Sanity Template for IPC scenario 2: Severe Novel COVID-19 Infection (SARI)

Field	Text
Title	IPC: Severe Novel COVID-19 Infection (SARI)
Subtitle	Respiratory Treatment and Triage to Admission
Publishing Organization	Laerdal Medical
Overview tab	
Simulation Type	Simulator based
Simulation time	25 minutes
Debriefing time	30-40 minutes
Level	Advanced
Patient Type	Adult
Target groups	Health Care Providers in Emergency Department
Summary	This scenario presents the expected arrival of a 71-years-old male with suspected COVID-19. The patient called the healthcare triage call center, with high fever, coughing, chest pain and respiratory difficulty. 8 days ago, he met with his son who has now been tested positive for 2019-nCoV. The patient has a history of diabetes 2 and chronic liver disease. The participants are expected to prepare equipment, don PPE, assess patient, administer supplemental oxygen, obtain venous blood sample, order bedside x-ray, and triage to admission on either Intensive Care Unit (UCI) or monitored acute respiratory department, educate patient, communicate effectively with interprofessional team, escalate standard precautions for all patients and safely dispose of equipment and PPE.
Learning objectives	- Apply standard precautions according to presumed diagnosis including appropriate PPE - Apply routine Infection Prevention and Control (IPC) - Ensure all equipment ready and available - Recognize the suspected patient early - Collaborate and communicate with the health care facility's IPC infrastructure - Distinguish between severe acute respiratory infection and acute respiratory infection - Perform a primary assessment of a patient with severe acute respiratory infection (SARI) - Start immediate treatment of respiratory distress and infection - Alarm the Hospital IPC coordinator of suspected COVID-19 - Verbalize escalated standard precautions for spouse and front desk - Obtain adequate samples and diagnostics for SARI according to safety procedures - Triage the patient according to the general principles for patients with severe acute respiratory illness (SARI) - Educate patient on personal standard precautions and plan of care

	- Coordinate safe patient transfer to receiving department - Handle contaminated equipment according to procedure - Doff PPE according to procedure
Educational information	NA
Further readings	*Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected. Interim Guidance*, World Health Organization 25 January 2020, WHO/2019-nCoV/IPC/v2020.2
Scenario image	Pending
Scenario Video	NA
Why use this scenario?	This scenario addresses key interventions for the preparation, identification, treatment and triage of the patient with chronic disease and severe acute respiratory infection (SARI) due to novel COVID-19 disease. The scenario is designed to train and test health care providers at the emergency department in standard precautions and Infection Prevention and Control (IPC) according to WHO Interim guidelines 25 January 2020 on IPC for the 2019-nCoV virus.
Prepare tab	
Location	Emergency Department
Participants	2-4 health care providers 1 observer 2 scenario assistants to act as interprofessional personnel: 2 first responders to carry the stretcher with the patient into the examination room 2 portable X-ray assistants 1 orderly to transfer patient to ICU
Equipment list	**Medical Supplies** - ABHR - Alcohol base hand rub - Blood pressure cuff - Blood sample kit - ECG electrode cables - Endotracheal intubation kit - IV line - Medical face masks (N95 mask with respirator) - Oxygen delivery devices including minimum nasal cannula, bag valve mask and non-invasive ventilator with reservoir. - Oxygen supply source - Saline lock - Specimen collection kits - SpO2 probe - Standard precautions equipment for all participants including scenario assistants acting as first responders and x-ray assistants (long-sleeved, disposable gown, goggles or face shield and non-sterile gloves) - Stethoscope - Suction line and tubing - Thermometer - Universal precautions equipment

	Props • 2 sets of first responder uniforms • Local IPC check list and procedures • Patient cloth appropriate for 55-years-old • Stretcher • Portable X-ray machine **Medications** • Ipratropium • IV Antibiotics • Normal Saline • Salbutamol
Preparation and setup	• Dress the simulator in clothing and cap suitable for a 71-years-old man • Place the simulator lying on a stretcher • Apply moisture on upper lip and forehead to simulate sweating
Role Information	Instruct the 2 scenario assistants to dress in first provider's uniforms and to apply mask and gloves. Have them ready to carry the patient to the examination room 5 minutes into simulation time. Then have both simulation assistants act as x-ray assistants, standing by with the portable x-ray machine in full PPE to go into the examination room 2 minutes after the participants have ordered an x-ray. Then have 1 of the simulation assistants act as an orderly to transfer the patient to admission department when called by the simulation participants. If wanted, the assistant can don only part of the PPE, leaving out goggles/face shield to test if the participants are aware of the missing equipment and the contamination danger during transport of patient.
Patient chart	NA
Training Devices	SimMan 3G family, SimMan ALS, ALS SimMan, Nursing Anne, Nursing Anne Simulator, Nursing Kelly, MegaCode Kelly advanced, Resusci Anne Simulator
Simulation devices	Lleap, SimPad
Simulation mode	Automatic mode
Additional Simulation Equipment	Patient Monitor, SpO_2
Simulate tab	
Learner Brief	Emergency Room 09:21 The health care call center has referred a 71-year-old man with diabetes and chronic kidney disease who is on his way by own transportation (spouse is driving). The patient has reported fever, dry coughing, chest pain and respiratory distress. Please, appoint a team leader, don PPE and prepare for receiving the patient within 5 minutes.
Patient Picture	NA
Patient Data	Name: Antoine Debuzzy

	Gender: Male Age: 71 years Weight: 83 kg Height: 175 cm Allergies: No known Immunizations: Yearly influenza vaccine
Start vital signs	Initial vitals • ECG: Sinus w occasional VES • HR: 117 bpm • RR: 22 rpm • BP: 149/80 mmHg • SpO2: 89% - EtCO$_2$: 31 mmHg • Tblood: 39 ºC **Only for programming purpose, not Scenario Cloud entry:** Trend after oxygen administration: ECG: sinus without VES HR: 112 RR 15 BP 140/80 SpO$_2$: 97% EtCO2: 38 mmHg Over 1½ minute Trending 2½ minutes after patient encounter with no oxygen applied: HR: 124/min RR: 33/min BP: 120/85 SpO$_2$: 81% EtCO$_2$: 29 mmHg Over 2 minutes
Medical history	**Past Medical History** Diabetes 2, chronic kidney disease **Resent Medical History** Patient got a cold 3 days ago with fever, sore throat, sneezing and increasing fatigue. This morning, his son called that he had been tested positive for COVID-19, after returning from a business trip in a endemic COVID-19 area. Patient met with his son 9 days ago. **Social History** Retired bus driver 8 years ago, married with 2 grown-up children, smokes 4-6 cigarettes per day. Used to drink alcohol on daily basis until he got a diagnosis of diabetes 2 and chronic liver disease 17 years ago. Active in the local AA society.

Clinical Findings	- Respiratory distress - Dry coughing with chest pain - Sweating and shivering - Malaise and fatigue
Diagnostics	None available
Provider's orders	NA
Expected interventions	• Assemble and prepare equipment • Assure standard precautions • Don PPE according to procedure and IPC guidelines for acute respiratory infections (ARI) • Identify patient • Perform primary survey • Obtain 3-lead ECG • Monitor patient closely • Administer supplemental oxygen • Obtain patient history • Verbalize SARI secondary to suspected COVID-19 • Call IPC coordinator • Verbalize escalation of standard precautions for first responders who transferred the patient • Order bedside X-ray • Insert IV/IO • Start infusion of normal saline • Collect specimen sample • Obtain venous blood sample • Blood culturing • Consider nebulized drugs • Administer IV antibiotics • Safely contain specimen and blood sample for transport • Contact laboratory personnel • Triage the patient to hospital admission • Call ICU • Give report • Request IPC transfer of patient • Inform patient on plan of care • Educate patient on standard precautions • Communicate effectively with interprofessional team • Escalate standard precautions for all patients • Hand over patient to orderly • Safely dispose of equipment • Doff PPE according to procedure
Assessment Instruments	This scenario contains scoring that enables a summative assessment of the participants. The scoring is based on all key events which can be logged during simulation and is presented at the end of the debriefing log after simulation is ended. The scoring is presented as a sum of logged events compared to the maximum score. **The scoring is based on the below key events:**

	Wash hands = 1 Don all PPE equipment = 1 Check equipment = 1 Identify patient = 1 Obtain patient history = 1 Assess breathing = 1 Assess vital signs = 1 Obtain oxygen saturation = 1 Obtain 3-lead ECG = 1 Auscultate lungs = 1 Administer supplemental oxygen = 1 Obtain patient history = 1 Verbalize SARI secondary to suspected COVID-19 = 1 Call IPC coordinator = 1 Verbalize escalation of standard precautions = 1 Order bedside X-ray = 1 Insert IV/IO = 1 Start normal saline infusion = 1 Consider nebulized drugs = 1 Administer IV antibiotics = 1 Collect specimen sample = 1 Obtain venous blood sample = 1 Label sample bottles = 1 Place specimen and blood sample in safety bag = 1 Contact laboratory = 1 Perform relevant documentation = 1 Triage patient to hospital admission = 1 Call receiving department = 1 Give report using SBAR = 1 Prepare patient for transfer = 1 Inform patient on plan of care = 1 Educate patient on standard precautions = 1 Safely dispose of equipment = 1 Disinfect dedicated equipment = 1 Order disinfection of examination room = 1 Doff PPE according to procedure = 1 Ensure safe disposal of PPE = 1 Wash hands = 1 **Total max score = 38**
Operator Information	## Information on scoring This scenario contains scoring that enables a simple summative test of the participants. After the simulation is ended, a total score for each correct intervention which has been logged, is displayed in the debriefing overview. It is therefore of upmost importance to log all interventions when done correctly to give an accurate end score of the performance. If using this scenario for training only, the instructor can ignore total score in the debriefing.

	Information on logging PPE This simulation is a team training session. All participants are required to apply adequate PPE. If one of the participants fails to apply one of the required PPE equipment items, this item should not be logged even though the rest of the participants apply the PPE equipment item. It is a basic assumption that the team helps and ensures that all participants have don correct PPE after procedure.
Scenario Progression Image	NA
Scenario Progression Image Title	NA
Scenario Progression Image Description	NA
Scenario Progression Attachment	NA
Debrief tab	
Guided reflection questions	These guided reflection questions are organized by the gather-analyze-summarize (GAS) method. The questions are presented to suggest topics that may inspire the debriefing conversation. **Gather Information** • What are your reactions to this simulation? What are your other initial reactions? • Would one of you describe the events from your perspective? • From your perspective, what were the main issues you had to deal with? **Analyze** • Describe the general principles of IPC when caring for patients with ARI. How did you apply these principles? • Describe the characteristics of vital signs for respiratory virus infections. Which characteristics was applicable in this case? • Which syndromes requires hospitalization? How did these syndromes affect your decision making for this patient? • How did you apply specific measures in a hospital when caring for patients with SARI with pandemic or epidemic potential? • When should you verbalize an escalation in safety precautions? Describe your reasoning for your actions in this case. • Which diagnostic samples did you decide to collect for this patient? • How was your cooperation within the team and with the patient? • Describe the patient education you performed on standard precautions for this patient. What was your reasoning for this? • Which interprofessional communication did you perform? Discuss the importance of communication with other departments in this case. • How did you ensure safety precautions before leaving the examination room?

		Summarize • What are the key points from this simulation? • What would you like to do differently next time in a similar situation? • What are your main take-home messages?
Guided reflection Attachment	NA	
Case considerations	When examining a patient with suspected SARI with pandemic or epidemic potential, the responsible health care providers are expected to recognize suspected COVID-19 patients early and apply appropriate source, isolation protocol, and diagnostic procedures. They should apply routine IPC (i.e. standard precautions) for all patients. Moreover, it is of outmost importance to apply standard precautions at all times including but not restricted to: • Hand hygiene • Respiratory hygiene • PPE according to the risk • Safe injection practices, sharps management and injury prevention • Safe handling, cleaning and disinfection of patient care equipment • Environmental cleaning • Safe handling and cleaning of soiled linen • Waste management The emergency department team should consider and apply relevant differential diagnosis and treatment for bacterial pneumonia and/or sepsis. They should also address general principles of managing the critically ill patient with severe acute respiratory infection (SARI) using necessary triage tools and recognize patients with SARI that need emergent care and hospitalization including ICU admission, and knows to differentiate from uncomplicated influenza-like illness (ARI) that can go home. In this case, the team should administer supplemental oxygen and start supportive therapy with fluids and/or nebulized respiratory drugs and antibiotics as appropriate before they coordinate safe patient transportation to ICU or monitored acute respiratory bed/department.	
Case considerations image	NA	
Case considerations image Descriptions	NA	
Case considerations Attachment	NA	
Files and attachments		
Publication Details		
Version number	1.0	
Publication date	Target 17/3 2020	
Release note	NA	
Co-developer One	NA	
Co-developer Two	NA	

Legal Notice	NA
Credits	NA
Scenario Settings	
Training disciplines	x Community Health and Public Safety ☐ EMS /Prehospital x Interdisciplinary x Medical ☐ Military x Nursing ☐ Nursing Aids ☐ Occupational Therapy ☐ Phelbotomy ☐ Pharmacy x Physician Assistant ☐ Radiology Technician ☐ Respiratory Therapy
Education level	x Undergraduate x Postgraduate
Medical specialities	☐ Allergy and immunology ☐ Anesthesiology ☐ Cardiology x Critical Care Medicine ☐ Dermatology x Emergency Medicine ☐ Endocrinology ☐ Family Medicine ☐ Gastroenterology ☐ Geriatrics x Hospital Medicine x Infectious diseases ☐ Internal medicine ☐ Nephrology ☐ Neurology ☐ Neurosurgery ☐ Obstetrics and Gynecology ☐ Oncology ☐ Ophthalmology ☐ Orthopedics ☐ Otolaryngology ☐ Palliative care ☐ Pediatrics ☐ Pharmacology ☐ Psychiatry x Pulmonology x Radiology

	☐ Rehabilitation Medicine
	☐ Rheumatology
	☐ Surgery
	☐ Vascular surgery
Nursing specialities	☐ Ambulatory care nursing
	☐ Advanced practice nursing
	☐ Burn nursing
	☐ Cardiac nursing
	☐ Diabetes nursing
	☐ Medical case management
	☐ Community health nursing
	x Critical care nursing
	x Emergency nursing
	☐ Gastroenterology nursing
	☐ Geriatric nursing
	☐ Home health nursing
	☐ Hospice and palliative care nursing
	☐ Hyperbaric nursing
	☐ Immunology and allergy nursing
	☐ Intravenous therapy nursing
	x Infection control nursing
	x Infectious disease nursing
	☐ Maternal-child nursing
	☐ Medical-surgical nursing
	☐ Military and uniformed services nursing
	☐ Neonatal nursing
	☐ Neurosurgical nursing
	☐ Nephrology nursing
	☐ Nurse midwifery
	☐ Obstetrical nursing
	☐ Oncology nursing
	☐ Orthopaedic nursing
	☐ Ostomy nursing
	☐ Pediatric nursing
	☐ Perianesthesia nursing
	☐ Perioperative nursing
	☐ Psychiatric nursing
	x Pulmonary nursing
	☐ Radiology nursing
	☐ Rehabilitation nursing
	☐ Renal nursing
	☐ Sub-acute nursing
	☐ Substance abuse nursing
	☐ Surgical nursing
	☐ Urology nursing

	x Vascular access ☐ Wound care
Nursing courses	☐ Child & adolescent health ☐ Community and family health nursing ☐ Fundamentals of nursing ☐ Gerontology ☐ Health assessment ☐ Leadership ☐ Maternal-neonatal health x Medical-surgical nursing ☐ Pathophysiology ☐ Pharmacology ☐ Psychiatric and mental health
Body systems	x Circulatory ☐ Digestive ☐ Endocrine ☐ Hematopoietic ☐ Immune/lymphatic ☐ Integumentary ☐ Muscular ☐ Nervous ☐ Renal/Urinary ☐ Reproductive x Respiratory ☐ Skeletal
Assessment type (summative/formative)	x Formative Summative
Free for public use	YES