







"To care for him who shall have borne the battle and for his widow and his orphan."

> Abraham Lincoln, Second Inaugural Address



Department of Veterans Affairs National Center for Patient Safety 24 Frank Lloyd Wright Dr., Lobby M P.O. Box 486 Ann Arbor, MI 48106-0486

> Phone: (734) 930-5890 Fax: (734) 930-5899

E-mail: ncps@med.va.gov

Internet: www.patientsafety.gov



Healthcare Failure Mode Effect Analysis





VA National Center for Patient Safety

Improving Patient Safety Making medical procedures

safer was the key reason that the HFMEA process was designed by NCPS. It has a wide range of applications, from developing backup medication delivery systems, to improving the way laboratory specimens are drawn.

The five-step process is used by interdisciplinary teams to proactively evaluate a healthcare process. Specifically designed for use by healthcare professionals, it offers users analytical tools such as flow diagramming, decision trees and prioritized scoring systems that enable the user to proactively identify vulnerabilities and deal with them effectively.

The process streamlines hazard analysis steps found in a

traditional Failure Mode and Effect Analysis procedure, an analytical process often used by engineers to identify potential failures of individual components and subsystems. HFMEA includes healthcare-specific definitions

for "severity, probability and detectability." It is a systematic engineering-based approach used to identify system vulnerabilities and correct problems before they occur. Here's a thumbnail sketch of the HFMEA process:

Step 1: Define the **HFMEA Topic**

When selecting the topic, be specific about the process or product to be studied, thus narrowing the scope of the analysis.

Step 2: Assemble the Multidisciplinary Team

The team should include one or more subject matter experts, as well as those who have no detailed knowledge of the process under review. When needed. others are called in as consultants.

Step 3: Graphically Describe the Process

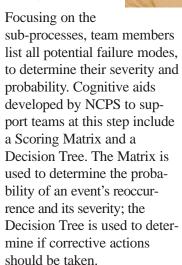
Team members develop and verify a flow process diagram, not to be confused with a chronological diagram. Each step in the process under study is identified and numbered. If a process is complex, a specific area is identified, to keep

the effort manageable.

Appropriate sub-processes are

also identified and flow process diagrams developed.

Step 4: Conduct a Hazard **Analysis**



Step 5: Actions and **Outcome Measures**

The team determines what best course of action to take. Outcome measures are identified to analyze and test redesigned processes.

More information is just a click away

The five-step HFMEA process is described in detail on the NCPS Web site, just log on to the homepage (www.patientsafety.gov) and scroll down to the "Safety Topics of Interest" link.

