QUALITY IMPROVEMENT PROJECT
Jun. 2019

Reduction of Occupational Exposure

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LEARNING OBJECTIVES

- To achieve **100%** of infection control performance in order to reduce incidence throughout the course of handling sharps/Blood and Body Fluid till disposing it safely.

- The team agreed on increasing staff **awareness** and **reduction** of Occ. Exposure up to 25% by end of 2019 in comparison with 2018

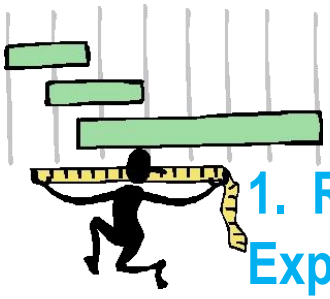
Project Timeline

1. 24.01.2019 Brainstorming session.
2. 05.02.2019 Gap Analysis for P&P as per DOH Standard phase 1
3. 06.04.2019 Follow up meeting, phase 2 (1st Quarter)
4. 25.05.2019 Follow up meeting, phase 3
5. 24.07.2019 Follow up meeting, phase 4 (2nd Quarter)

First Meeting, 24.01.2019
Brainstorming Session

AGENDA :

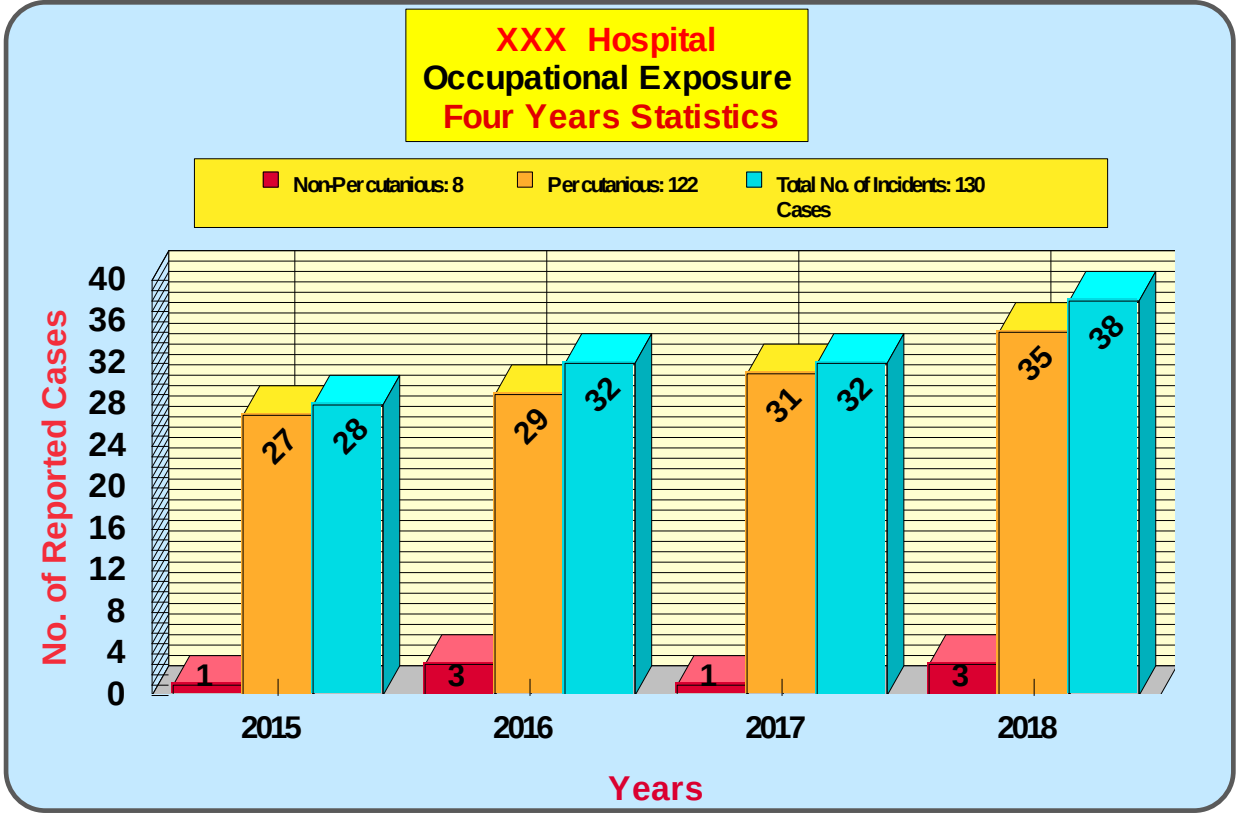
1. Review the current available information on the Occupational Exposure & selection of model to be used in the project
2. Select the team members and send invitations to the next session
3. Create the project objectives
4. Discuss the Occupational Exposure management process.
5. Highlight the relevant policies and standard operating procedures
6. Prepare the agenda for the next meeting



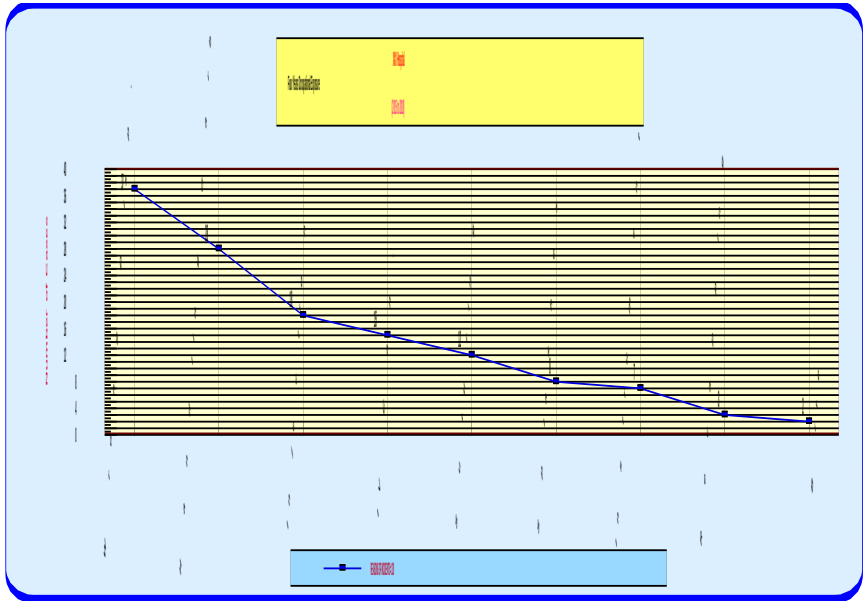
Current Status

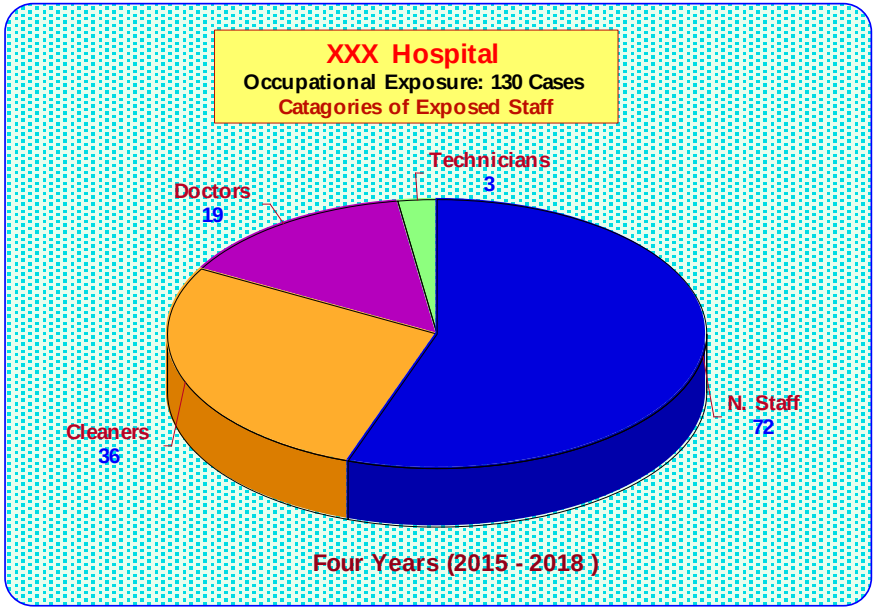
1. Review the current available information on the Occupational Exposure

- ⇨ CDC estimates 600,000 – 800,000 sharps injuries annually among hospital-based healthcare personnel (an average of >1900 injuries/day)
- ⇨ XXX Hospital estimates 130 Occupational Exposure in the last 4 years (2015-2018) among hospital-based healthcare personnel (an average of 32.5 cases/year)
  - Many more in other healthcare settings (e.g., emergency services, home care).
- ⇨ Increased risk for blood borne virus transmission
- ⇨ Costly to personnel and healthcare system



Current Status





Performance Improvement Model PDCA Used

1. Selection Model to be used in this project is: PDCA

Performance Improvement is to assess and improve process

The model is used to learn by:

- Doing and experimenting with improvements
- Examining what is learned
- Implementing what was learned into further improvement efforts

Occupational Exposure

The FOCUS - PDCA Methodology

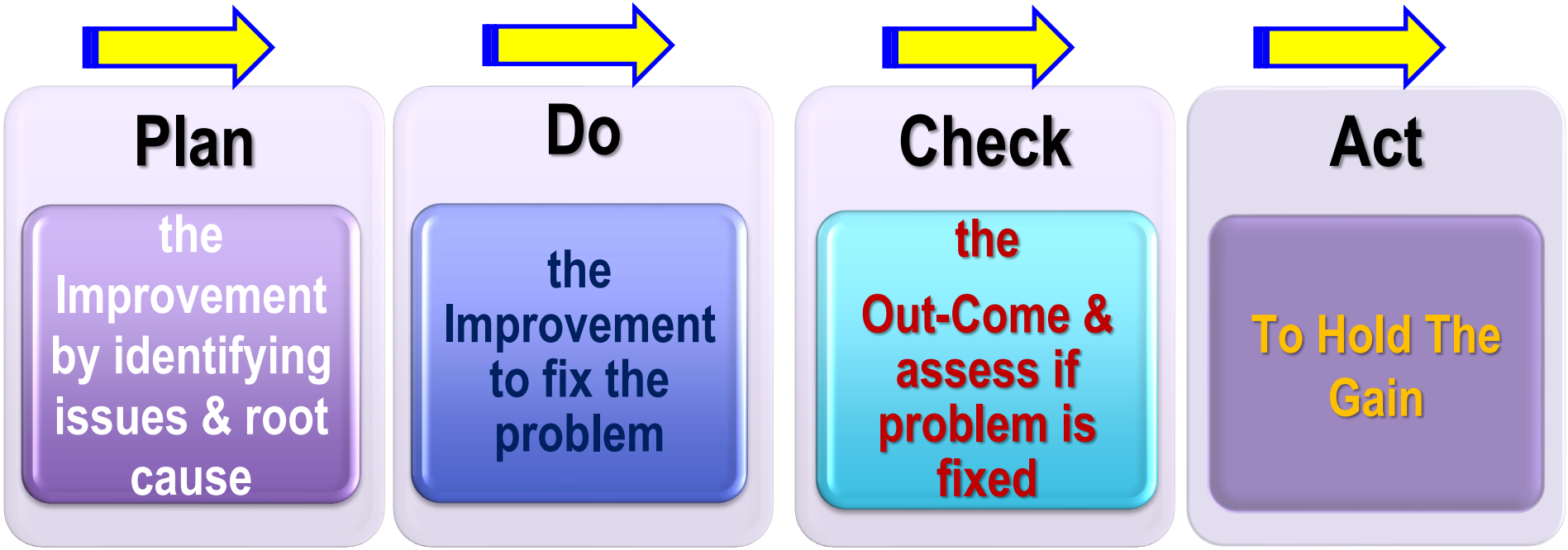
FOCUS

- **F** Find an Opportunity for Improvement
- **O** Organize a Team
- **C** Clarify the Process
- **U** Understand the Problem(s)
- **S** Select a Desired Outcome

Terms & Explanations

PDCA

(it is a four-step management method for the control and continuous improvement of the processes)



Project Team

2. Select the team members & send invitations to the next session

Position
Lead
Infection Control Manager
Core Team
Quality Manager
ICN
Chief Nursing Officer
Housekeeping Supervisor
Senior Safety Officer

Project Objectives

3. Create the project objectives

Objectives are based on ... SMART CRITERIA

SPECIFIC
MEASURABLE
ATTAINABLE
REALISTIC
TIMELY

1. To achieve **100%** of infection control performance in order to reduce incidence throughout the course of handling sharps/Blood and Body Fluid till disposing it safely.

2. The team agreed on increasing staff **awareness** and **reduction** of Occ. Exposure up to 25% by end of 2019 in comparison with 2018.

Process Flow Chart

4. Discuss the Occupational Exposure management process and Policy Revision.

7.4 Management of Occupational Exposure (Needle Stick Injuries "NSI" & Blood/Body Fluid Exposure "BBE")

Health Care Workers

NSI → Encourage Bleeding → Wash affected site → Disinfect the affected site → Cover Injured site with water proof dressing

BBE → Wash affected site → If the eye/face are contaminated irrigate with sterile saline or with tap water

Infection Control

Record & refer expose staff to ER for further investigation and treatment

Conduct PEP Risk Assessment

Sharp Injury Incident Form must be filled and send back to infection control within 48 hours of incident

Notify hospital quality an OHS departments about the incident which should be reported to OHSMS if required by hospital OHS

ICM/P&P/010

Laboratory & Treating Physician

Blood Sample must be collected from the source

Source of Hepatitis B

- Negative & Exposure is Immune → No Further Action
- Positive & the Exposure is Immune → No Further Action
- Positive& the Exposure is Not Immune → Passive & Active Vaccine to be given

Source of HIV

- Negative → No Further Action
- Postive → Action is Required

SHARP INJURY INCIDENT FORM

SECTION -1- (*Accident Details*)

Location:	Time:		Date:	
Needle prick injury	Yes ☐		NO ☐	
Blood / Body fluid splashes	Yes ☐	(specify).....		
Other sharp injury	Yes ☐	(specify)		
Details of accident:.....				
.....				
.....				
Treatment Received: -.....				
	When:		Where:	
Injury Reported to: -.....	Time:.....	Date:.....	Signature:.....	

SECTION -2- (*Source*)

Name:.....	Age:	Hosp. No.	Ward:.....	Res. Phone. .....
Drug Addiction and blood transfusion History:				
Blood Taken:	Yes ☐	No ☐	Date Taken:.....	
	Results:	HB, Ag:.	HB, ABs:.....	
		HCV:	HIV:	

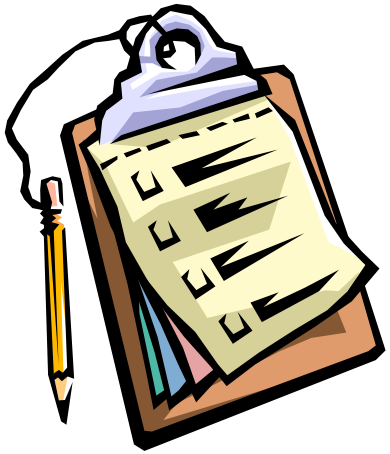
SECTION -3- (**Person *Exposed***): 1.Staff ☐ 2.Patient ☐ 3. Cleaner ☐ 4.Visitor ☐

Name:	Age:	CS No...	Ward:	Res. Phone: .....
Date of last HBVC Received:		Number of Doses:		
Blood Taken:	Yes ☐	No ☐	Date Taken:.....	
	Results:	HB,Ag:	HB, ABs:	
		HCV :	HIV :	
Follow-up Results:	Six weeks:	HB,Ag:-.....		
	Three months:	HB,Ag:-.....	HCV:	HIV: .....
	Six months:	HCV: -.....	HIV :	
	One year:	HIV: -.....		

SECTION -4- (*Vaccination*)

HBIG: -	Yes ☐	No ☐	Time:	Date:	
T. T. : -	Yes ☐	No ☐	Time:	Date:	
HBVC: -	Yes ☐	No ☐	Time:	Date:	
HBVC Schedule	1st dose date:.....	2nd dose date:	3rd dose date:	Booster dose date:.....	

HBVC: Hepatitis B Vaccine
HBIG: Hepatitis B Immunoglobulin
HCV : Hepatitis C Virus
HBV: Hepatitis B Virus



2nd Meeting, PDCA Phase 1
05.02.2019

AGENDA :

1. Review the current available P&P as per DOH Standards on Occ. Exposure
2. Discussing the PDCA project
3. Prepare the agenda for the next meeting

Relevant Policies & SOPs

1. Review the current available P&P as per DOH Standards on Occupational Exposure

ICM/P&P/010
(Sharp Injury)

ICM/P&P/012
(Staff Health)

ICM/P&P/038
(BMW)

PDCA Phase 1

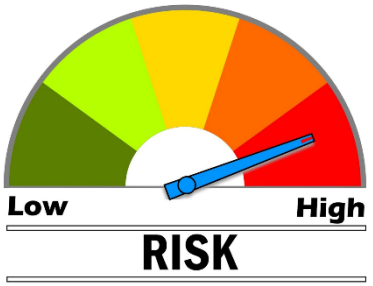
2. Discussing the PDCA Project

Find the Opportunity:

Health care workers who use or may be exposed to needles are at increased risk of needle stick injury. Such injuries can lead to serious or fatal infections with blood-borne pathogens such as hepatitis B virus, hepatitis C virus, or human immunodeficiency virus (HIV).

To prevent such incidents we come up to have **REDUCTION OF NEEDLE STICK INJURY** as our performance improvement project.

This project was selected due to



PDCA Phase 1

Conclusion of Phase 1

- During the meeting after the policy revision the PDCA project was agreed to be launched & Covering the six months of 2019.
  - To reduce\prevent the risk of Occ. Exp. processes from point of handling the sharp/Blood and Body Fluid through the course of a process of use till disposal off by 25% in comparison with the same interval period of 2018.
  - **PDCA:** A Team Tool

- Highlight the relevant policies and standard operating procedures
- The team agreed on KPI & process flow for Occupational. Exposure.
- The project includes all areas and staff of XXX Hospital.

3rd Meeting, PDCA Phase 2
06.04.2019

AGENDA :

1. Review & assess the actual implementation of the process
2. Discussing the PDCA project
3. Prepare the agenda for the next meeting

Phase 2
Follow-Up

1. The team assessed the intended and actual implementation of the process to identify the steps in the process where there is, or may be, undesirable variation, and recommended actions to appropriately manage the process as well as assigned responsibility per action.

2. Project to be continued as planned

Plan: improving by identifying issues and root cause

Sr. No.	Areas of Improvement	Plan	Responsible Person	Time Frame
1	**Identification of hazards & trend of injuries**	To analyze all Occ. Exposure in the work place & to identify hazards & injury trends	ICP	Monthly/If Necessary
2	**P & P on Sharp Injuries**	To have detailed policy on sharp injuries, safe handling of sharps, Occupational Exposure & PEP management	ICP	Monthly/If Necessary
3	**Training**	To ensure that HCWs are properly trained in the safe use & disposal of sharp items	ICP	Monthly/If Necessary
4	**HCWs at Risk**	To Re-Educate all HCWs at risk in the prevention of Occ. Exposure and more specifically on NSI	ICP	Monthly/If Necessary
5	**Safety Device**	To provide safety devices & eliminate un necessary use of sharps and needles	ICP	Monthly/If Necessary
6	**Effectivity of the prevention**	To evaluate the effectiveness of prevention efforts	ICP	Monthly/If Necessary
7	**Identification of areas with low light in treatment/procedure rooms**	Identify & fix good and sufficient lighting to visibility	HSE Officer	End of Feb. 2019
8	**Puncture Resistant containers for vials/ampule disposal**	Puncture Resistant containers for vials/ampule disposal to be provided	ICP & Material	End of Feb. 2019
9	**Heavy utility gloves**	Provide Heavy utility glove to housekeeping staff	ICP & Material	End of Feb. 2019
10	**Awareness Posters**	Place/display needles tick posters for awareness	ICP	End of Feb. 2019
11	**Staff Education**	Education should be given to staff on safe handling of sharps	ICP	End of Feb. 2019
12	**Agitated Patients**	Educate staff on how to handle sharps during and procedure for agitated patients	ICP	End of Feb. 2019
13	**Not to Re-Cap of Needles**	Staff Education on not to re-cap of needles	ICP	End of Feb. 2019
14	**One Hand Scope Method**	Staff Education on how and when to implement one hand scope method	ICP	End of Feb. 2019
15	**Not to have sharps items un-attended**	Educate on safe handling and disposal	ICP	End of Feb. 2019

4th Meeting, PDCA Phase 3
25.05.2019

AGENDA :

1. Review & assess the actual implementation of the process and plan
2. Discussing any other related issues
3. Prepare the agenda for the next meeting

Do: Review & assess the actual implementation of the process and plan

Sr. No.	Areas of Improvement	Plan	Responsible Person	Time Frame
1	**Identification of hazards & trend of injuries**	To analyze all Occ. Exposure in the work place & to identify hazards & injury trends	ICP	**Close**
2	**P & P on Sharp Injuries**	To have detailed policy on sharp injuries, safe handling of sharps, Occupational Exposure & PEP management	ICP	**Close**
3	**Training**	To insure that HCWs are properly trained in the safe use & disposal of sharp items	ICP	**Close**
4	**HCWs at Risk**	To Re-Educate all HCWs at risk in the prevention of Occ. Exposure and more specifically on NSI	ICP	**Close**
5	**Safety Device**	To provide safety devices & eliminate un necessary use of sharps and needles	ICP	**Close**
6	**Effectivity of the prevention**	To evaluate the effectiveness of prevention efforts	ICP	**Close**
7	**Identification of areas with low light in treatment/procedure rooms**	Identify & fix good and sufficient lighting to visibility	HSE Officer	**Close**
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11	**Staff Education**	Education should be given to staff on safe handling of sharps	ICP	**Close**
12	**Agitated Patients**	Educate staff on how to handle sharps during and procedure for agitated patients	ICP	**Close**
13	**Not to Re-Cap of Needles**	Staff Education on not to re-cap of needles	ICP	**Close**
14	**One Hand Scope Method**	Staff Education on how and when to implement one hand scope method	ICP	**Close**
15	**Not to have sharps items un-attended**	Educate on safe handling and disposal	ICP	**Close**

Check

The Out-Come & assess if problem is fixed

1. Sessions on waste management and safe use of sharps and needles were incorporated in orientation and training.

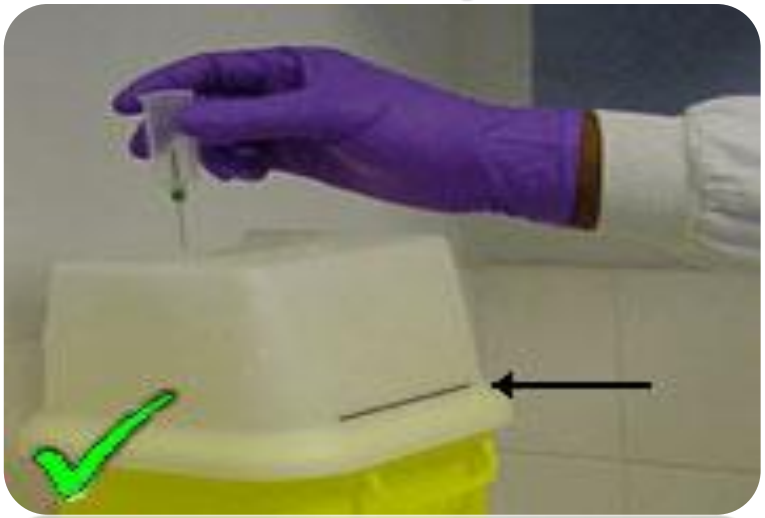
2. Brochure was distributed in all the departments / units highlighting the do's and don'ts.

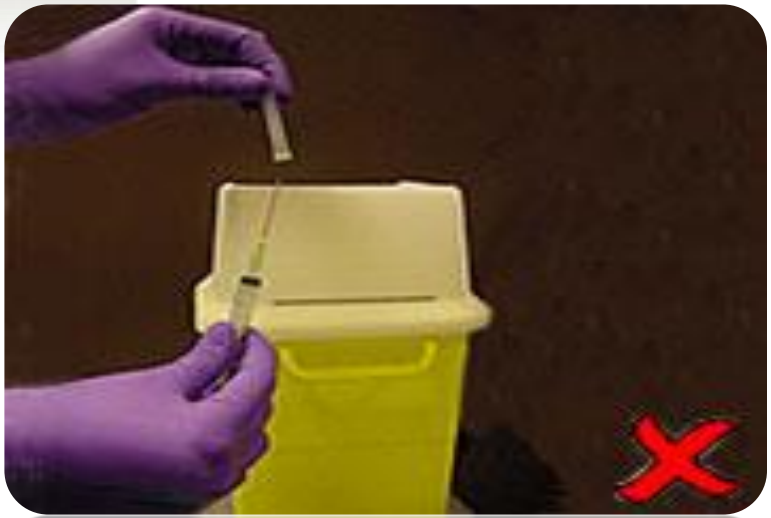
3. Evaluated safety devices and submitted to administration for approval

4. By Monitoring the staff practices, there was good implementation of Policy & Procedure recommendations

Check

the Out-Come & assess if problem is fixed





Act

To hold the gain

- Infection Control team is continuously monitoring the healthcare worker's compliance on proper handling and disposal of sharp items.
- Administrative support by providing safety devices and eliminating the unnecessary use of sharps/needles.
- Repeated reminders and reinforcement of best practices to prevent occupational exposure and more specifically needle stick injury.

5th Meeting PDCA Phase 4 "Follow-Up"

24.07.2019

AGENDA :

Review the implementation of the recommended actions and re-assess the risk

PDCA Phase 4 "Follow-Up"
24.07.2019

Follow up meeting to check the actions taken and to review the outcome were conducted in 24.07.2019 and included the following:

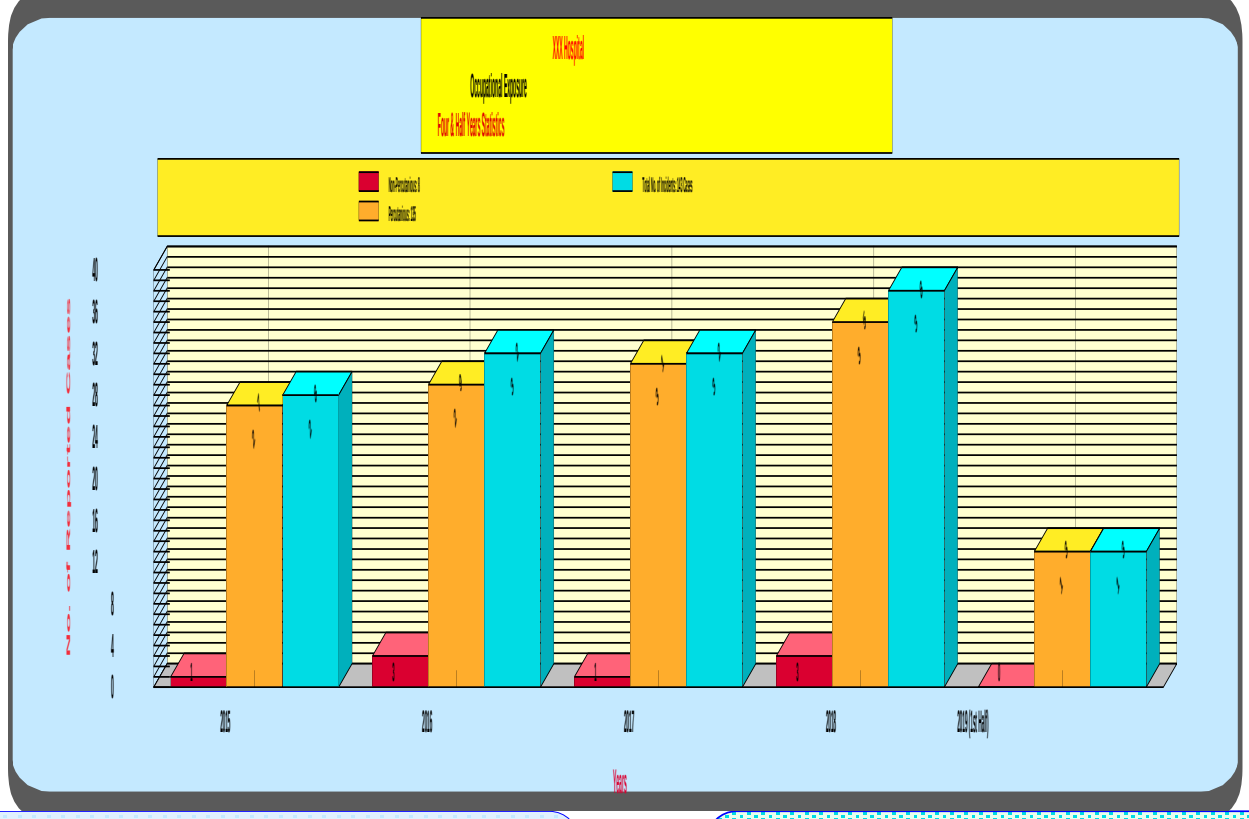
- Educational sessions for all concerned staff was conducted explaining on the necessity and importance on implementing necessary action taking enough time.
- Re-educated staff on importance of safe handling and disposing of sharps .
- Reinforce immediate instatement of required precautions
- Educational sessions for all Staff was conducted regarding PPE & Handling of sharps and proper disposing of Biomedical Waste
- Health care workers & House keeping staff are implementing the process of notifying Occupational Exposure on time.

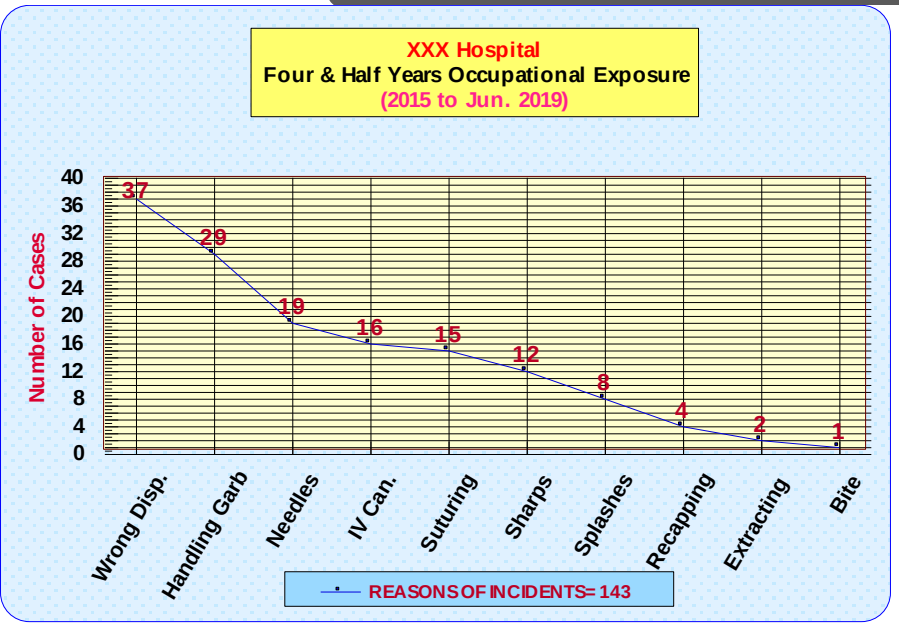
PDCA Phase 4 "Follow-Up"
24.07.2019

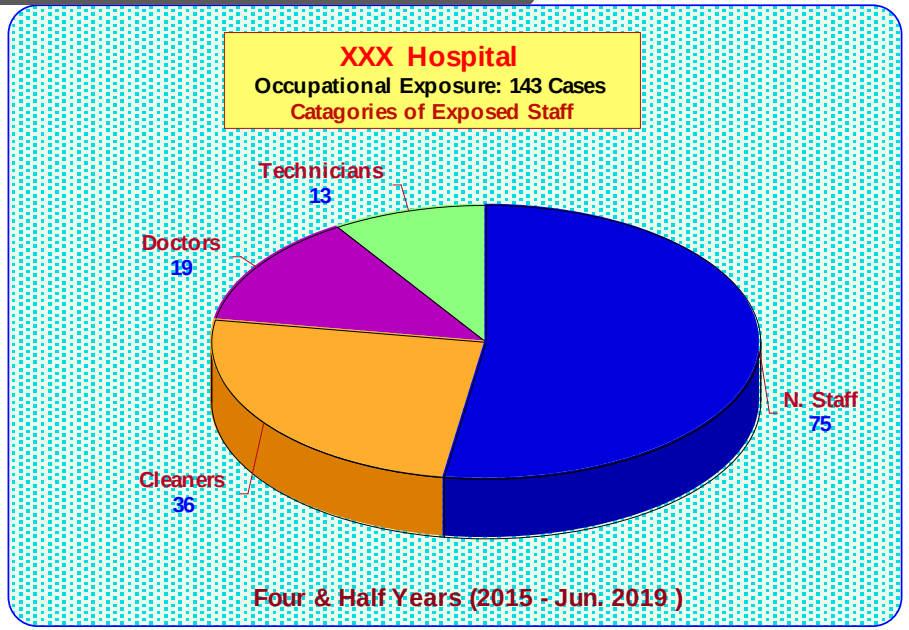
Target was achieved, since there was a reduction in number of reported incidents, which went down from **20 Cases in the last 6th months of 2018** to **13 cases for the same interval period** (first 6 months of 2019), achieving the expected (35%) reduction

4 1/2 Years Statistics of Occupational Exposure X hospital , Abu Dhabi, UAE							Total
2015	2016	2017	2018		2019		143 Cases
			1st 6 Months	2nd 6 Months	1st 6 Months	2nd 6 Months	
28	32	32	18	20	13		
			38		?		

Current Status







Cost of Occupational Exposure

Baseline & Follow-up laboratory testing:

- HIV X 1 +4 = 5 X 92 = DHS 460
- HCV X 1 +3 = 4 X 96 = DHS 384
- HBV X 1 +4 = 4 X 71 = DHS 284
- Anti HBs 1 X 82 = DHS 082

Total Cost per case: DHS 1210

- **2nd Half/2018: Total Cost: 20 cases X 1210 = 24 200 DHS**
- **1st Half/2019 : Total Cost: 13 cases X 1210 = 15 730 DHS**

- Treatment of Post Exposure Prophylactic 23.000 depending on treatment provided
- Lost productivity
- Time to complete paperwork
- Loss of income / loss of career
- Emotional costs
- Societal costs

Conclusion

Annotations\Remarks\Recommendations

- The team agreed that the process should continue to be monitored so as to immediately identify if any variations occur in the process.
- Continuously revising hospital policy on Sharps and safe disposal of sharps as per DoH recommendations
- Modification of procedures and work practices
- Reinforce and educate staff on the safe use & disposal of Sharps and Biomedical Waste
- To facilitate an educational awareness sessions about prevention of sharps
- Having proper training & education about the importance of following hospital Infection control and communications

Awareness & Bundles

How to Reduce\Prevent Needle Stick Injury (NSI)

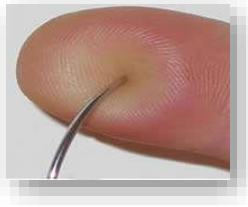
Prevention is a small straightforward set of practices, which should be followed in order to reduce\prevent the risk of needle prick injury:

- Handle all needles and sharps with care.
- Use injection tray to carry needles and syringes.
- The needle should be exposed for the least possible time.
- The hand should not be brought into contact with the point of the needle.
- Needles should be disposed of into the recommended container as soon as possible after use.
- Used needles should not be re-capped, bent or broken, since most of the needle stick injuries are caused by recapping needles.
- If recapping is necessary the “Scoop Method” or “One hand scoop method” is used.
- Dispose of needle/syringe as a single unit.

Safe sharp handling guidelines for suturing

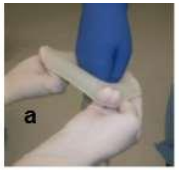
Injuries from Suture Needles Occur Most Often When:

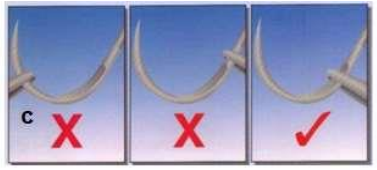
- Loading Needle Holder
- Hand to Hand passing of needles between scrub and surgeon
- Tying suture when a needle is attached
- When surgeon sews toward themselves or to an assistant
- When retracting or stretching tissues with hands
- When placing used needle in an overfilled sharps container



Safe practices for using suture needles

a. Double glove during all intraoperative procedures





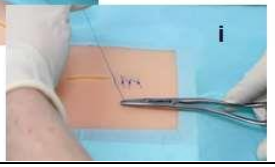
b. Using of blunt suture needles.

c. The needle should be grasped in the holders on its flattened area approximately one-third of its length away from the suture material

d. Pass needles using “hands free” method

e. Identify a “Neutral Zone”. The designated area on the surgical field where sharps can be given to or received from the surgeon.

f. Use “Non touch” method for suturing.

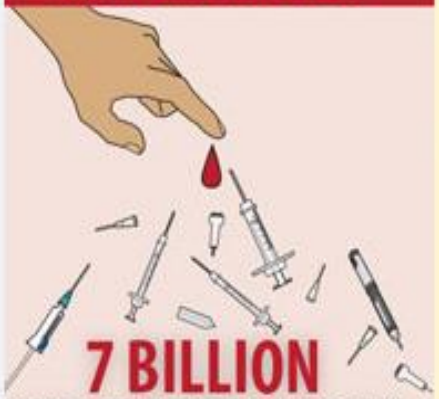


g. Load suture needles using suture packet to assist in mounting.

h. Loop the suture away from you around the needle holder once, then grasp the suture end for tying.

i. Remove needle from suture before tying.

DO NOT PUT LOOSE SHARPS IN THE TRASH

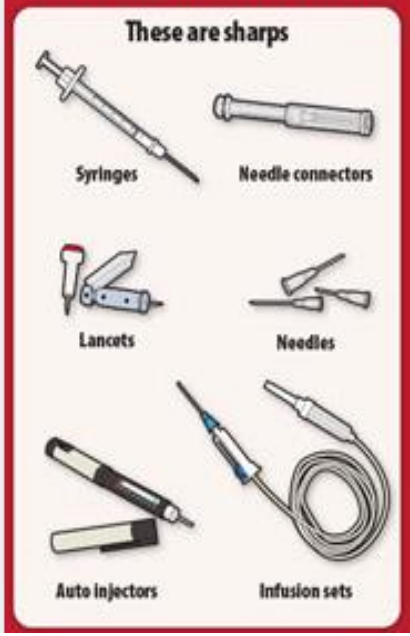


7 BILLION

SHARPS ARE DISCARDED IN THE TRASH EVERY YEAR.

Up to 850,000 people are injured every year by sharps that are not discarded properly.
Used sharps can cut people, infect them and spread disease.

USE A SHARPS CONTAINER



WARNING

Needle stick injury can expose you to infectious diseases such as Hepatitis and HIV.

TO AVOID INJURY...

KEEP YOUR COMMUNITY SAFE

Kwikpoint®

FDA

BE SMART WITH SHARPS

GET A SHARPS CONTAINER

FREE sharps containers may be available from your doctor, hospital, health insurance or medication supplier.

You can also buy a sharps container from your pharmacist or online.

In some areas it is illegal to dispose of sharps in the trash.
Please follow your community guidelines.

Report problems associated with sharps and sharps disposal containers to the FDA (800-FDA-1088).

FDA

For information about rules and laws in your community, contact the Coalition for Safe Community Needle Disposal at 800.643.1643.
For more information on sharps visit fda.gov/safesharpsdisposal.

References

- Based on Best Practice on How to reduce Occupational Exposure in XXX Hospital
- CDC

THANK YOU