On August 9, 2011, SCOR SE, a global reinsurer with offices in more than 31 countries, acquired substantially all of the life reinsurance business, operations and staff of Transamerica Reinsurance, the life reinsurance division of the AEGON companies. The business of Transamerica Reinsurance will now be conducted through the SCOR Global Life companies, and Transamerica Reinsurance is no longer affiliated with the AEGON companies.

While articles, treaties and some historic materials may continue to bear the name Transamerica, AEGON is no longer producing new reinsurance business.

**Archive Materials**

**The Problem with False-Positives and False-Negatives**

Reprinted from the June 2008 Messenger newsletter

by David Wesley, Vice President, Medical Research and Development

No test is perfect and test results are not black and white situations. An ideal test would yield results that are both bimodal and achieve complete separation between healthy (those without the condition) and unhealthy people (those with the condition). This ideal situation is depicted in Figure 1.

The reality of testing is depicted in Figure 2. The distribution is still bimodal, and the average for those with the condition is clearly elevated compared to the healthy individuals, but there is considerable overlap.

Where the test is being used to screen for a condition, the choice of a threshold value is up to the screener. If the threshold is set at a higher value (to the right in Figure 3) fewer people without the condition will be categorized as positive (false-positives). On the other hand, more people with the condition are categorized as negative (false-negatives).
Setting the threshold lower will have opposite effects (Figure 4). Typically, one sets the threshold low when screening, but where exactly remains a good question. There are a number of mathematical tools that allow one to assess test performance and optimal testing strategies in different populations. These tools will be introduced in future installments in this series.

All tests report some false positives (people without the condition flagged as diseased) and false negatives (people with the condition flagged as healthy). When a higher test threshold is used (Fig. 3), there are fewer false positives but more false negatives; when a lower threshold is applied (Fig. 4), the opposite is true.