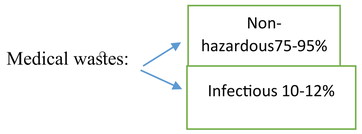
Waste management in Hemodialysis unit

Hanadi Mezher, RN,BSN, MPH-HMP
Performance Improvement
American University of Beirut Medical Center
Beirut - Lebanon

Introduction and Background:

Medical waste is defined as the materials disposed from hospitals or clinical settings (clinics, dispensaries, dialysis units…). It includes sharps, non-sharps, chemicals, blood and body fluid materials (WHO, 2016).



- Hemodialysis is aimed to maintain hemostasis inside the human body by removing the wastes and extra fluids.
- Number of dialysis patients has increased, in Lebanon at 0.9% of population in 2013.
- Very few studies have been conducted in Lebanon on hemodialysis patients and none on proper waste management at hemodialysis centers.

American University of Beirut medical center (Hemodialysis center):

- Increase in number of hemodialysis patients by 35% during the year of 2016.
- Monthly generated wastes during year 2015 was 2350kg/960 session (2.44kg/session)
- Cost of clinical waste disposition is 0.45$/kg.

Objectives:

· Decrease the generation of waste
· Decrease the cost of waste management
· Promote reuse and recycle of waste
· Conduct regular evaluation of performance with waste functions.
· Promote waste minimization and recycling through education system
· Develop guidelines for proper waste management.

Methodology:

Performance improvement is needed to decrease the impact on the environment and the cost on the unit budget

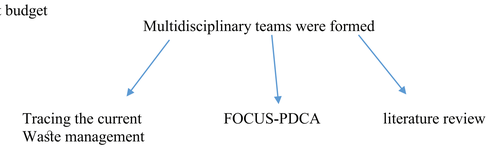


Diagram one: waste segregation before the project

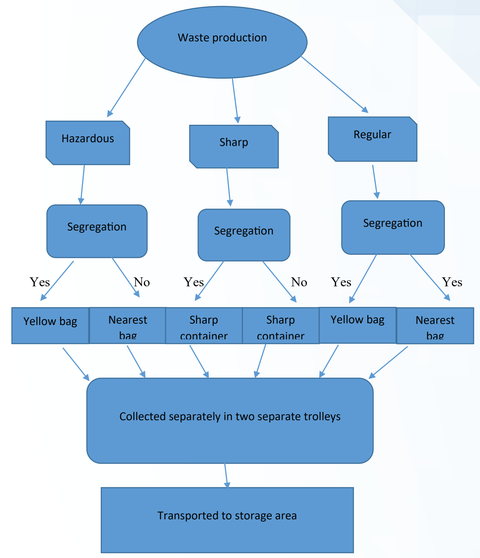
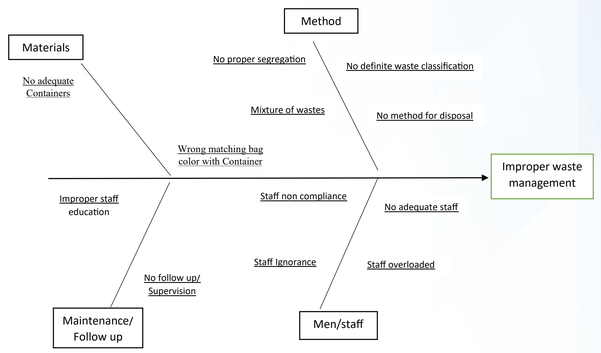


Diagram Two: Fish Bone:



Ethical consideration:

Sustainability: Use of recyclable material
Reuse of resources wisely
No Harm: Providing a safe environment
(clear air, clean water)

Challenges:

- Staff compliance
- Continuity of the project

Public health significance:

Environment: Environmental burden
Air pollution
Water pollution

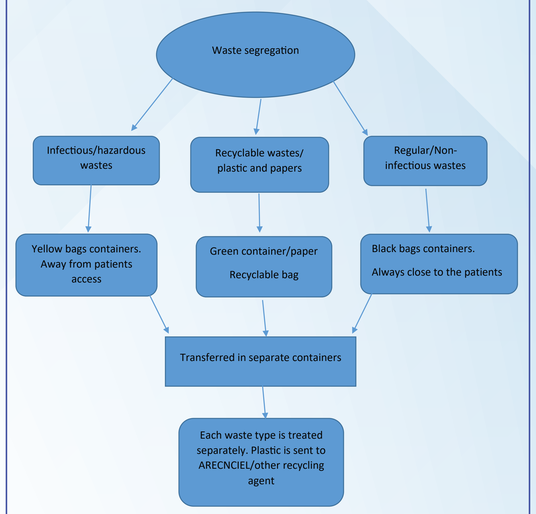
Hemodialysis unit: Extra cost
Green Environment unit

Community: Mental health
Reproduction problems

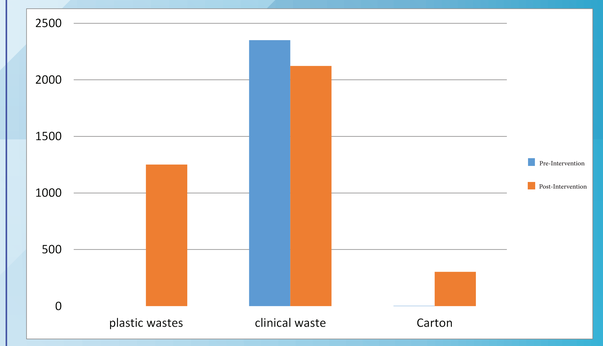
MOPH: National guidelines
Adoption of evidence based interventions

Output:

Diagram three: Waste segregation post project



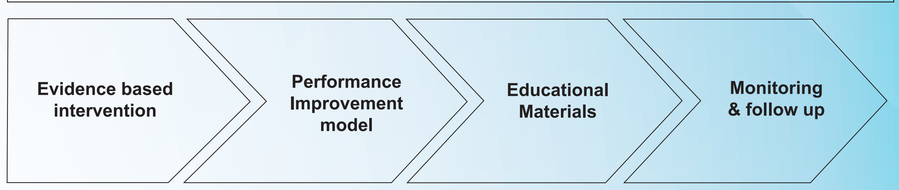
Comparison of wastes generated from Hemodialysis unit pre and post intervention:



Implication at a national level:

- Development of hospital guidelines for waste management.
- Decrease clinical waste by segregating recyclable wastes generated from Hemodialysis unit.
- Conduct a national survey of health care waste practice.
- Develop national guidelines for waste management.
- Share the experience and the outcome with other dialysis centers.

Water management:

- Hemodialysis procedure consume large volume of water and for a long period of time.
- Reject water can be innovatively used and redirected to central sterilizing department for steam generation, hospital janitor station, for toilet flushing, and for landscape maintenance.

Take home message: