

Chapter 580

Time Calculator

Introduction

This program module generates and stores elapsed times and censor codes from a database of patient entry, follow-up, and termination dates. It was designed as a supplement for programs like Kaplan-Meier survival analysis and Cox regression which require elapsed times and censor codes as inputs.

Data Structure

This procedure uses up to three date variables to calculate elapsed time and censor codes for each row. These are discussed further below.

Entry (Surgery) Date

This (optional) variable contains the date the subject entered the study. Usually, this corresponds to the surgery or procedure date. The value should be a standard date value such as *mm/dd/yyyy* or *dd/mm/yyyy*. A non-missing value here will override the 'Group Start Date' value.

The elapsed time is calculated by subtracting the entry date from either the Last Follow-Up Date or the Event Date.

Last Follow-Up Date

This variable contains the date the subject was last seen before an event occurred. It is assumed that if, on that visit, the event of interest was seen, the date will be entered in the 'Event Date Variable' and not here. Thus, only subjects who have not exhibited the event should have their times recorded here. The value should be a standard date value such as *mm/dd/yyyy* or *dd/mm/yyyy*. If a 'Group End Date' is specified, this value will override it.

The elapsed time is calculated by subtracting the entry date from either the Last Follow-Up Date or the Event Date. If the Last Follow-Up Date value is non-missing and the Event Date is missing, the censor variable will be set to a zero (signaling a censored value). Otherwise, the censor variable will be set to a one (signaling an event).

Event (Death) Date

This variable contains the date the subject showed the event (death, remission, etc.). If a subject has not shown the event, this value should be left blank on the database. The value should be a standard date value such as *mm/dd/yyyy* or *dd/mm/yyyy*.

The elapsed time is calculated by subtracting the entry date from either the Last Follow-Up Date or the Event Date. If the Last Follow-Up Date value is non-missing and the Event Date is missing, the censor variable will be set to a zero (signaling a censored value). Otherwise, the censor variable will be set to a one (signaling an event).

Group Date Specification

Group Start Date

If all subjects begin the study on the same date and this date is not on your database, you can enter that date here. The value should be a standard date value such as *mm/dd/yyyy* or *dd/mm/yyyy*. If an 'Entry Date Variable' is specified, its value will override this value.

Group End Date

If follow-up on all subjects ended on the same date and this date is not on your database, you can enter that date here. The value should be a standard date value such as *mm/dd/yyyy* or *dd/mm/yyyy*. If a non-missing 'Last Follow-Up Date Variable' value is entered, it will override this value.

Example 1 – Preparing Data for Kaplan-Meier Analysis using the Time Calculator

This section presents an example of how to prepare a set of date data for analysis by the Kaplan-Meier procedure. The date values are contained on a database called TimeCalc.

Setup

To run this example, complete the following steps:

1 Open the TimeCalc example dataset

- From the File menu of the NCSS Data window, select **Open Example Data**.
- Select **TimeCalc** and click **OK**.

2 Specify the Time Calculator procedure options

- Find and open the **Time Calculator** procedure using the menus or the Procedure Navigator.
- The settings for this example are listed below and are stored in the **Example 1** settings file. To load these settings to the procedure window, click **Open Example Settings File** in the Help Center or File menu.

Variables Tab

| | |
|------------------------------------|-----------------|
| Entry Date Variable..... | Entry |
| Last Follow-Up Date Variable | FollowUp |
| Event Date Variable..... | Event |
| Elapsed-Time Variable | Time |
| Censor Variable | Censor |
| Time Scale..... | Year |

3 Run the procedure

- Click the **Run** button to perform the calculations and generate the values on the data table.

This procedure does not produce any output. Upon running the procedure, the elapsed times and censor codes will be displayed on the data table.