented at American Society of Hematology Annual Meeting (ASH) in Atlanta, GA.

The current healthcare and economic burden of venous thromboembolism (VTE) in U.S. hospitals is significant. In patients with confirmed VTE, evidence-based guidelines recommend treatment for a minimum of five days with either a low-molecular weight heparin (LMWH, such as Lovenox) or UFH. However, in the real-world practice, the total hospital direct medical costs and VTE-related readmission rates of these VTE treatment regimens are not clear.

A retrospective real-world cohort study examining discharge and billing records from the Premier Perspective[™] database included discharges of patients ≥18 years old and with a primary diagnosis of VTE from January 2003 through June 2005. Only VTE patients who were treated with either LMWH or UFH were included in the study. Total hospital direct medical costs associated with VTE treatment (including drug costs, hospital costs, and professional costs) were quantified and compared for patients receiving UFH and LMWH. Furthermore, VTE-related readmission rates at days 30 and 90 post-discharge were compared for both patient cohorts. Total direct medical costs (US \$) were compared using multivariate statistics, adjusting for patient and hospital characteristics. Logistic regression was used to compare the likelihood of readmission within 30 and 90 days.

The analysis included 38,664 patient discharges with 53 percent (20,577) receiving LMWH and 47 percent (18,087) receiving UFH. Among patients who received LMWH, 97.3 percent (20,021) of them received Lovenox, with the remaining 2.7% receiving other LMWHs. The two groups were similar in clinical and demographic characteristics. The average length of hospital stay for the UFH group was 1.1 days longer (5.7 days vs. 4.6) days. After adjustment for covariates, the average total direct hospital costs were \$3,618 for UFH and \$3,068 for

Sanofi-aventis: www.sanofi-aventis.us Media Relations: Tel. : 908-981-6567 E-mail: <u>us.media-relations@sanofi-aventis.com</u> Investor Relations: Tel. : 908-981-5560 E-mail: IR@sanofi-aventis.com



LMWH (difference \$550, P<0.0001). Lovenox was associated with reduced cost in most categories although anticoagulation therapy costs were higher for LMWH (\$242 versus \$41 for UFH, P<0.0001). LMWH was associated with lower rates of VTE-related readmission at both 30 days (11.2% vs 12.1%; odds ratio [OR] 0.89, 95% confidence interval [CI] 0.84–0.96; P=0.001) and 90 days (13.1% vs 13.8%; OR 0.91, 95% CI 0.85–0.96; P<0.001).

Dr. Geno Merli, Director at the Jefferson Center for Vascular Disease, Jefferson Medical College, Philadelphia, PA and a lead investigator of the analysis said, "What the results showed is that despite higher drug-related costs for Lovenox, the total direct medical costs for the treatment of VTE is reduced when compared to using UFH. For every 1,000 patients treated for documented DVT, the use of Lovenox may save approximately half a million dollars."

About Premier's Perspective[™] Database

Premier's Perspective[™] database is the most comprehensive clinical, financial and operational comparative database in the U.S. and contains information from hundreds of hospitals and millions of discharges, providing means by which hospitals can benchmark their efforts against other hospitals in an effort to improve quality and reduce costs.

About Venous Thromboembolism (VTE)

Venous thromboembolism is a general term used to describe the formation of a blood clot (thrombus) that blocks a vein. This may occur in any part of the venous system, but the most common manifestations are deep-vein thrombosis (DVT), usually in the leg, and pulmonary embolism (PE).

VTE is also a common complication among acutely ill medical patients who have recently been immobilized, a population of medically-ill patients at particularly high-risk for VTE.

About Lovenox®

Lovenox[®] is an antithrombotic agent known as low-molecular weight heparin (LMWH). The number one selling low-molecular weight heparin in the world, Lovenox[®] is obtained by alkaline degradation of heparin benzyl ester and is about one-third the molecular size of unfractionated heparin. Lovenox[®] is the most widely studied LMWH, with 15 years of use in the treatment of 130 million patients in 96 countries.

Lovenox[®] is approved in the United States for the prophylaxis of ischemic complications of unstable angina and non-Q-wave (non-ST-segment elevation) myocardial infarction when concurrently administered with aspirin and for the prophylaxis of deep vein thrombosis (DVT) which may lead to pulmonary embolism (PE); in patients undergoing abdominal surgery who are at risk for thromboembolic complications; in patients undergoing hip replacement surgery (during and following hospitalization), in patients undergoing knee replacement surgery; and in medical patients who are at risk for thromboembolic complications due to severely restricted mobility during acute illness; as well as for the inpatient treatment of acute DVT, with or without PE, when administered in conjunction with warfarin sodium and for the outpatient treatment of acute DVT without PE, when administered in conjunction with warfarin sodium.

Important Safety Information

Certain procedures, called "epidural/spinal anesthesia" and "spinal puncture," may be used as a normal part of hospitalization. Patients requiring these procedures while being treated with LOVENOX® (enoxaparin sodium injection) or other low-molecular-weight heparins are at risk of developing a blood clot in or around the spine. This condition may result in long-term or permanent paralysis.

LOVENOX® is not the same as "unfractionated heparin" or other drugs called "low-molecular-weight heparins." Therefore, these drugs cannot be used interchangeably with LOVENOX®.

LOVENOX® can alter the blood's ability to clot. Patients treated with LOVENOX®, who also have conditions affecting the clotting system, must be carefully monitored by their physician. Adjusting the dose of LOVENOX® may be necessary for patients who have certain forms of kidney disease. All patients receiving LOVENOX®, as well as other anticoagulants, should be carefully monitored for bleeding by their physician. Bleeding can occur at any site with LOVENOX® use.

Platelet drops, known as "thrombocytopenia," can occur with LOVENOX® use. Cases of a related condition called "heparin-induced thrombocytopenia" have been observed in clinical practice. If you have had this condition, you must notify your healthcare professional. Your physician may perform blood tests to monitor for the occurrence of any drop in platelet count.

The use of LOVENOX® has not been adequately studied in pregnant women with artificial (mechanical)2

heart valves.

LOVENOX® should not be used in patients with an allergy or sensitivity reaction to the active ingredient called enoxaparin sodium, heparin, or pork products, and in patients with active major bleeding.

Common side effects include mild local reactions or irritation at the site of injection, pain, bruising, and redness of skin.

For specific questions about your health, you should always consult your physician or a qualified healthcare professional who is responsible for your care.

Please see Full Prescribing Information including boxed WARNING, for additional important information.

About sanofi-aventis

Sanofi-aventis, a leading global pharmaceutical company, discovers, develops and distributes therapeutic solutions to improve the lives of everyone.

Sanofi-aventis is listed in Paris (EURONEXT : SAN) and in New York (NYSE : SNY).

Forward-looking statements

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. These statements include product development, product potential projections and estimates and their underlying assumptions, statements regarding plans, objectives, intentions and expectations with respect to future events, operations, products and services, and statements regarding future performance. Forward-looking statements are generally identified by the words "expects," "anticipates," "believes," "intends," "estimates," "plans" and similar expressions. Although sanofi-aventis' management believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of sanofi-aventis, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include among other things, the uncertainties inherent in research and development, future clinical data and analysis. including post marketing, decisions by regulatory authorities, such as the FDA or the EMEA, regarding whether and when to approve any drug, device or biological application that may be filed for any such product candidates as well as their decisions regarding labelling and other matters that could affect the availability or commercial potential of such products candidates, the absence of guarantee that the products candidates if approved will be commercially successful, the future approval and commercial success of therapeutic alternatives as well as those discussed or identified in the public filings with the SEC and the AMF made by sanofi-aventis, including those listed under "Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements" in sanofiaventis' annual report on Form 20-F for the year ended December 31, 2006. Other than as required by applicable law, sanofi-aventis does not undertake any obligation to update or revise any forward-looking information or statements.

> U.S Contacts: Marisol Peron, 1-908-981-6565, Marisol.Peron@sanofi-aventis.com Amy Ba, 1-908-981-6563, Amy.Ba@sanofi-aventis.com

[US.ENO.07.11.085]