

EBMeDS Script Flow Syntax

General Information

The EBMeDS Script Flow Syntax is used in the EBMeDS Script Description Editor (ESDE) to describe the logic of the decision support (DS) scripts. The syntax has been design to be easy to learn for health professionals without programming experience. The Flow Syntax is **not** a programming language and is not machine-read - it only serves as a logical model for the script author and the programmer of the final DS scripts in JavaScript. Efforts are being made to generate - at least in part - JavaScripts from the Flow Syntax, but this work is still in progress.

Row Numbers

The flow row numbers are generated automatically in ESDE, but may be changed.

Groups and Properties

The ESSS consists of six health care-related groups, which have group-specific properties:

Diagnosis

- Present*
- AgeOf*
- New*
- Occurrence*
- Past*

Drug

- Present*
- AgeOf*
- AdvEffectOf*
- DailyDose*
- DoseSum*
- New*
- Occurrence*
- Past*

Procedure

- Occurrence*
- Ordered*
- Past*
- TimeSince*

Risk

- Present*
- Past*

Result

- AgeOf*
- Changeln*
- Ordered*
- Min*
- Max*
- Previous*
- Last*
- New*

Vaccination

- AdvEffectOf*
- AgeOf*
- Last*

Occurrence
Present
TimeSince

After a saving in ESDE the flow only the group-specific properties will be shown in the current Property drop-down menus.

The Diagnosis Group

The *Diagnosis* group is used to reference information about the diagnoses of a patient.

PROPERTIES

Present A diagnosis, which presently is considered as active (the patient receives therapy or is followed-up for the disease). The property can be either "True" or "False".

EXAMPLE
Diagnosis.Present("Asthma") = True
// The patient has a current diagnosis of asthma

AgeOf The age of a diagnosis = the time elapsed since the diagnosis was established. The time unit (y = years, m = months, d = days) should be specified in the condition.

EXAMPLE
Diagnosis.AgeOf("Asthma") < 1 m
// An asthma diagnosis, which has been established less than 1 month ago.

New A diagnosis, which has been recently added to the diagnosis list. The default value for "recently" is during the last 24 h. In other cases, the time criteria should be specified in the condition.

EXAMPLE
Diagnosis.New("Hypertension") = True 1 y
// The hypertension diagnosis has been established within the last year.

Past A diagnosis, which is no longer considered as active, but still may affect the patient.

EXAMPLE
Diagnosis.Past("Tuberculosis") = True
// An earlier episode of tuberculosis

The Drug Group

The *Drug* group is used to reference information about the medication of the patient.

PROPERTIES

Present A drug, which the patient is presently using either regularly or on demand. The property can be either "True" or "False".

EXAMPLE
Drug.Present("Warfarin") = False
// The patient does not use warfarin currently

AdvEffectOf A drug, which has caused an adverse effect (allergic reaction or other adverse effect) and should be avoided in the future. The property can be either "True" or "False".

EXAMPLE
Drug.AdvEffect("Penicillin") = True
// Penicillin has caused an adverse effect to the patient

DailyDose The total daily dose of a drug. The unit should be specified in the condition.

EXAMPLE
Drug.DailyDose("Ranitidin") = 300 mg
// The daily dose of ranitidin is 300 mg (for example, the dosage may be 2 x 150 mg)

DoseSum The dose sum of two or more different drugs, e.g. long- and short-acting insulin. The unit should be specified in the condition.

EXAMPLE
Drug.DoseSum("Insulin") = 40 IU
// The patient uses insulin in a total dose of 40 IU (e.g. 30 IU long-acting and 10 IU short-acting).

New A new prescription of a drug (the drug may have been used previously, but is not included as active in the current medication list). The property can be either "True" or "False".

EXAMPLE
Drug.New("Methotrexate") = True
// Medication with methotrexate has been started recently

Past A drug, which the patient has used in the past (= is no longer considered as "active" on the medication list). The property can be either "True" or "False".

EXAMPLE
Drug.Past("Methotrexate") = False
// The patient has not used methotrexate in the past

The Vaccination Group

The *Vaccination* group is used to reference information about the vaccinations of the patient.

PROPERTIES

AdvEffectOf A vaccine, which has caused an adverse effect to the patient. The property can be either "True" or "False".

EXAMPLE

```
Vaccination.AdvEffect("MPR") = True
```

```
// The patient has earlier got an adverse effect from an MPR vaccine
```

TimeSince The time elapsed since the vaccination was performed. The time unit (y = years, m = months, d = days) should be specified in the condition.

EXAMPLE

```
Vaccination.TimeSince("PolioVaccines") > 5 y
```

```
// The patient has not been vaccinated against polio during the last five years.
```

The Result Group

The *Result* group is used to reference information about laboratory tests and other measurements, such as measurement of body weight and blood pressure.

PROPERTIES

AgeOf The time elapsed since a measurement was made. *The time unit (y = years, m = months, d = days) should be specified in the condition.*

EXAMPLE

```
Result.AgeOf("B-Hb") = 30 d
```

```
// The most recent hemoglobin measurement was made 30 days ago
```

ChangeIn The change in a result between the last and the second last measurement.

EXAMPLE

```
Result.Change("Weight") > 5 kg
```

```
// The patient has gained weight more than 5 kg between the last and the second last measurement.
```

Ordered A measurement, which has been ordered but not yet performed. *The property can be either "True" or "False".*

EXAMPLE

```
Result.Ordered("S-Calcium") = True
```

```
// A calcium measurement has been ordered
```

Last The most fresh (= last) measurement in a series of measurements.

EXAMPLE

```
Result.Last("Weight") = 67 kg
```

New A measurement result, which has recently arrived.

EXAMPLE

```
Result.New("HbA1c") = 8 %
```

The Procedure Group

The *Procedure* group is used to reference information about procedures.

PROPERTIES

TimeSince The time elapsed since a procedure was made.

EXAMPLE

```
Procedure.TimeSince("HipArthroplasty") = 2 y  
// A hip arthroplasty has been performed 2 years ago
```

Ordered A procedure, which has been ordered but not yet performed. *The property can be either "True" or "False"*.

EXAMPLE

```
Procedure.Ordered("KneeArthroscopy") = True  
// A knee arthroscopy has been ordered for the patient
```

Past A procedure, which has already been performed. *The property can be either "True" or "False"*.

EXAMPLE

```
Procedure.Past("HeartValveSurgery") = False  
// Heart valve surgery has not been made to the patient
```

The Risk Group

The *Risk* group is used to reference information about risks connected to the patient or his/her environment

PROPERTIES

Present A risk, which is consider presently active. The property can be either "True" or "False".

EXAMPLE

```
Risk.Present("Pregnancy") = True  
// The patient is pregnant
```

Past A risk no longer considered as active, but still may have to be taken into consideration. The property can be either "True" or "False".

EXAMPLE

```
Risk.Past("Smoking") = True  
// The patient is an ex-smoker
```

Conditions

The conditions can refer to numeric, qualitative or boolean conditions.

OPTIONS

<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
<>	Not equal to
[]	Within an interval
] [Outside an interval

Messages

A message number according to the script description. If no message should be generated, select the option "-".

Row Flow

Refers to the next flow row to be executed if the current row is evaluated to be "true".

OPTIONS

<i>Quit</i>	Quit the script execution
<i>Go Next</i>	Continue with the next row (the default value)
<i>Go n</i>	Go to a specified row "n", e.g. <i>Go 5</i> .
<i>Go x</i>	Go to row "x" (when the row number is unknown yet = "row x" has not been written yet)
<i>LogQuit</i>	Record quality measure in the response message and quit the script execution