Process Improvement Project on Accidents Caused by Automatic Door

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Background

As years go by and coupled with technical obsolescence, the number of breakdowns and accidents caused by automatic swing doors has been increasing.

The types of accidents vary from relatively minor cases where doors cause damage to other objects, such as walls, to serious cases resulting in human injury.

The project aims to reduce the frequency of case related to inappropriate operation of automatic swing doors.

Methodology

Site observations on why automatic swing doors causes accidents were carried out by the team.

Cause and Effect Analysis to ascertain the vital cause of "inappropriate operation of automatic door" is "inappropriate sensor coverage".





The team agreed on consensus to install Presence Safety Sensor at the closing leave of the automatic swing door.



Presence Safety Sensor was installed at 22 locations and door performance was monitored for five months.

Results

Of the 22 doors with Presence Safety Sensor installed, twelve did not have enough data for analysis.

The remaining ten were first analysed and evaluated by comparing days between fault / accident before and during/after safety sensor installation.

300 250 200 157 fault 150 123 days betwee 100 50 25 to ICU Clinic 'D MOTI SCN S Nard 72 Snd Door location Before change During / After change

Using the Minimum Days between Faults Table and Chart method, nine doors shown improvement as during/after change is greater than before change.





Using the Maximum Days between Faults Table and Chart method, ten doors shown improvement as during/after change is greater than before change.

They were next analysed and evaluated by the trend in the fault / accident reported per day by month. It was observed that there was a downward trend of 3 –month moving average after change.

Conclusion

After implementation, there is strong evidence to show that the numbers of faults and accidents are reduced. The vital factor "inappropriate sensor coverage" has been accurately identified.

Installation of the Presence Safety Sensor on automatic swing doors will be carried out in phases over the next few years.