

Tools beneficial to MOH to upgrade the Healthcare practice in Hospitals.

Controlling pressure ulcers among inpatients.

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Acme
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Applet Introduction

Applet Details

Applet Title	Pressure Ulcers in HBKL			
Description	Controlling pressure ulcers among inpatients.			
Objective	To reduce the no of bed sore cases in the hospital.			
Abstract	To generate a management report which identifies step by step action plan to reduce the bed sores among inpatients.			
Team Leader	Sally Rodgers			
Commencement Date	18-May-2007			
Expected Completion Date	06-Jul-2007			
Completion Date				
Status	Not Completed			
Team Name	Bed sores reduction team - Dr. Mahmud Zaman			
Team Members	<table border="1"><tr><td>1</td><td>IR0084</td><td>Naimah Shamsudin</td></tr></table>	1	IR0084	Naimah Shamsudin
1	IR0084	Naimah Shamsudin		

Criteria

Description	Rank	
Severity		
No danger	1	Failure causes no injury and has no impact on system.
Slight danger	2	Failure causes no injury and customer is unaware of problem however the potential for minor injury exists; little or no effect on system.
Low to Moderate danger	3	Failure causes very minor or no injury but annoys customer and/or results in minor system problems that can be overcome with minor modifications to system or process.
Low to Moderate danger	4	Failure causes very minor or no injury but annoys customer and/or results in minor system problems that can be overcome with minor modifications to system or process.
Moderate danger	5	Failure causes minor injury with some customer dissatisfaction and/or minor system problems.
Moderate danger	6	Failure causes minor injury with some customer dissatisfaction and/or major system problems.
Dangerous	7	Failure causes minor injury with customer dissatisfaction and/or major system problems.
Very dangerous	8	Failure could cause major or permanent injury and/or serious system disruption with interruption in service with prior warning.
Very dangerous	9	Failure could cause major or permanent injury and/or serious system disruption with interruption in service without any prior warning.
Extremely dangerous	10	Failure could cause death of a customer (patient, visitor, employee, staff member, business partner) and/or total system breakdown without any prior warning.
Occurrence		
Remote probability of occurrence	1	Failure almost never occurs, no one remembers last failure.
Low probability of occurrence	2	Failure occurs rarely or about once per year.
Moderate probability of occurrence	3	Failure occurs occasionally or once every 6 months.
Moderate probability of occurrence	4	Failure occurs occasionally or once every 3 months.
Moderate high probability of occurrence	5	Failure occurs about once in every 2 months.
Moderate high probability of occurrence	6	Failure occurs about once per month.
Very high probability of occurrence	7	Failure occurs frequently or about once a fortnight.
Very high probability of occurrence	8	Failure occurs frequently or about once a week.
Failure is almost inevitable	9	Failure occurs predictably or occurs every 4 days
Certain probability of Occurrence	10	Failure occurs at least once a day.
Detection		

Properties of S, O and D

Before conducting an FMEA, it is important to understand the properties of Severity, Occurrence and Detection. This will help the team in Consensus Reaching for items discussed during FMEA. Severity, Occurrence and Detection can all take Integer values between 1 and 10 inclusive. The product of Severity and Occurrence is called Criticality. The product of Severity, Occurrence and Detection is called RPN.

Consensus of Values

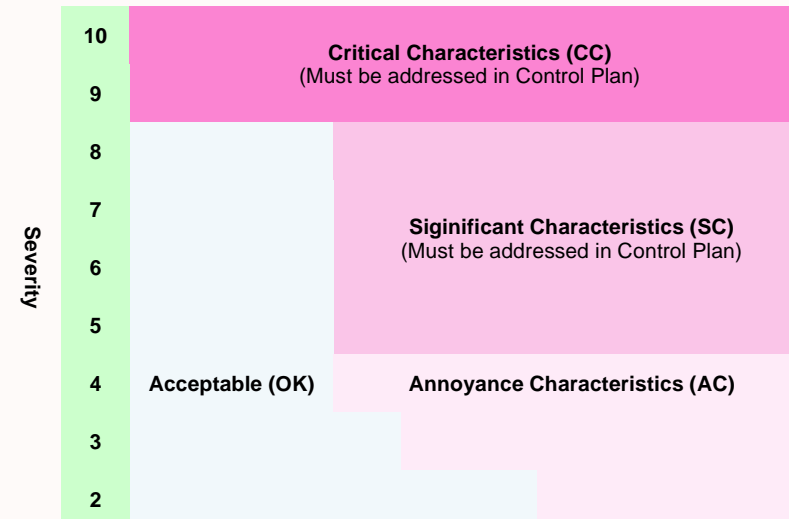
As a standard guide review the item if

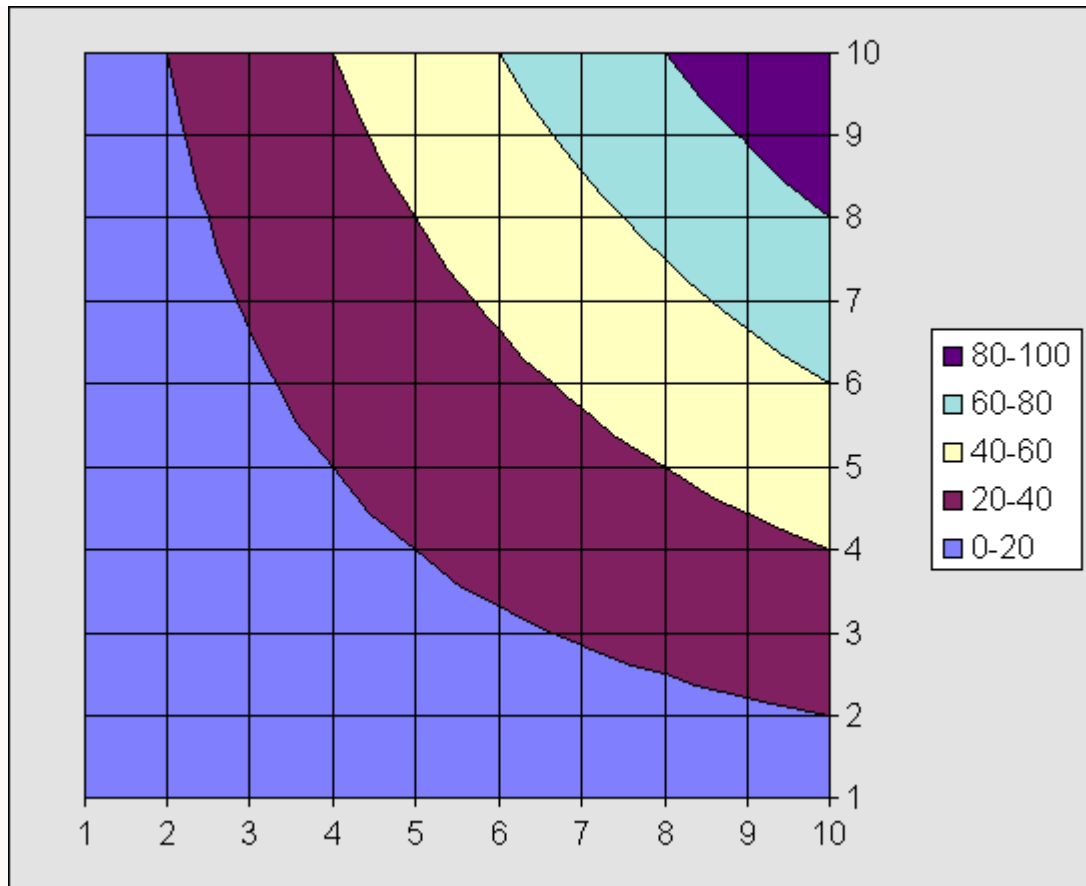
Severity is	≥	2
Occurrence is	≥	3
Criticality is	≥	10
Detection is	≥	7
RPN is	≥	128

Criticality

Although Severity and Occurrence can both take integer values between 1 and 10 inclusive the product does not include all values between 1 and 100 as shown in the table below.

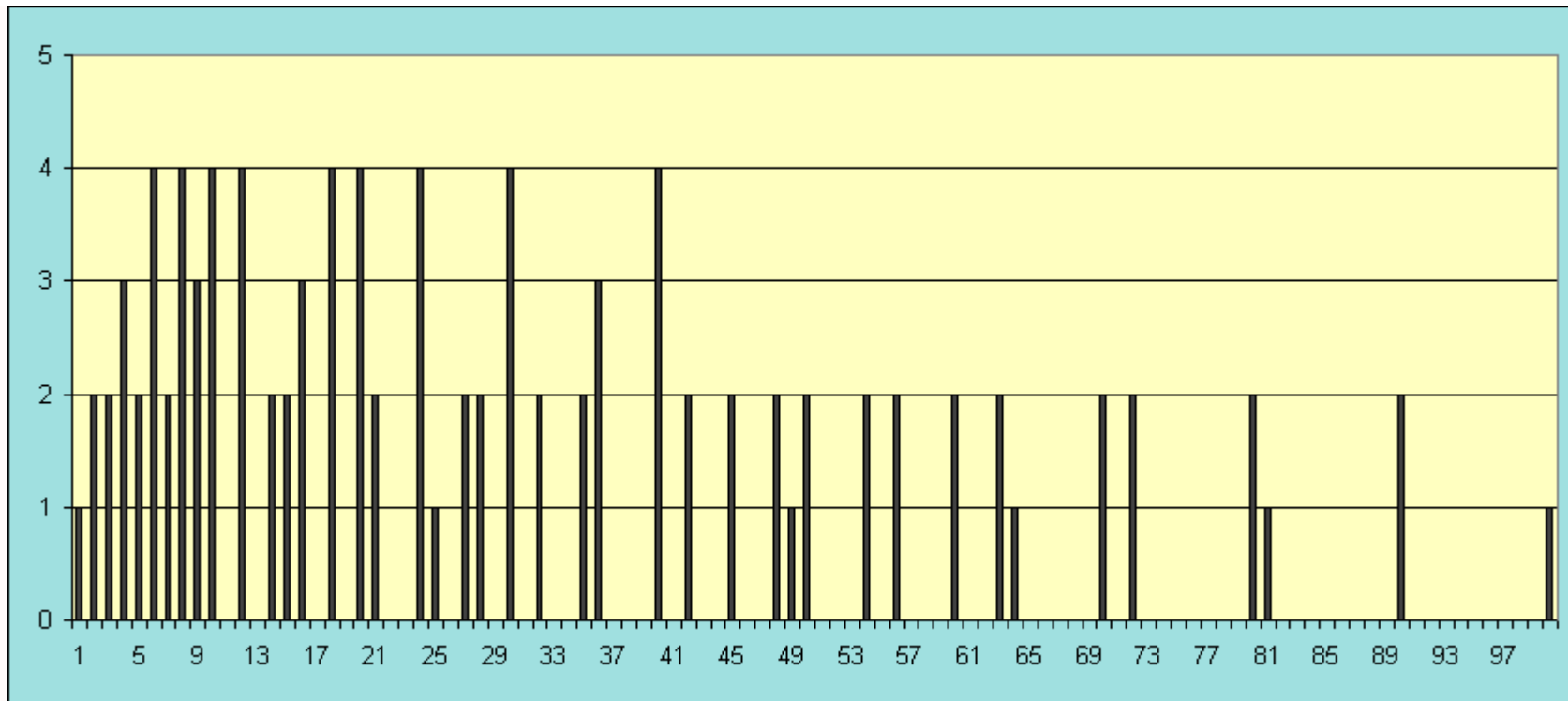
Severity	10	10	20	30	40	50	60	70	80	90	100
	9	9	18	27	36	45	54	63	72	81	90
	8	8	16	24	32	40	48	56	64	72	80
	7	7	14	21	28	35	42	49	56	63	70
	6	6	12	18	24	30	36	42	48	54	60
	5	5	10	15	20	25	30	35	40	45	50
	4	4	8	12	16	20	24	28	32	36	40
	3	3	6	9	12	15	18	21	24	27	30
	2	2	4	6	8	10	12	14	16	18	20





Note: The contour map shows areas of isotopic Criticality (i.e. Severity x Occurrence)

Frequency Distribution of Criticality Values



Note:

Not all values between 1 and 100 are possible.

There are only 42 distinct values.

Minimum 1

Maximum 100

Average 30.250 Returns the arithmetic mean of the numbers.

Mode 6 Returns the most frequently occurring, or repetitive, value in an array of data.

Median 24 The median is the value at the center of an ordered range of numbers.

Frequency Distribution of Distinct Values of Criticality

FMEA Healthcare

No.	Process	Potential Failure Mode	Potential Effects of Failure	S	Potential Causes of Failure	O	Class	D	RPN	Recommended Action	Responsibility	Target Date
- 1 Reduce Pressure Ulcers												
1.1	Inappropriate Bed	Lack of repositioning in bed or chairs	Pressure ulcer formed	8	Nurse feel like too busy Not made a priority in care Pt. not able to tolerate turn in bed	5	SC	5	200	Education of staff on importance repositioning. Priority in plan of care.	Ali Hussin	
1.2	Lack of assessment	Lack of assessment Flow sheet does not trigger use of protocol Incomplete charting	Increase risk of ulcer formation	9	Nurse not familiar with protocols for prevention and care RNs not clear on how to chart Rushed in charting Not reported to RN	7	CC	5	315	Educate nursing staff to clarify proper use of Braden Scale, skin assessment, audit of weekly skin assesment complete	Che Roslan	
1.3	Bed not ordered	Specialty bed not ordered in timely manner	Pressure ulcer formed or worsened if already present	4	Protocols not used Physicians order not obtained timely	5	AC	3	60	Educate nursing staff of protocol and proper bed choices. Notify physician in timely manner.	Tan Ah Chong	
1.4	Lack of incontinence care	Barrier products not routinely used with incontinence Incontinence care not given in timely manner	Breakdown of perineal/rectal area	6	CNA and nurses busy. Not educated in use of barrier products to protect skin	5	SC	5	150	Ensure proper staffing levels. Educate nursing staff on barrier products	Mariamamah	
1.5	Ignorance of staff	Lack of education for staff	Staff does not know how to take care of wounds or prevent them	6	Everyones busy New employees Personnel not comfortable in teaching	6	SC	2	72	Make short education times for staff Key people on floors to help with education Retention of staff Use of wound protocols	Siti Rohani	
1.6	Documentation not proper	No treatment documented	Delay in healing	5	Possibly no PT consult Lack of knowledge of what treatment to do	4	OK	4	80	Education of staff in wound care Early involvement of PT	Rashid Ibrahim	
1.7	No supportive products	Lack of use of supportive products	Heels break down, foot drop may occur, pressure ulcer may develop	5	Dont use products available	5	SC	5	125	Use products such as heel protectors, wheelchair cushions, pillows, etc Ensure above products are available. Educate family on skin care, involve home health Coordinate discharge care with outside nursing personel if applic.	Mat Fuad	

Note :

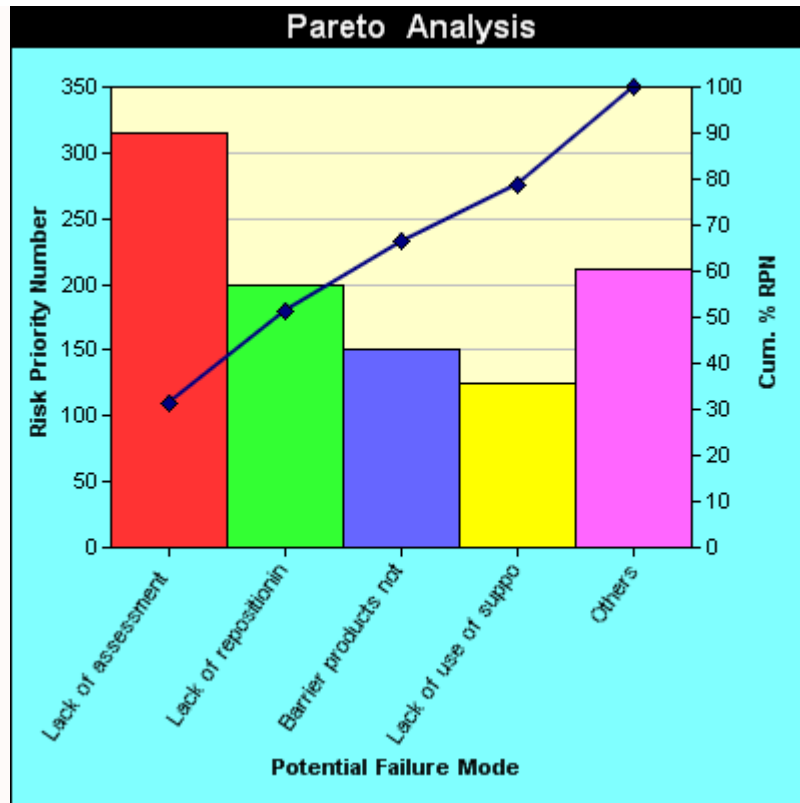
Deleting an item deletes all information in that row.
 To refresh FMEA items from QFD, import without deleting the row information.
 Importing QFD items will import QFD Items without distorting the FMEA order.
 You can then re-arrange the row items as you wish

Pareto Analysis

No. of Items : 4

No.	Potential Failure Mode	RPN
1	Lack of repositioning in bed or chairs	200
2	Lack of assessment Flow sheet does not trigger use of protocol Incomplete charting	315
3	Specialty bed not ordered in timely manner	60
4	Barrier products not routinely used with incontinence Incontinence care not given in timely manner	150
5	Lack of education for staff	72
6	No treatment documented	80
7	Lack of use of supportive products	125
		1002

Potential Failure Mode	RPN	% RPN	Cum. % RPN	Comments
Lack of assessment Flow sheet does not trigger use of protocol Incomplete charting	315	31.437	31.437	Vital Few
Lack of repositioning in bed or chairs	200	19.960	51.397	Vital Few
Barrier products not routinely used with incontinence Incontinence care not given in timely manner	150	14.970	66.367	Vital Few
Lack of use of supportive products	125	12.475	78.842	Vital Few
No treatment documented	80	7.984	86.826	Trivial Many
Lack of education for staff	72	7.186	94.012	Trivial Many
Specialty bed not ordered in timely manner	60	5.988	100.000	Trivial Many
	1002	100.000		



Summary

Comments

HFMEA was a new method tried in our hospital. Initially most of us were sceptical about the usefulness of this method to managing pressure ulcers in our hospital. However the initial apprehension was overcome once we started the project and a lot of procedure became clearer to us.

Observations

It is observed by all that the system is a step-by-step procedure for identifying the level of risks at each level of the process.

Lesson Learnt

HFMEA has a general applicability among all units and departments in systematically controlling an issue or matter. It can be used in a lot of cases specially with the help of the software.

Summary

HFMEA was useful in identify the seriousness of each of the processes. From here the pareto analysis was used to rank the risks. This allows us to manage and understand the associated risks better. Thereafter we are able to develop an action plan as a counter measure to contain the issue at hand in a more structured way. The software was so useful for the team to work step by step.

Next Action

We request for HFMEA to be made available to all staffs within the healthcare ministry.