

Overview

HeartSTAT Inc. developed and is bringing to market the first practical science-based system for monitoring blood flow perfusion (oxygen transport) and heart dynamics. It is noninvasive, continuous, and uses a simple comfortable disposable sensor. This addresses key issues of hospital critical care.

- Blood pressure (*BP*) and pulse oximeter (*POX*) devices are the means of preventive monitoring and managing cardiovascular disease. However, these are commonly misleading and slow to reflect abnormality, often until it is too late.
- Present cardiac output measurement is restricted to the most critical procedures on about only 5% of patients because of risks and costs.
- Blood flow and perfusion are early and more specific indications for managing vital patient risks; yet this monitoring has not been practical.

Product System

The *HeartSTAT* system provides several product model monitoring functions:

- *BLOOD FLOW* ... basic function of the cardiovascular system; for early and specific warning of problems in critical care;
- *PERFUSION* ... for indicating when the brain is at risk, and avoiding misleading indications of *POX* monitoring in surgery;
- *CONTINUOUS BP* ... uniquely price competitive, simple, and comfortable for unrestricted beat-by-beat patient monitoring;
- *CARDIAC OUTPUT* ... for reducing heart catheterizations and for practical, validated hemodynamic determinations of heart disease;
- *HEART LOAD PARAMETERS* ... for more effective anesthesia and coronary care;
- *BIOPHYSICAL STRESS* ... for science-based quantification of cardiovascular disease, and warning of heart attacks and strokes.

This new monitoring practicality is vital for early intervention to reduce the greatest controllable costs and patient risks of hospital healthcare.

Market

HeartSTAT preventive monitoring enables early intervention to avoid vital patient complications that occur with *BP* and pulse oximeter devices:

- *BRAIN NEUROPSYCHIATRIC DYSFUNCTION* for 50% of surgery patients with cardiovascular disease. **Target:** Anesthesiologists & surgeons.
- *SEPTIC SHOCK* of critical care patients; reported 750,000 cases with 29% mortality annually. **Target:** Critical care providers
- *CARDIOGENIC SHOCK* of bleeding. **Target:** Surgeons, Recovery & ER;
- *HEART ATTACK* warning and *CONGESTIVE HEART FAILURE (CHF)* management and early discharge. **Target:** Heart care providers.

These conditions cause approximately 60 unexpected patient deaths and \$6M of costs annually in average size 200-bed hospitals. The available hospital market for the Company's monitors and disposable sensors initially is \$1 billion in contrast to the present market of \$2.1 billion of patient monitors and sensors.

Synopsis

By combining its FDA-cleared *CNBP* sensing with its blood flow perfusion and biophysical measurement technology, the Company intends to commence *CNBP* shipments within a year and shipments of blood flow monitors six months later. Revenues of \$200 million are projected, representing a 10% market share.