

## Exercise 8: Dealing with incomplete dates

At the end of this exercise you should be able to:

- a. Approximate dates when day and/or month is missing
- b. Create a date from three component fields (day, month, year)
- c. Make use of temporary variables in the check file to make calculations.

Date information is commonly collected, most commonly perhaps for the calculation of intervals or another purpose. However, information on the date is often incomplete. For instance, if a date of symptom onset is asked from a patient, the patient may remember the year only, or the year and month only. The date of onset is thus unknown, and an interval between the current doctor's visit (which might be known exactly) and date of symptom onset cannot be calculated and must remain unknown. Nevertheless, if for instance year and month of symptom onset are known (but not the day) and the date of the actual visit is known exactly, something is known, and an approximate interval could be provided. This exercise will offer a way to make such approximations.

As we should preferably not leave it up to the data entry person to enter incorrect, approximated dates, we must avoid requiring to enter a date, but rather split it into its components year, month, and day, and then reassemble it.

Let us assume that we wish to calculate the variables:

```
regexct      Exact registration date <dd/mm/yyyy>
regappr      Approximate registration date <dd/mm/yyyy>
```

from the fields:

```
regdd        Day of registration ##
regmm        Month of registration ##
regyy        Year of registration #####
```

The field REGEXCT will be an existing date within the legal range currently defined if all three components of the date are known else its value will be set to 01/01/1800. The Field REGAPPR will be equal to REGEXCT if the latter is within the legal range. If the day only is unknown, the day value for REGAPPR will be 15 (mid-month), if both month and day are unknown, the month will be 07 and the day 01 (mid-year). If all three components are unknown, the value of REGAPPR will be set to 01/01/1800.

We will impose a hierarchical structure, i.e., that if a value for an unknown month is entered, a known day – if entered as such – thus does not make sense, and if the year is unknown, neither a known month or known day will be affect the calculation.

Thus, we will replace the current field REGDATE with the above five fields, three of which (REGDD, REGMM, and REGYY) are entered while the other two (REGEXCT and REGAPPR) are calculated from the former three (and will thus be NOENTER Fields).

In addition, we will add another variable that measures the quality of the calculated date information, and that we might name

```
regqual      Quality of registration date #
```

This field can take the values 0, 1, 2, and 3, where 0 (zero) indicates that none is known, and 3 that all three date components are known.

For this task, we introduce temporary variables. Although for this specific example, it would be possible to solve it without such variables, it seems as good as any occasion to introduce this possibility for this exercises. Temporary variables can have a field length of 16 and they do not appear in the QES file and will not become part of the dataset. They will be used in the Check file for internal calculations in a BEFORE FILE block as in:

```
BEFORE FILE
  DEFINE regddTemp ##
  DEFINE regmmTemp ##
  DEFINE regyyTemp ####
END
```

BEFORE FILE means exactly what it says: Before anything is entered into the file, these variables are created. There is also a Check file command BEFORE RECORD (look up in the Help file what these commands do).

To create a date from the three component fields, the Check file command is:

```
fulldate=DATE(varday,varmonth,varyear)
```

#### ***Tasks:***

- o Create an A\_EX08.\* triplet (using the A\_EX07.\* files as the starting point). The questionnaire should display all the calculated variables.***
- o Create the A\_EX08.REC***
- o Edit the A\_EX08.CHK file to make the calculations. Note that you will need to define temporary variables for this task.***
- o Enter some data to check the functionality***