# Post-COVID trends in healthcare facility management

**Rupal Sinha**, CEO IFMS, Quess Corp reviews the use of emerging technologies in cleaning, disinfection, ventilation, and bio medical waste management in healthcare facilities

The onslaught of the mutated variant of the COVID-19 virus in the second wave has warranted constant efforts to continue the upgrade in protocols as a preventive tactic against the pandemic.

### The rise of home healthcare delivery

The demand from patients is increasingly driving the healthcare experience in terms of long distance care for non-acute cases, with enhanced technology enablement to meet expectations and address shortfalls in home healthcare delivery. Remote patient monitoring programs, digital portals offering self-service functions, and messaging services have been on rise.

Statistics show that during the pandemic, even the middle-aged, elderly and senior citizens were compelled to adopt digitised platforms for medical assistance, generating the need for healthcare professionals to facilitate online appointment booking, consultations, e-prescriptions, door-step delivery of medicine and so on, leading to several benefits of telemedicine and virtual care, including the reduced risk of spreading contagion and enabling healthcare practitioners to conduct more patient consultations per day.

### Patient-centric post-pandemic SOPs

Besides medical services, non-medical roles and services in healthcare such as housekeeping, biomedical, general engineering, biomedical waste management, patient attendants, ambulance drivers and technicians, para medical staff, dietary catering, security, clerical and a host of other healthcare assistance activities are being executed with strong emphasis on "infection control" and "patient-centric" focus as a base line in training.

In the case of JCI, NABH, NABL and ISO accredited healthcare facilities, regular internal audits and periodic external audits and re-certifications are mandated to enforce accurate infection control and safety protocols. Documented standard operating procedures (SOPs) and systems are perused and mapped with the "on ground" service delivery. Stringent guidelines of the hospital infection control committee (HICC) and pollution control norms are followed as deviations could lead to mishaps, arising from insufficient prevention measures, thus inviting unwanted medicolegal action.

> Specially designed IOT-driven smart cleaning systems, steam and UVC cleaning and sanitising of washrooms, ICUs, and infection prone areas are part of the new normal ensuring maximum bacterial and viral eradication. The use of UVC robots is on rise to ensure that patient rooms, operational theatres and infection prone areas are sterlised before use, safeguarding against the spread of infection

### Tech-enabled facility management as an essential service

The essential role of hygiene, crowd management, security, patient care and building management generally and especially at healthcare facilties has got tremendous enhancement with the high level of technology enablement.

The pandemic environment has recognised cleaning staff as essential service providers, and the emphasis by facility management companies and healthcare clients on the use of colour-coded cleaning materials, green products, smart and robotic cleaning, clean air quality and bio waste handling has enormously increased.

Specially designed IOT-driven smart cleaning systems, steam and UVC cleaning and sanitising of washrooms, ICUs, and infection prone areas are part of the new normal ensuring maximum bacterial and viral eradication. The use of UVC robots is on rise to ensure that patient rooms, operational theatres and infection prone areas are sterlised before use, safeguarding against the spread of infection.

### Air quality control towards curbing contagion

Air quality control plays a vital role in prevention of infection and its spread. A well-maintained and operated system can significantly reduce the spread of COVID-19 in indoor spaces by increasing the rate of air change, reducing internal air re-circulation and increasing the amount of outdoor air exchange.

In the fight against COVID-19 and the efforts to adapt to the new normal, heating, ventilation and air conditioning (HVAC) systems have been revisited to be upgraded with high grade high efficiency particulate air (HEPA) filters, along with UVC air disinfection installations in central HVAC systems via ducts and air handling units (AHUs). UVC destroys airborne viruses, bacteria and fungal growth within an HVAC system. The re-circulating air in HVAC systems creates redundancy by exposing microorganisms to UVC, ensuring multiple passes to ascertain that the light energy is effective against airborne microorganisms, thus curbing contamination.

### Biomedical waste management and documentation

Another area that is extremely sensitive is bio-medical waste management, from segregation to disposal. The pandemic has made the process more challenging as the outbreak led to an exponential rise in the quantity of biomedical waste generated and the need for its disposal. Revised SOPs have been formulated by the government with stringent norms for onsite waste segregation, storing, transportation and disposal with any deviation leading to termination of licenses.

The waste is transported in a designated closed vehicle, equipped with a GPS tracker. Qualitative and quantitative data in terms of generated and disposed waste is documented and reported to the state pollution control board. According to recorded statistics, there is an increase in the quantity of biomedical waste ranging from 25 to 349 tonnes per day, in the wake of COVID-19.

Through technology enablement that is IOT-driven, with AI to generate valuable data, the healthcare industry can look forward to more efficiency, productivity and better facility management, leading to safe, secure and sterile environments.