Application of telepresence robot for COVID-19 management

Telepresence robots can be used to help manage the COVID-19 situation now, this section will talk some details about some specific application through block diagrams.

1. Remote temperature monitoring at public places like airports, such function can avoid staff being exposed to the danger of being infected when measuring others temperature. Compared to ask staff to measure the temperature by themselves, telepresence robot can measure multiple person’s temperature at once, which improve the efficiency.

**When people come to the airport or community**

**Infrared thermometer on the telepresence robot will scan certificates like passport and measure the temperature**

**Staff stationed at control center**

**read the temperature reading**

**If the reading is too high, crew can use the robot to talk to the comer and guide him to be quarantined**

**If the reading is not high enough, crew can control the robot**

**The robot will drive a servo or trigger a switch to open the door and let the comer pass**

1. Remote consultation between health professionals (doctors, nurses etc.) with patients using the tab/ Replace hospital reception staff with robots to answer questions by patients and family members.

**When patients or family members want to see a doctor**

**Tablet on the telepresence robot can show each doctor’s specialty and whether he or she is convenient**

**If the doctor is busy now, patients can use the robot to make a schedule or see other doctors**

**If the doctor is free, he can use the telepresence robot to make a video call with the patient**

**Telepresence robot can measure patient’s temperature and transmit the data to the doctor**

**Doctor can run further diagnosis based on the data and video call**

1. Contactless delivery of food and medicines, by some modification of the medication dispenser. Transport robots can free some nurses by doing their work like delivering medicine or food and reduce their time for intimate contact the virus.

**Medicine and food are stored in the robot**

**When patients need food or medicine**

**Nurses stationed at the control center can drive the telepresence robot to the patient**

**When robot is near the patient, nurse can control the dispenser on the robot to deliver the food and medicine packed in specific containers**

**Nurse also can use the robot to make video call or measure patients’ temperature while delivering the food**

1. Disinfect rooms with ultraviolet light and remove germs using special attachments

**Equip a robot with ultraviolet light and pneumatic system**

**User can drive the robot remotely into a room and turn on the light**

**User can also start the pneumatic system to release spray and disinfect the air**

**User can monitor the progress through the camera on the robot**

**When disinfection is end, user can drive the robot out or use sensor equipped on the robot to test the air quality**