



Improve Operational Preparedness of Medical Equipment during Civil Emergency

[ANYONE, ANYTIME ,ANYWHERE, WE ARE PREPARED & READY!]

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SCOPE

BME plays a very crucial role in supporting all critical units in deployment, distribution, monitoring and management of equipment during Civil Emergency (CE).

PROBLEM

From the last Kingfisher(KF) Exercise conducted in 2013, BME faces some challenges in coping with H+1 support to Nursing and anticipated some safety concerns.

PROJECT AIM


To improve the operational readiness of Medical Equipment for an efficient, systematic and safe deployment through lean approach.

CHANGES & IMPROVEMENT

BEFORE	AFTER
 <p>Trolley is tall and heavy. Poor vision and requires 2 staff to push.</p>	 <p>Trolley size is much manageable and 1 staff is able to push with unblock vision.</p>
 <p>Every equipment need to register and scan in-and-out at respective locations is time</p>	 <p>Equipment is ready for grab-and-go with accessories bag. Color stickers are identified .</p>
 <p>Equipment are placed on racks.</p>	 <p>Remove all racks. Place equipment onto mobile trolleys.</p>

- PDCA · KAIZEN · LEAN
- 1) Kaizen Gemba Walk & Lean Waste approach and process mapping are used to list , replace and eliminate the unwanted motion, steps and processes. The steps review must be consistent and task oriented.
 - 2) 5S housekeeping strategy is used on color stickers to differentiate and identify locations alleviates the sorting process after each exercise.
 - 3) Benchmarking and translate best practices from NUH Kingfisher exercise observation to lean our CGH BME processes for Civil Emergency.
 - 4) Cycle time studies performed to optimize ideal routes and timing to meet requests.
 - 5) Safety rules to comply and ensure equipment have reached destinations safely
 - 6) Re-use and recycle approach to source for existing available resources in the hospital to store and transport equipment.

REUSE & RECYCLE



- A document holder to keep the equipment inventory list.
- Install extension cord for charging of equipment.
- Great sturdy handle to facilitate pushing.
- Big heavy duty castors with smooth bearings and brakes for better maneuverability.
- Stainless Steel shelving with underside reinforcement to support substantial load of equipment.
- With 3 sides enclosed to prevent equipment from falling during transportation.

RESULTS		
	2013 KF Ex (Storage Rack)	2019 KF Ex (Mobile trolley)
Time spent	10 mins	3 mins
<ul style="list-style-type: none">• With the change, BME was able to achieve Nursing H+1 support expectation. Simplified workflows and streamline processes were easier for the team to comply . Nursing acknowledged and complimented BME for the orderly and systematic deployment.• Improved time savings of 230% in turnaround time.• Cost Savings of \$21,420 from re-using mobile trolleys from MRO.		