Metrics definitions and calculations in ‘Absence Analytics’

SD Worx Insights

1. Contents

2. Introduction

This document contains additional information about the metrics in the dashboards of the SD Worx Insights application 'Absence Analytics'. In addition to the short description that can be found in each graph on the dashboards (under the icon “?”), you can find further explanation of the calculations, the scope of the workforce for the calculations and the relevant wage codes of the metrics used in ‘Absence Analytics’.

It concerns the following metrics in ‘Absence Analytics’:

- Headcount, FTE
- ‘All employees’, employees without sickness
- Absence %
- Absence % in days versus in hours
- Sickness %
- Sickness days
- Sickness periods
- Bradford Factor
- Absence Costs
- Sickness costs
- Family leave %
- Family leave costs
- Work accident days

‘Absence Analytics’ is based on the data of your organization, based on the Belgian payroll. The dashboards aim to provide more insight into the absences and sickness within your organization. The Bradford factor that zooms in on the frequency of absence can also be consulted, as well as the wage costs linked to the different types of absence.

3. Which workforce population is in scope for the calculations of the metrics?

3.1 'all employees'

Short description

All calculations of the metrics in 'Absence Analytics' are based on the concept of 'all employees' in the selected reference period.

'All employees', number of employees with an active contract **in** the selected period, including the newcomers and those who have left the company in the meantime.

However, there is **one exception** to this, namely the 'employees in **partial resumption'** in the calculations of the metrics around absence due to illness. This limited group of employees in partial resumption is not included in the calculations regarding sickness metrics because this could give a distorted image.

This represents the workforce on which the metrics are based.

Additional information

- What do we mean by **'an employee with an active contract'**?

'Employee with an active contract' is based on the juridical contract type.

- Following types of juridical contracts are included:
  - Arbeider
  - bediende
  - Stage (KB230)/SBO
- Following juridical contract types that are not included:
  - Bruggepensioneerde
  - Gepensioneerde
  - Student
  - Interim
  - Zaakvoerder, bestuurder
  - Tewerkgestelde werkloze
  - etc

3.2 Exception on the workforce population

- How do we deal with **'employees in partial resumption'** fort he calculations of the metrics about absences due to sickness?

Given the impact of employees in partial resumption on the calculations of the sickness %, sickness days, sickness periods, Bradford Factor, costs, ect, and the associated complexity of the different possible work regimes at partial resumption, the question arises whether these employees in partial resumption should be part of these metrics around sickness. These employees can be identified by the absence code in the payroll.

> *Concrete example: 2 employees A & B return to work part-time in the system of partial resumption after a long absence due to illness. They both resume part-time 50%, but with a different work regime. What impact does this have on the sickness periods?*
>
> *Employee A returns with a work regime: monday (whole day) – wednesday (half day) – friday (whole day).*
>
> *Employee B returns with a work regime: monday (whole day) – tuesdays (whole day) – wednesday (half day).*
>
> *As a result, there are 2 sickness periods per week for A, and 1 sickness period for B, while they both work 50%.*

The work regimes of employees in partial resumption give a distorted view of the metrics about sickness, as the concrete example shows. As a result, it has been decided to exclude these employees in partial resumptions for the calculations. Their sickness days and sickness periods are therefor not included in the dashboards, nor are the sickness days and sickness periods in case they were sick during their working days.

4. Metrics in 'Absence Analytics'

4.1 Count of employees

4.1.1 'All employees', Employees without sickness

'All employees', number of employees with an active contract **in** the selected period, including the newcomers and those who have left the company in the meantime.

Employees without sickness, number of employees of the workforce 'all employees' who were not absent due to illness in the selected period, i.e. employees for whom no sick days are registered.

The details are visible on the tab 'Sickness' > Zero sickness.

4.1.2 Headcount, FTE

Short description

Headcount, number of employees employed in the organization, with an active contract, counted at the **end** of the chosen period.

FTE, Full-time equivalent of the total number of employees employed in the organization, with an active contract, at the end of the chosen period. The calculation is based on the headcount and work regimes.

Additional information

- What is the difference in counting between headcount and 'all employees'?

The impact of the **leavers**:

Since headcount, and derived FTE, is counted at the end of the selected period, this means that all employees who have left the company and are no longer employed at the end of the selected reference period are not included in the headcount, or in FTE.

> *Employees that left the company in the selected reference period, are not included in the headcount. E.g. if the reference period is March 2023 – 12 rolling months (so reference period: 1/4/2022 – 31/3/2023) and an employee has left the company on 31/12/2022, he/she will be excluded in the headcount of the selected reference period, because not employed any more at the end ot the reference period.*
>
> *Employees that left the company after the selected reference period, are still included in the headcount. E.g. if the reference period is March 2023 – 12 rolling months (so reference period: 1/4/2022 – 31/3/2023) and an employee has left the company on 15/5/2023, he/she will still be included in the headcount of the selected reference period, because still employed at the end of the reference period.*

When counting 'all employees' in this defined concept, all employees with an active contract who are or have been employed in the selected reference period are included. This means that the leavers are also included in this count.

- Why is this difference between headcount and 'all employees' important?

All calculations of the metrics in 'Absence Analytics' are based on the concept of 'all employees' in the selected reference period, with one exception (zie above).

4.2 Absence and sickness %

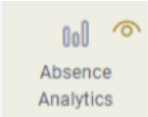
4.2.1 Absence %

Short description

Absence % represents the absence days in relation to the days 'to be worked', in the selected period of all the employees with an active contract.

The % contains all the absence types:

- holidays
- public holidays
- sickness
- work accidents
- family leave



The details are visible in the graph ‘Absences % by type’ on the tab ‘General’ > Overview Absences

Calculation

= Number of absence days (d) / 'total days to be worked' in the chosen reference period.

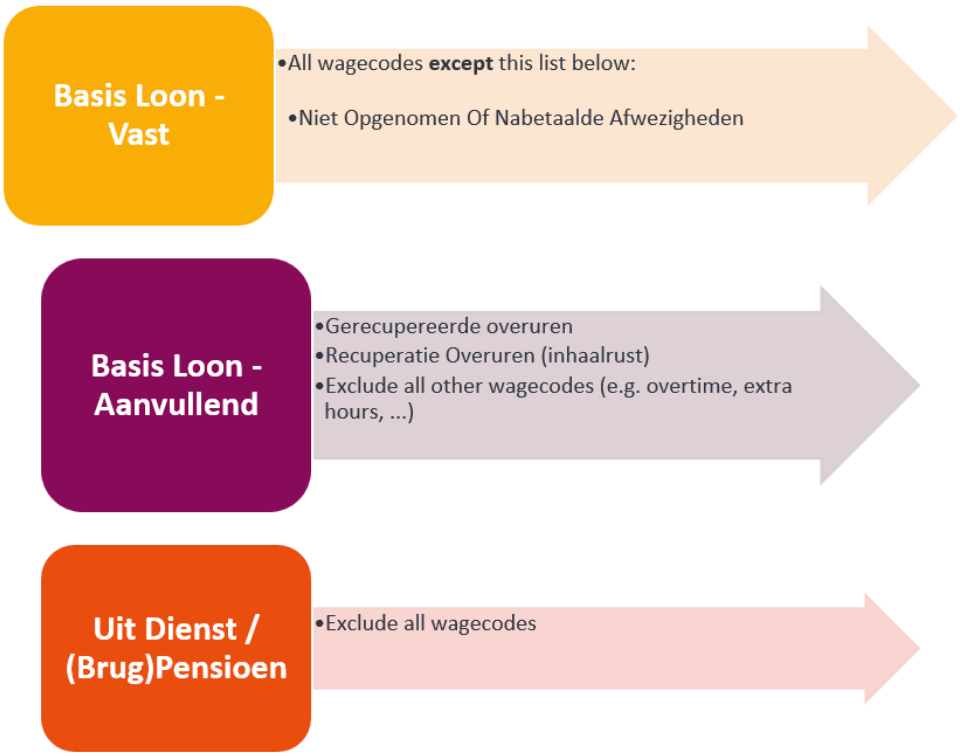
$$\text{Absence \%} = \frac{\text{Number of absence days}}{\text{'Total days to be worked'}}$$

Additional information

- **Total days to be worked**

The term ‘total days to be worked’ (also called ‘theoretical working days’) represents the sum of all the days that have been booked in the payroll administration during the period, for employees’ presence and absence from work. These days will therefore not be specified as a lump-sum figure, but really extracted from the settled salary data over the selected period.

How are these ‘total days to be worked’ counted?

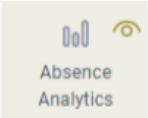


- Which workforce population is included in the calculations of the metrics of absence %?

For the calculation of the absence %, the absences days and the total days to be worked are based on all employees that were employed with an active contract in the selected reference period, during the whole period or a part of the reference period. This means that also the days of new joiners and leavers are included in the calculation. This corresponds to the concept of 'all employees' from the previous chapter.

Note: The calculation of the absence % is executed by the division of 2 sums: the sum of all absences days and the sum of all ‘total days to be worked’ of the concerned employees in the chosen reference period. (This means that the aggregated absence % is not based on the level of the individual employee; so not the result of the average of the individual underlying absence percentages. This calculation could have caused employee weight and rounding differences)

4.2.2 Absence % in days versus in hours



The evolution graphs on the tab ‘General’ > Absence (days vs hours) allow you to compare between the absence and sickness % based on days versus hours.

Calculation

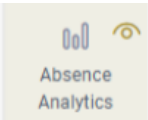
= Number of absence days (d) / 'total days to be worked' in the chosen reference period.

$$\text{Absence \% (d)} = \frac{\text{Number of absence } \mathbf{days}}{\text{'Total } \mathbf{days} \text{ to be worked'}}$$

The standard calculation of absence and sickness % is based on absence days and ‘total days to be worked’. The % can be more precise if the calculations are based on hours instead of days. For example, when an employee becomes ill at work and turns home after 4 hours, or when someone takes half a day holiday.

$$\text{Absence \% (h)} = \frac{\text{Number of absence } \mathbf{hours}}{\text{'Total } \mathbf{hours} \text{ to be worked'}}$$

Additional information



The evolution graphs on the tab ‘General’ > Absence (days vs hours) allow comparison between days and hours for following metrics:

- Absence %
- Holiday %
- sickness %
- short sickness %
- long sickness (> 1m and < 1y) %
- long sickness (>1y) %

4.2.3 Sickness %

Short description

Sickness % represents the sickness days in relation to the days 'to be worked', in the selected period of all the employees with an active contract.

Calculation

= Number of all* sickness days (d) / 'total days to be worked' in the chosen reference period.

$$\text{Sickness \%} = \frac{\text{Number of absence days due to all* types of sickness (duration)}}{\text{Total days 'to be worked'}}$$

***'all' types of sickness** refers to the duration of sick leave and consists of 3 types:

1) Short term sickness
2) long term (> 1 month and < 1 year) sickness
3) Long term (> 1 year) sickness

The number of absence days due to sickness in the numerator of the division is the sum of all types of sickness days, based on the wagecodes specified below, in the chosen period.

The calculation of the sickness % follows the same logic as the absence %: sickness % is executed by the division of 2 sums: the sum of all sickness days and the sum of all 'total days to be worked' of the concerned employees in the chosen reference period. This logic is also applicable for the calculation of sickness % of every type of sickness (duration).

Selected period: Unlike the Bradford Factor, the sickness % can be calculated for any chosen period for which the data are available: on a monthly basis as well as over a longer period.

- Which workforce population is included in the calculations of the metrics of sickness %?

For the calculation of the sickness %, the sickness days and the 'total days to be worked' are based on all employees who were employed with an active contract in the selected reference period, during all or part of the reference period. This means that the days of new joiners and leavers are also included in the calculation. This corresponds to the concept of **'all employees'** from the previous chapter. However, an **exception** is made **for employees in partial resumption**; these are excluded from the calculations because, due to the different possibilities in work regimes, they could distort the figures.

4.2.3.1 Short term sickness %

Calculation:

= Number of short sickness days (d) / 'total days to be worked' in the chosen reference period.

$$\text{Short Sickness \%} = \frac{\text{Number of absence days due to short sickness}}{\text{Total days 'to be worked'}}$$

Short sickness is defined as absence due to illness for less than 30 (calender) days.

The number of absence days due to short sickness in the numerator of the division is the sum of the short sickness days, based on the wagecodes, which are defined under the title 'sickness days'.

4.2.3.2 long term (>1 month and < 1 year) sickness %

$$\text{Long term (> 1m < 1y) sickness \%} = \frac{\text{Number of absence days due to long term sickness}}{\text{Total days 'to be worked'}}$$

Long term (> 1 month and < 1 year) sickness is defined as absence due to illness for more than 30 (calender) days and less than a year.

The number of absence days due to long term sickness in the numerator of the division is the sum of the long sickness days, based on the wagecodes, which are defined under the title 'sickness days'.

4.2.3.3 long term (> 1 year) sickness %

$$\text{Long term (> 1y) sickness \%} = \frac{\text{Number of absence days due to long term sickness}}{\text{Total days 'to be worked'}}$$

Long term (> 1 year) sickness is defined as absence due to illness for more than a year.

The number of absence days due to long term sickness in the numerator of the division is the sum of the long sickness days, based on the wagecodes, which are defined under the title 'sickness days'.

4.3 Sickness days and periods

4.3.1 Sickness days

4.3.1.1 Short term sickness Days

List of wagecodes included in the calculation/counting of short term sickness days

Gewaarborgd loon ziekte eerste week	**010*** (= 0100, 0101, 0102, 0103, 0104, 0105, 0106, 0107, 0108, 0109)
Gewaarborgd loon ziekte tweede week	**014*** (= 0140, 0141, 0142, 0143, 0144, 0145, 0146, 0147, 0148, 0149) **023*** (= 0230, 0231, 0232, 0233, 0234, 0235, 0236, 0237, 0238, 0239)
Gewaarborgd maandloon ziekte	**011*** (= 0110, 0111, 0112, 0113, 0114, 0115, 0116, 0117, 0118, 0119) **012*** (= 0120, 0121, 0122, 0123, 0124, 0125, 0126, 0127, 0128, 0129)
Geen gewaarb. loon ziekte (tijdelijke werklh, gn anc, …)	0506

4.3.1.2 Long term (> 1 month and < 1 year) sickness Days

List of wagecodes included in the calculation/counting of long term (> 1 month and < 1 year) sickness days

long term (> 1 month and < 1 year) sickness days (Excl. partial resumption)	**050*** (= 0500, 0501, 0502, 0503, 0504, 0505, 0507, 0508, 0509)

4.3.1.3 long term (> 1 year) sickness Days

List of wagecodes included in the calculation/counting of the days for sickness > 1 year, per payroll period

long term (> 1 year) sickness days (Excl. partial resumption)	**078*** (=0780, 0781, 0782, 0783, 0784, 0785, 0786, 0787, 0788, 0789)

4.3.2 Sickness periods

A continuous period of illness with a pay code on its first day which can appear at the start of an illness will be counted as 1 period; this is a matter of the pay codes 010*, 012*, 013* and 069* (* stands for a value of 0 to 9), as well as pay codes 0500 en 0370.

The number of sickness periods is the sum of each seperate continuous period that an employee is absent due to illness. In case of relapse (‘herval’), with at least one workday in between, it is counted as 2 sickness periods.

A particular case where the sickness period is counted as 1 is when the absence due to illness started before the selected reference period. For example, the report shows the sickness days and periods from 01/02/2022 to 31/01/2023, and the employee was ill from 15/01/2022 untill 15/02/2022, then it will be counted as a sickness period.

The sickness period that comes from an absence due to illness > 1 year is not counted as a sickness period. The reasons for this are a) because a sickness > 1 year is not considered as disruptive at work and b) because this counting of the sickness periods serves as input to calculate the Bradford Factor.

4.4 Bradford

4.4.1 Bradford factor

The Bradford Factor is a calculation to measure the impact of employee absence on the organization. It is a formula that takes into account the frequency (= periods), duration (= number of sickness days) and pattern of an employee's absences over a set period of time. The underlying theory is that short, frequent, and unplanned absences are more disruptive than longer absences.

Calculation

Bradford Factor = S x S x D

- S: Separate sickness periods in the selected period of at least 12 months
- D: number of short term sickness days + number of long term (> 1 month and < 1 year) sickness days

The number of long term > 1 year sickness days and the linked sickness period are not included in the formula of the Bradford Factor.

This explains why no Braford Factor is calculated for employees who are absent for more than a year due to illness. From a workplace disruption standpoint, the Bradford Factor has no added value in these cases.

In 'Absence Analytics' dashboards, the Bradford Factor is always calculated over a 12-month period because it gives more accurate data this way. This means that at least 12 months of calendar data must be available. If this is not the case, the Bradford Factor will not be calculated for the concerned employee(s). This explains why e.g. newcomers who have been employed for less than 12 months are not included in the calculation.

4.5 Absence and sickness costs

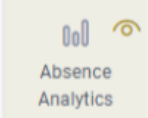
4.5.1 Absence costs

Short description

Absences costs represent the sum of the gross wage costs for the employer related to absence days, in the selected period of all the employees with an active contract. The RSZ [social security contributions], social contribution is not included in these costs. Also benefits are not included.

The costs contain all the absence types:

- holidays
- public holidays
- sickness
- work accidents
- family leave



The details are visible in the graph ‘Absences costs by type’

on the tab ‘General’ > Overview Absences

4.5.2 Sickness costs

Sickness costs represent the sum of the gross wage costs for the employer related to absence days due to illness in the selected period of all the employees with an active contract. The RSZ [social security contributions], social contribution is not included in these costs. Also benefits are not included.

4.6 Work accidents

‘Under construction’