

Overview

Various compliance agencies are looking for more evidence based decision in the provision of care for the vulnerable. The spreadsheet [UT1167 Epilepsy Support risk calculator.xls](#) is offered to assist carers assess the risks of using a monitor system for the support of Epilepsy care, such as the Alert-it Ep-iT systems. However, the spreadsheet includes potential failure items covering many types of system, but many do not apply to Alert-iT products because of the unique failsafe radio technology employed.

Using the Spreadsheet

On the tab marked “Application”, only the Blue areas need to be changed if an Alert-it System is being used because the probabilities of various component failures has been pre-loaded. Simply select the appropriate level for the frequency and severity of the potential incident that relates to each sensor being considered. Using “No risk” will delete that sensor from the calculation.

The resulting guide value for the anticipated years between undetected “normalised” incidents appears in the green area at the bottom. This value is created by a multiplication of the probability of an incident with a subjective value reflecting the severity of the outcome (see below). Hence the value created can be considered normalised such that 1 represents the possibility of having one minor incident missed per year or one major health incident missed every 10-20 years.

The column marked PROB for each potential failure mechanism can be changed for alternative systems or management regimes as required.

Disclaimer

iTs Designs offers this spreadsheet as an assistance in good faith. They do not take responsibility for the correct derivation of the various probability and score data nor for the interpretation as to whether a particular system is fit for purpose. The figures are for guidance to assist carers in their own validation of a care regime. The starting principle for any Alert-iT alarm system must be that their use will improve the quality of care over any existing system, when used as an addition. The carer must make their own judgment on any changes to that care regime.

Method used for calculating the risk factor

The DATA tab lists a set of probability values based on the chance of an incident occurring within a 12 hour period, if such an incident is likely to happen over a range of timescales (from once a day to once a year, with “unlikely” being given the value once per 10 years and which would be typical of an electronic failure).

The probability of a medical incident being missed is then calculated as the multiplication of the probability of the incident and the probability of a system failure in the same 12 hour period. Some system failures are highly unlikely provided the prescribed routing tests are performed. However in recognition of the truth that these tests may get forgotten a lower than perfect score has been used in the spreadsheet.

The above probability is then multiplied by a factor designed to normalise the value for different severities of medical incidents. The data is again in a table which the

This risk analysis is given in good faith and covers risks known to iTs Designs Ltd which should be considered by any carer. The carer is responsible for covering any additional risks of which they are aware. The probability score of a risk occurring is our best estimate based on the MTBF of equipment and a pragmatic estimate of the likely adherence of the care staff to the recommended test regime. The carer is responsible for such adherence. The interpretation of the risk score is offered to assist in creating the safest possible environment for the user, but the carer is responsible for the final decision to accept this advice, as they alone will know of any other influences on the risk to their user.

carer can change. The severity factors range from 1-3 for a condition that causes distress or needs intervention, but could not in themselves leave the user injured. The two conditions that could lead to danger are given factors of 10 and 20, implying that any system used should be 10 times better than for the lesser categories. Hence the value created can be considered normalised such that 1 represents the possibility of having one minor incident missed per year or one major incident missed every 10-20 years.

If more than one sensor is used then they are assumed to have equal weighting, but this is easily changed. The final value is created from the RSS (statistical summation) of all the risk scores, which should be a slightly pessimistic view.

Because of the weightings, the final score is normalised so that a value 1 indicates that which many may consider an acceptable risk factor. However the carer must justify any decision as they alone know the individual user involved.

On the tab marked Data will be found the probabilities and score factors used for each condition. There is also a TEST area to allow the effect of risk scores for different conditions to be reviewed and hence allows the carer to validate how these scores fit their care regime

If there is a desire to change any of the “locked” data in the spreadsheet, then iTs Designs will be glad to supply a password to unlock the spreadsheet.