In the midst of Chaos there is Opportunity

Dr. Ganapathi Palaniappan

At IJN, one of the key considerations when COVID-19 struck, was the health and safety of its staff as it went about the arduous task of running the hospital and treating patients.

Dr. Ganapathi Palaniappan *(Cardiology Fellow cum Certified Occupational Health Doctor, OHD) shares how everything came together.*

"IJN did not have an OSH unit to start with; it was always just a task force, as it was at the beginning of the pandemic early last year. But when things started getting intense, we officially formed the OSH unit in May 2020, which had to hit the ground running as situations demanded immediate management strategies.

Two key areas had to be dealt with immediately - the safety of people and the working environment.

Firstly, this virus is carried by people; staff and patients walk in and out of the hospital every day. It was imperative that we could trace where they went within the hospital and who they had contact with - especially when they turned out to be a positive case.

MOH very quickly outlined the standard SOPs, and we also incorporated additional ones of our own. For example, we grouped those who had contact with COVID positive patients into T1, T2, and T3 groups, namely positive cases, close contacts, and third-degree contacts, respectively. And we isolated and observed all three groups as an extra precaution until test results came out, symptoms appeared, or the quarantine period was over and took the necessary action.

By "chasing" the close contacts and PUI's this way, for both staff and patients, wherever possible, we managed to prevent many outbreaks as we caught the cases in good time.

We also effectively created the mentality that everyone is responsible for themselves and their departments, empowering them to make decisions for their units. Each department now has designated OSH coordinators who work together with the OSH unit, which is efficient and effective in flowing down informations and updates.

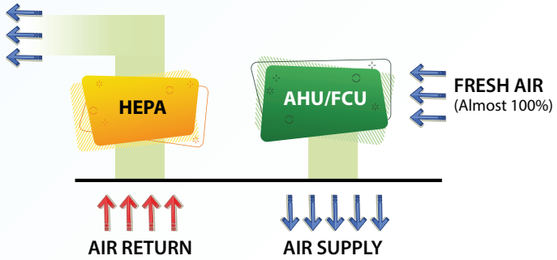
This is exactly what we needed because educating and empowering our staff allowed for better management. They could also handle situations in a timely manner as decisions and action steps are made at each level concerned instead of waiting for trickle-down directives.

Another big focus area was the working environment. Although IJN is not a primary care hospital, we also had our share of COVID-19 patients and were equally exposed to risks. Controlling and preventing the spread of the virus was especially important within our air-conditioned environment as we mainly deal with highly vulnerable patients.

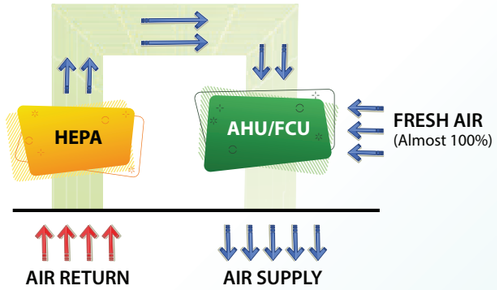
So, our immediate need was a large area to isolate incoming patients as we considered everyone positive until proven otherwise. We had to have a few of these areas in the ED, the cardiology HDU, another ward at Level 1, and the PUS unit - all catering for different needs and patient profiles. And for these, we wanted to separate the ventilation and air conditioning system from the rest of the hospital. The OSH unit worked together with the COVID task force, and our engineers; we put on our thinking caps and went to work to create these negative pressure areas in a short time. We also modified many other things, i.e. we set up barriers between patients and doctors in clinics and administrative areas. It was a whole new modus operandi of keeping everyone as safe as possible while providing the same standard of care as we always had.

It took a few days of planning, a lot of thinking out of the box, considerable re-engineering and redesigning. But within two short weeks, our team had fortified IJN, enabling it to deal with the menace of this virus.

This all happened under the expert guidance of our Facility Management Department Manager ***Mustaffa Bajuri***."



TYPE 1



TYPE 2

"Our primary objective was to make sure that we contained the virus that patients brought in, as much as possible," Mustaffa shares. "We had to block off the whole area to re-designate the cubicles and rooms and change the airflow systems."

En. Mustafa Bajuri

As such, one major change was to convert the existing general ward into COVID wards, and the key requirement for this was a modification of the ventilation systems. Mustaffa says that two airflow systems were employed, depending on the existing ventilation methods .

"Our team designed these systems to create "clean wards" especially for COVID patients, as either negative pressure or positive pressure rooms, to prevent cross-contamination. We use HEPA filters which can filter 99.97% of particles with 0.3 microns. Just as an indication, a human hair averages 70 microns."

The primary COVID ward is the High Dependency Unit (HDU), and every cubicle has separate air systems to prevent cross-infection. Mustaffa says these cubicles can also be changed to negative pressure rooms, if necessary.

"We have also installed Fan Coil Units (FCU) so that every single room now has fresh airflow. Meanwhile, in the paediatric ward, we reduced the number of beds in a cubicle to create a "room within a room" for isolation purposes," he adds.

On top of the room realignments, his team also redirected water and power supply to suit the changed configurations. Other initiatives included Aironlift systems to manage ventilation in the confined spaces of the lifts, Perspex partitions for the pantry, office work stations and registration counters, as well as cordoning off seating areas and linking chairs. All these were done was on top of the general maintenance works Mustaffa and his team are in charge of.

"We worked within a tight two-week deadline, round the clock and also amidst ever-changing requirements as the situation evolved. It was also extra challenging because construction materials were limited, and our contractors had difficulty getting supplies with hardware shops closed during the height of the MCOs at that time. We also needed some special equipment.

"These were all unexpected and unplanned expenses that cost us about half a million Ringgit. Thankfully the department has a sizeable budget for maintenance, so we worked smart and managed finances well."

Having completed the major part of the renovations early on, the department has continued to attend to specific requirements as they arise, putting in additional fittings and maintaining everything well so the hospital can function to the best of its ability.

For Mustaffa and his team, while the COVID pandemic brought about unexpected requirements and changes, it was and is all part of the day's work.

Indeed, a job well done!

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