



Singapore Healthcare Management 2017

Risk Management Safety Incidents Dashboard All-in-One At a Glance

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Introduction

Information dashboards have emerged as a vital tool for hospital boards committed to promoting quality improvement within their organizations. The use of incident dashboards can quantify and determine the quality of care provided in the hospitals. In KK Women's and Children's Hospital (KKH), there is an online Incident Reporting System developed in April 2009. It is called Risk Management System (RMS), a web based application that enabled the whole hospital staff to voluntarily raise an incident report when an incident has occurred. The incident reports can be further categorised under 14 categories : Administrative, General Screens, Facilities Related, Equipment Related, Fall / Near Fall Related, Specimen Related, Needle Stick Injury related , Environment Related, Clinical Related , Property Related Incidents , Extravasation, Diagnostic/Therapeutics (radiology Incidents), Spillage incidents and Medication Related Incident. Although the incident reporting system captures relevant information and generates feedback for department to take action, the generation of incident data report should be readily available and there should be easy accessibility to these information.

Aim

To reduce time taken in Risk Management data extraction and provide department managers quick access to the dashboard for reported issues and identifies opportunities for improvement.

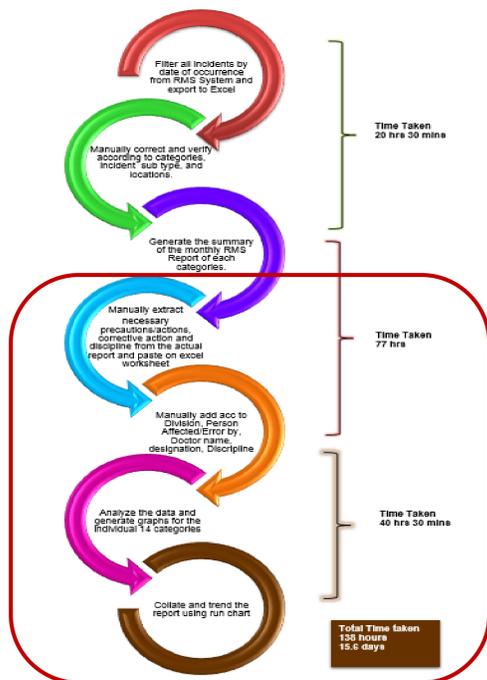
Methodology

All the incidents reported in the Risk Management System (RMS) are manually extracted and collated for presentation to Medical Board or Executive Committee. Data were exported using MS Excel and manually categorized and verified according to incident type, incident sub type, location, by Division, person affected, error by and designation as shown in Figure 1. Data are presented in bar with visual colour coding, charts, line graphs with month -to-month or year to year comparison. All data includes full description of the incident, the person affected and involved in the incidents which could be culled by Division Heads if necessary or when required

Figure 1 : Before enhancement

| Ref No | Originator Name | Incident type | Incident Sub type | Location of occurrence | Location in Care Centre | Others Location | Date of occurrence | Date of Reporting | Person affected (Category, Name, DOB, Sex, Emergency) | Status of incident report | Category of error | What happened? | Why/How did it happen? | Where did it happen? | Who was involved? | Error By | RCA Status |
|-----------|-----------------|--------------------|-------------------|------------------------|-------------------------|-----------------|--------------------|-------------------|---|---------------------------|-------------------|--|---|----------------------|-------------------|----------|----------------|
| 201700000 | XXX | Medication related | Wrong Dosage | Ward XXX | N.A. | N.A. | 09/03/2016 | 09/03/2016 | (Patient, XXX) | Pending/Review | 0000000 | XXX was given half dose of XXXX at 200mg instead of full dose of 400mg | All around 0900hrs XXXX pressed call bell, complaining of pain and asked for pain killers. XXXXX prescribed Ibuprofen, paracetamol and syring gelatine as PRN dose. I entered the room, scanned both XXXX name tag and XXXX, looked at her name and ID number with XXXX mother. All information was correct to system. I opened out XXX into the cup after comparing the dose. Followed by XXX. I did not compare the dosage for XXX, opened out 10 ml (200mg) of XXX and gave it to XXX. XXXX mother then advised me why not (I forgot to mix and asked what was the dosage as I forgot the mix. I ran out of medicine and I will top up another 10 ml of XXXX. Correct dose of 400mg was given at 1000hrs | Ward XXX | 000000 | XXX | Pending Review |

Figure 2. CURRENT PROCESS - Time allotted in for generation of RMS report



In the current process, the time spent to generate the final report is longer. A lot of time is spent when the other fields such as "Necessary precautions, Learning points, Initial measures taken and Corrective actions" were added from the actual report to the excel worksheet. These fields were not captured in the excel summary report and required manual copying and pasting of the sheet.

Figure 3 : Additional fields not captured in the excel worksheet

| Incident Type | Incident Sub-Type | Person Affected/ Error By | Division (Medicine, O&G, Surgery, SAS, CSS(DPLM), Nursing, OSS, PBS, CPIC/IC/ONE, A&S) | Necessary precautions/actions attempted to prevent the incident | Learning points | Initial measure(s) taken | Corrective actions | Discipline | Error by Doctor Name | Designation | Near Miss/ Error | Designation |
|--------------------|-------------------|---------------------------|--|---|---|--|---|------------|----------------------|-------------|------------------|-------------|
| Medication related | Wrong Dosage | XXX | B | To strictly adhere to 5 rights of medication administration. To check if the correct dose had been prepared before passing it to patient or caregiver. All staff are not to give partial dose of any medication at anytime. | To strictly adhere to 5 rights of medication serving. Not to give partial dose of any medication at any time. | Correct dosage of Ibuprofen was calculated, prepared and given to patient. | To adhere to 5 rights of medication administration. | XXX | XXX | XXX | XXX | XXX |

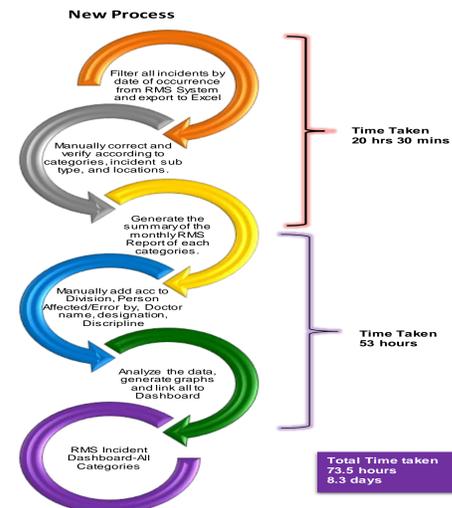
From March 2017, RMS System enhanced the yellow column in the report.

In March 2017, there was an RMS system enhancement implemented where all the additional fields including Root Cause Analysis are now captured to the summary of data when exported to excel worksheet. After the enhancement, the data from the RMS were easily exported and filtered. The team created the RMS Dashboard and collated the three years data from RMS incidents from 1 January 2014 to 31 December 2016.

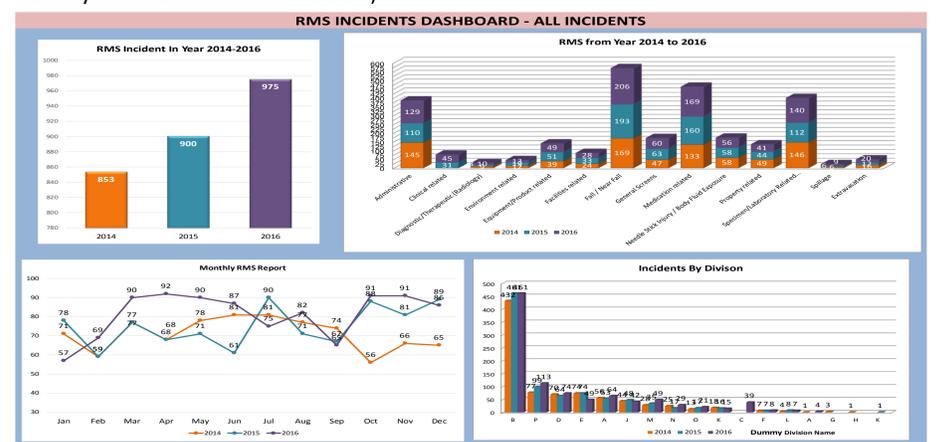
Results

The new RMS dashboard provides visibility to all incidents in a one page summary and allows an overview of events reported at a glance. Before the development of the dashboard, the time taken for the data to be extracted and reported is an aggregated format was 138 hours and the new process took about 73 hours for the data to be cleaned, reclassified and categorised. Major time saving is drawn through the enhancement of the reporting system by eliminating manual individual line items extraction.

Figure 4 :



In the new process, the data can be extracted and shared with department staff without the need to filter unnecessary information that is on the report. Bar chart or line graph can be exported easily to their presentation materials. With the current dashboard, data can be compared across a period of time, and presented in a brief and easily readable graphical display of the key indicators that the institution can monitor and identify as opportunities for improvement projects. The use of the dashboard helped resolve issues by ensuring that the information necessary to mitigate risks are readily available and in a form that it can be rapidly assimilated and acted upon (screenshot-illustrated from dummy dashboard as shown below).



Dashboard can be filtered by clicking the relevant icons within the slicers



Conclusion

Dashboard has opened access to Head of Departments and data are presented in bar chart and line graph at one glance. The dashboard provides a high level of overview on organizational performance and a more detailed information of the key performance measures. It provides a single view of information from across our organisation and presented it in a readily accessible way. Each department can now rely on the summarized reports and monitor the incidents.