



Singapore Healthcare Management 2016

To Reduce Chemotherapy Spillage

Ismail W¹, Marecel H¹, Li Y¹, Zhao J¹, Chew CL¹, Sumarni¹, Suneetha¹, Chong ML², Mohd Za'ba³
 Division of Nursing¹, Pharmacy², Department of Facilities and Management Engineering³



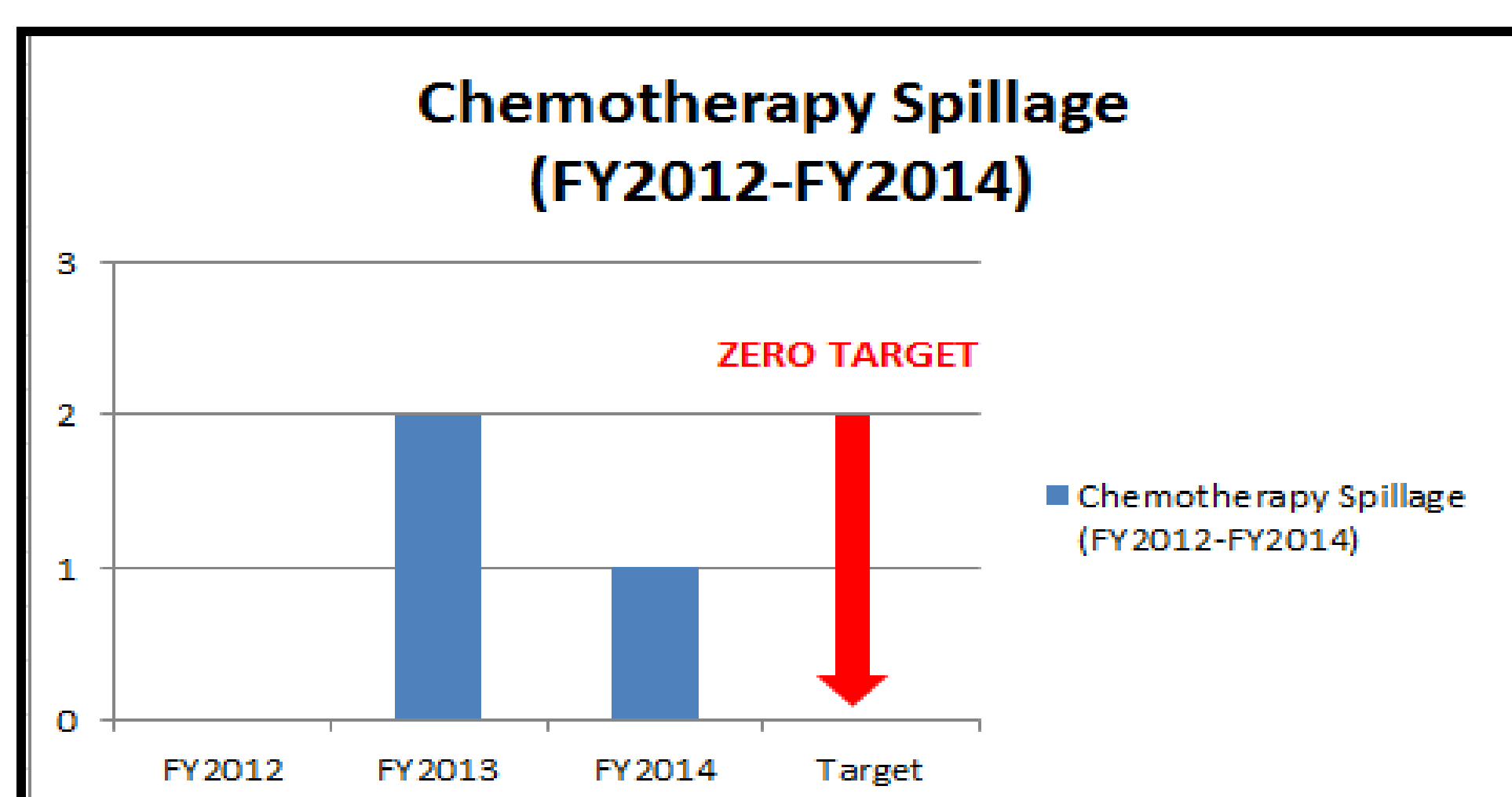
Singapore General Hospital
SingHealth

Introduction

Chemotherapy drugs are cytotoxic drugs and spillages of these drugs carry risks and hazards to workplace health and safety to both our patients and healthcare workers. Acute exposure to body fluids or the drugs itself can cause rash, nausea, dizziness, abdominal pain, headache, nasal sores and allergic reactions. Exposure over a longer period of time is associated with birth defects, reproductive losses and cancer later in life.

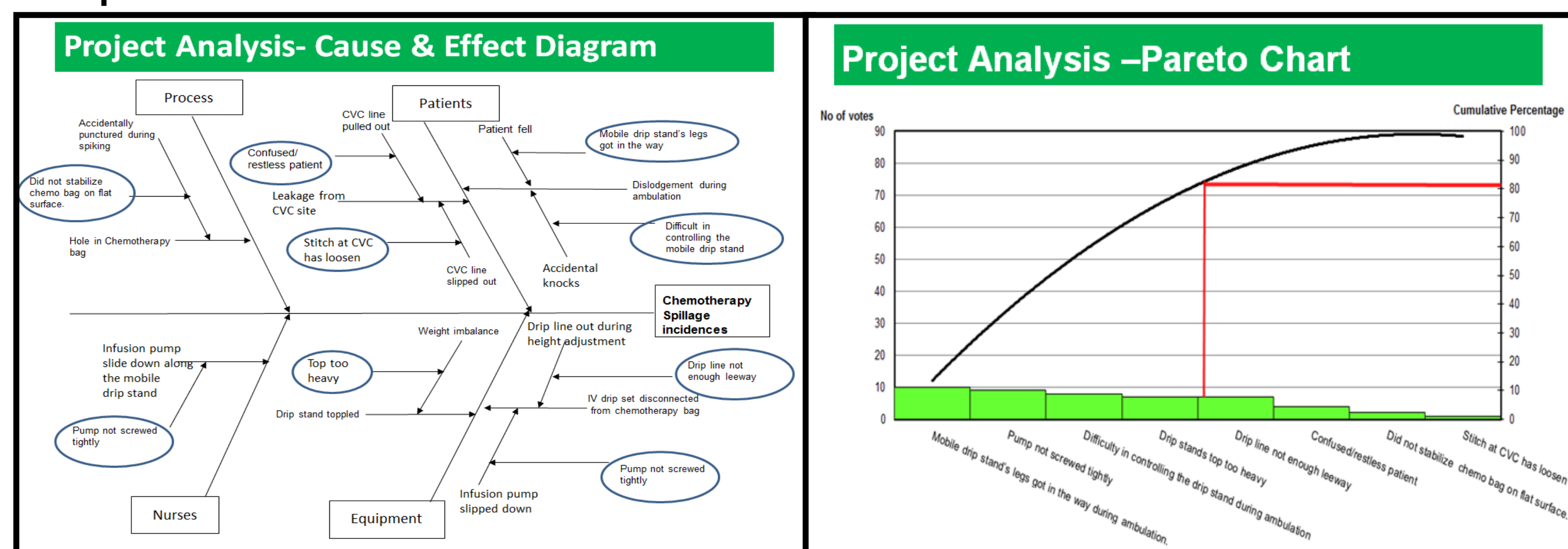
Aims

To reduce the chemotherapy spillage rate to zero within 6 months



Cause Analysis

The root causes were analyzed with the cause and effect diagram. With the 80/20 rule, the vital few were identified for problem solution.



Interventions

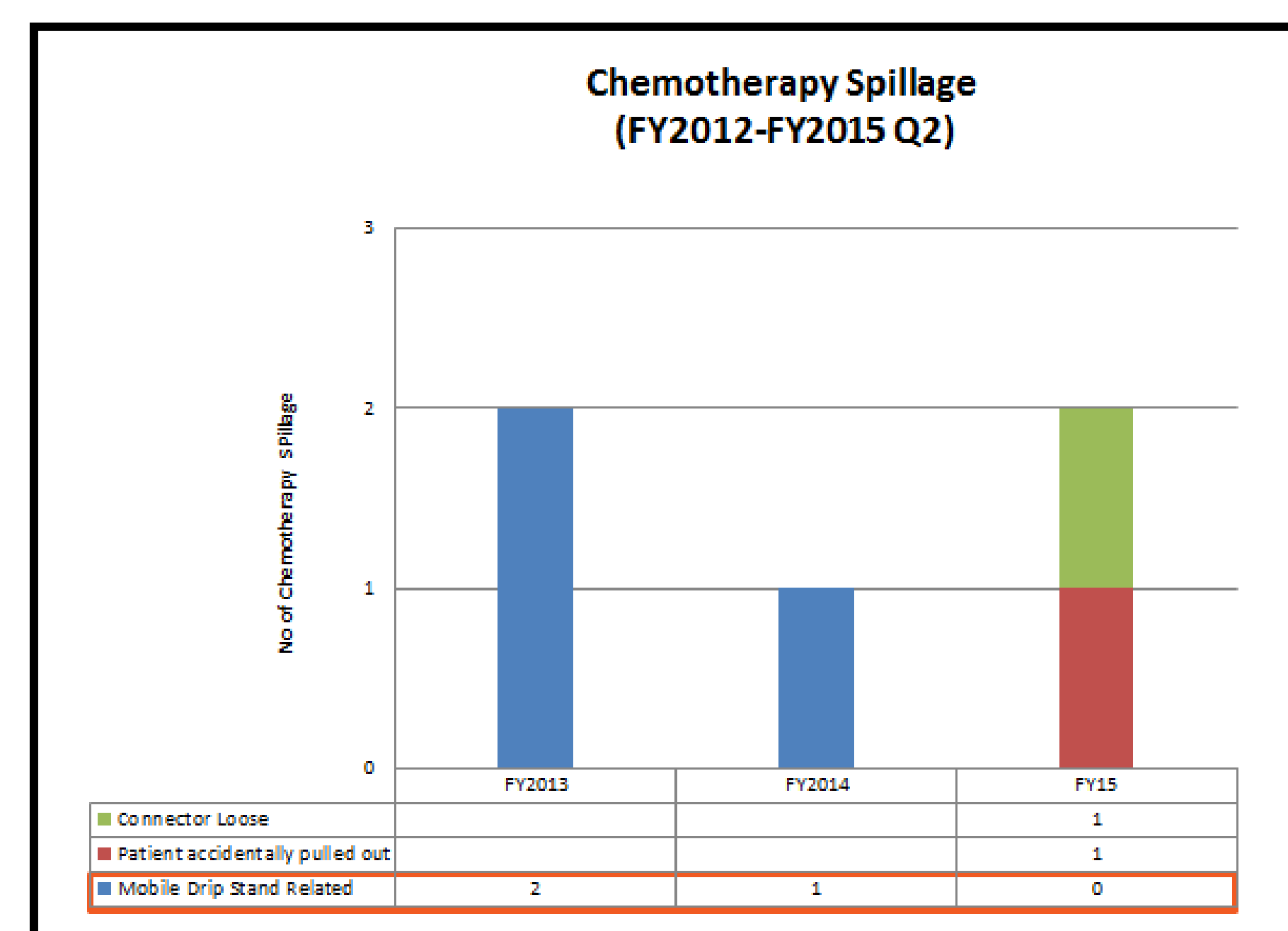
The team focused on redesigning the mobile drip stand to make it safer.

NO	PROBLEM	SOLUTION
1	Mobile drip stand legs got in the way during ambulation	Narrow the gap from the floor with "octopus arms".
2	Pumps not screwed tightly	Install 3 brackets to hold the pumps from slipping down

NO	PROBLEM	SOLUTION
3	Difficulties in controlling the drip stand during ambulation.	Create a square handle for easy manoeuvre
4	Top too heavy	Change from 2 hooks to 4 hooks
5	Unstable and protruding legs Length of each leg : 27 cm long	Change from 4 legs to 5 shorter legs Length of each leg: 24 cm long.
6	Drip line not enough leeway Maximum height 211 cm.	Fix the height of the mobile drip stands Height fixed at 184 cm.

Results

Target was met as chemotherapy spillage incidences related to the mobile drip stand has dropped to zero. The incidences after the implementation of the mobile drip stand were due to other factors unrelated to the mobile drip stand. The team will continue to monitor if these were isolated cases and to be on the look out for opportunities for improvement in its quest for zero chemotherapy spillage.



Conclusion

The new mobile drip stand developed by the team had enhanced safety to patients, staff and to the environment. All chemotherapy administering wards are currently equipped with these mobile stands in the hospital.