

# Coordination Meeting on Novel Coronavirus (2019-nCoV)

Naypyitaw

# **Preparedness on Isolation and clinical management of Wuhan Pneumonia Novel Coronavirus (2019 – nCoV)**

**Naypyitaw**

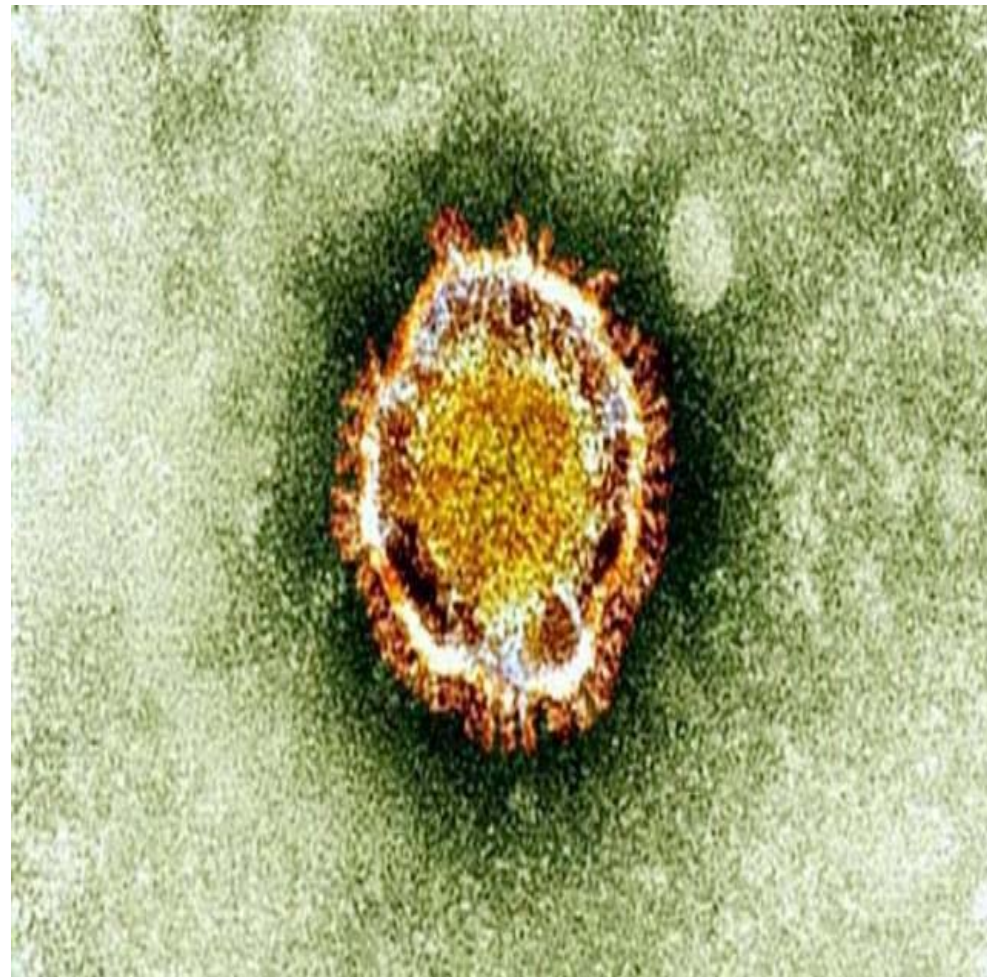
**Sabai Phyu**

**Specialist Hospital Waibargi**

Wuhan coronavirus (By Korea)



Wuhan coronavirus (By China)



## Transmission

Coronaviruses are zoonotic, meaning they are transmitted between animals and people.



### Human-to-human transmission:

Coronaviruses are most commonly spread from an infected person by:

- Coughing and sneezing.
- Close personal contact, such as touching or shaking hands.
- Touching an object or surface with the virus on it, and then touching your mouth, nose, or eyes before washing your hands.
- Fecal contamination.



# Coronavirus spreads

Coronaviruses are a family of viruses common in animals, with the newest deadly strain (Novel Coronavirus) identified in Wuhan, China. Now the first case has been detected in the U.S.

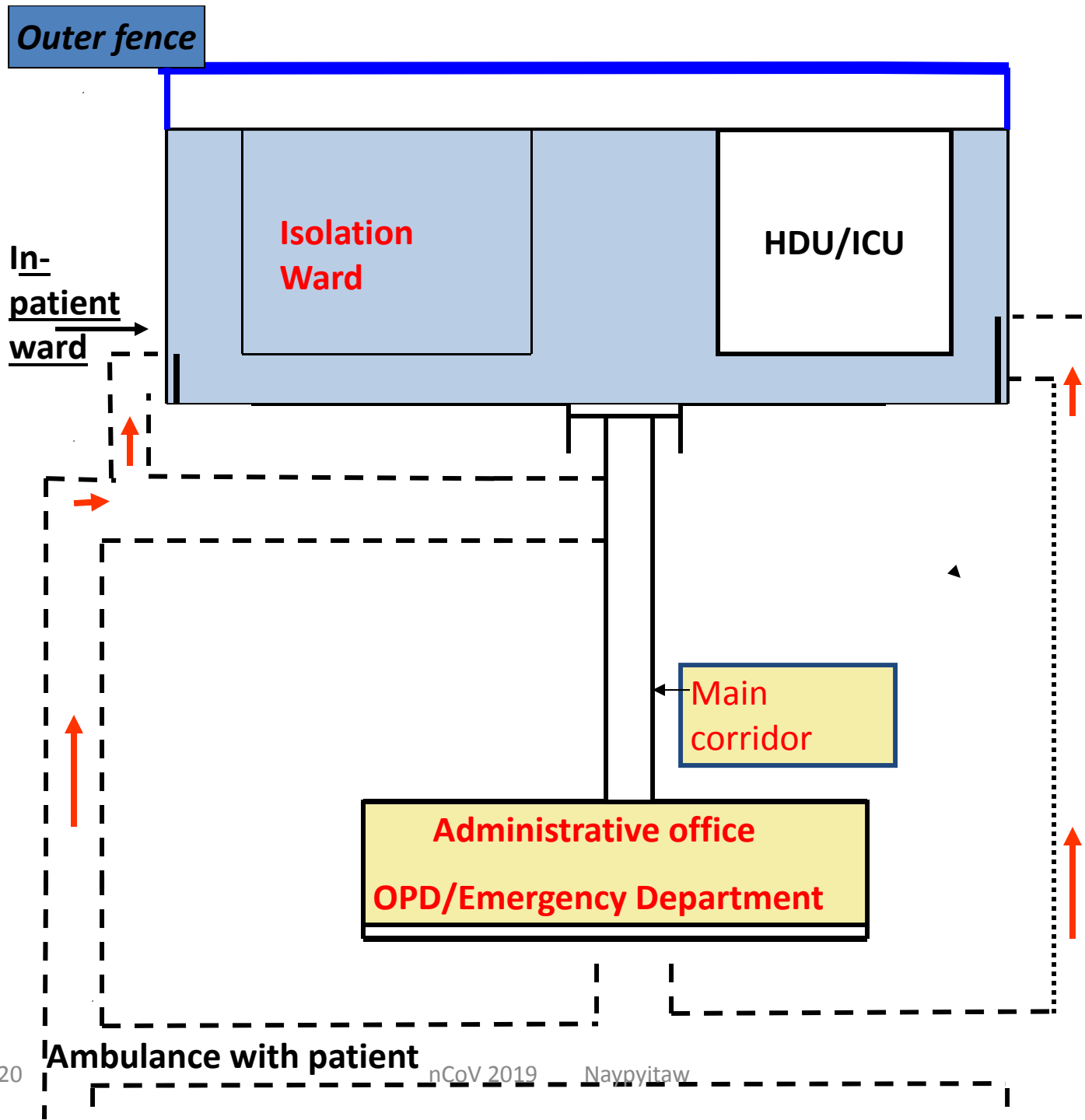
■ Countries with coronavirus cases



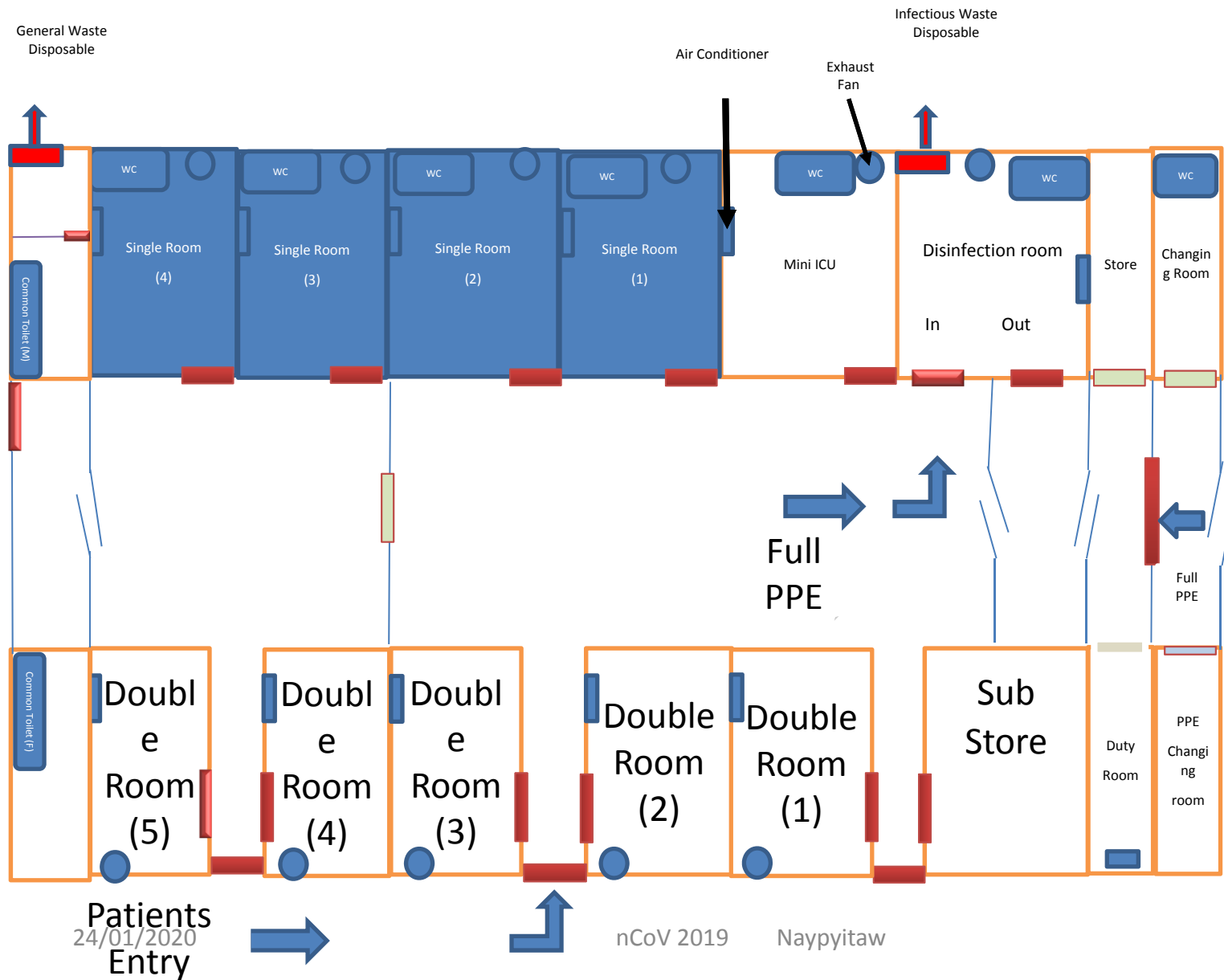


# Introduction

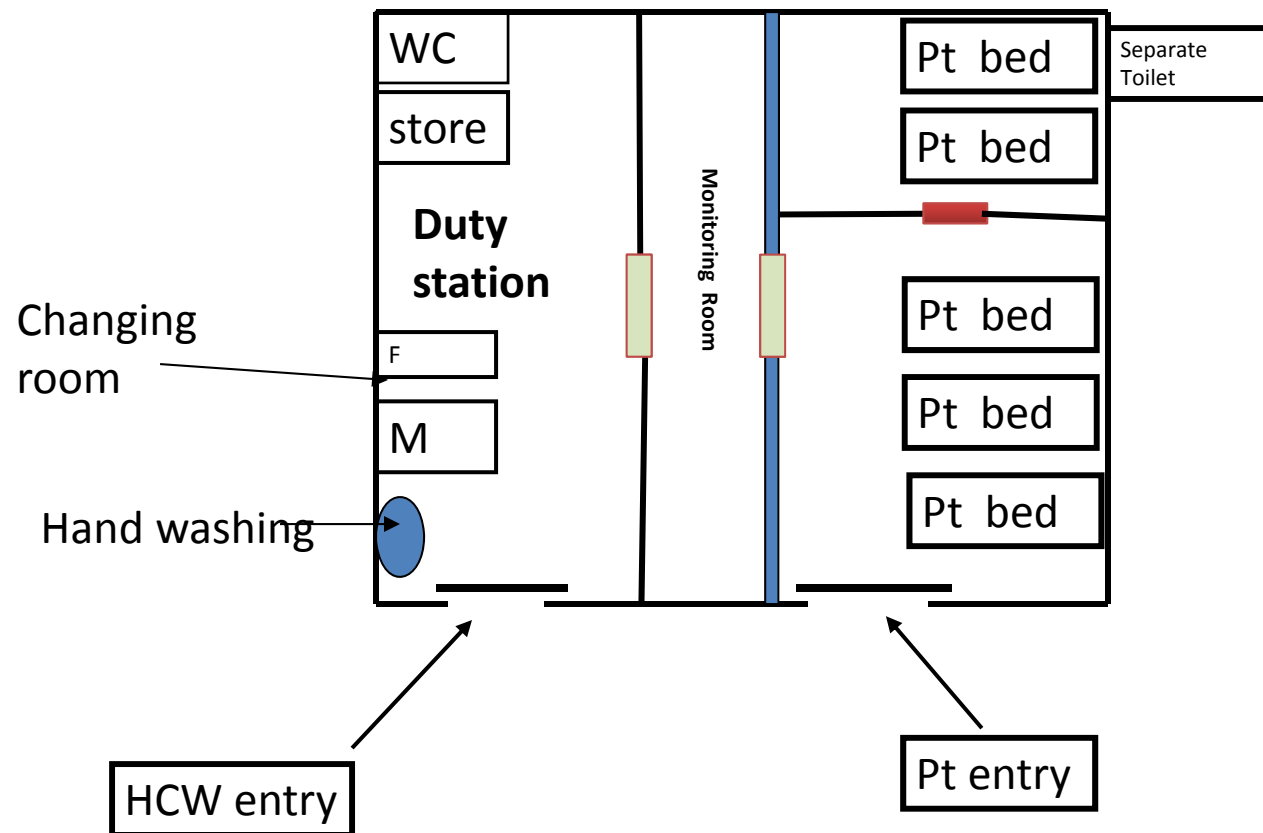
- 200 Bedded Tertiary type of teaching hospital (Designated Hospital for pandemic infectious diseases ) and HIV care hospital
- Since 1997 shifted from Infectious Disease Hospital, Mingalar Taung Nyunt Township (1905-1997)
- Isolation Ward was started at 2003 (SARS)
  - 6 Single rooms and 6 Double rooms
- Renovation of Isolation Ward was done at 2016
  - One PPE changing room
  - One staff changing room
  - One disinfectant room
  - One Mini ICU room (Single room)
  - One Sub-store (Double room)
  - 4 Single rooms and 5 double rooms
  - ICU – 5 Beds



# Interior of isolation ward



# ICU





## Equipment in Isolation ward

No	Items	Quantity
1	Disposable PPE	164 Set
2	Boot	30 Pcs
3	Goggle	125 Pcs
4	N 95 Mask	100 Pcs
5	Vest + Pant (for Staffs)	45 Set
6	Vest + Pant (for Patients)	23 Set
7	Cap (Cloth)	35 Pcs

## Equipments in Isolation ward

No	Items	Quantity
8	Surgical Gown	348 Pcs
9	Stethoscope	17 Pcs
10	Digital BP Cuff	10 Pcs
11	Digital Thermometer	20 Pcs
12	Tissue Box	3 Pcs
13	Medicine Cabinet	7 No.
14	Mayo's Trolley	2 No.
15	Patient Trolley	3 No.
16	ECG Trolley	1 No.
17	Airborne Disinfectant Aerosol Generator (Sanivap)	1 No.

## DISINFECTANTS FOR ISOLATION WARD

No	Items	Quantity
1	Aniospray 29 (5 Liter)	1 Bot
2	Aniospray 29 (1 Liter)	2 Bot
3	Hand Wash (500 ml)	1 Bot
4	Hand Sanitizer (500 ml)	20 Bot
5	Hand Soap	10 Pcs
6	Bleaching Powder (45 Kg)	1 Drum

# INSTRUMENTS IN ICU

No	Items	Quantity
1	Patient's Monitor	11 units
2	Ventilator	7 units
3	Infusion Pump	5 units
4	Syringe Pump	7 units
5	Defibrillator with ECG monitor	5 units
6	Laryngo scopes	3 units
7	Ambubag	4 units
8	Air Sep (oxygen concentrator)	18 units
9	Suction Machine	7 units
10	ECG Machine 3 Channel	3 units

## INSTRUMENTS IN ICU

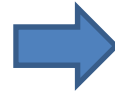
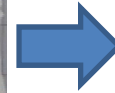
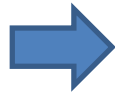
No	Items	Quantity
11	Pulse Oxymeter	2 units
12	Nebulizer	3 units
13	Blood Gas Analyzer	1 unit
14	Oxygen Supply Station	1 unit
15	Blood and warming fluid system, Enflow	1 unit
16	Aerosep (Disinfectant machine)	1 unit

# Diagnostic machines

No	Items	Quantity
1	Portable X-ray	2 unit
2	Portable Ultrasound	1 unit
3	Fully Automated Biochemical Analyzer	1 unit
4	Electrolyte Analyzer	1 unit
5	Fully Automated Hematology Analyzer	1 unit
6	Biosafety Cabinet	1 unit



## Personal protective equipment PPE



## Personal protective equipment PPE



## Personal protective equipment PPE





# Novel Influenza A: Clinical Simulating exercise at Waibargi Hospital (28.Nov.2019)





# Drill



**Clinical Management of Severe Acute Respiratory Infection When Novel Coronavirus (nCoV) Infection Is Suspected**  
Specialist Hospital Waibargi SOP (Version 2)

**Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected**

Interim guidance  
12 January 2020

[WHO/nCoV/Clinical/2020.1](#)



**Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected**

Interim guidance  
January 2020

[WHO/2019-nCoV/IPC/v2020.1](#)





# Contents of the SOP

1. Triage , recognized and sort patient with SARI
2. Immediate implementation of appropriate infection prevention (IPC) control measures
3. Early supportive therapy and monitoring
4. Collection of specimen for laboratory diagnosis
5. Management of hypoxaemic respiratory failure and ARDS
6. Management of septic shock.
7. Prevention of complication
8. Specific n-CoV treatment
9. Special consideration for pregnant women and child

# Definitions of patients with SARI, suspected of nCoV

## SARI

An ARI with history of fever or **measured temperature  $\geq 38^{\circ}\text{C}$  and cough**; onset **within the last ~10 days**; and requiring hospitalization with no other etiology that fully explains the clinical presentation

AND any of the following:

- A history of **travel to Wuhan, Hubei Province China in the 14 days prior to symptom onset**; or
- the disease occurs in **a health care worker** who has been working in an environment where patients with severe acute respiratory infections are being cared for, without regard to place of residence or history of travel; or
- the person develops **an unusual or unexpected clinical course, especially sudden deterioration** despite appropriate treatment, without regard to place of residence or history of travel, even if another etiology has been identified that fully explains the clinical presentation.

A person with acute respiratory illness of any degree of severity who, within 14 days before onset of illness, had any of the following exposures:

- close **physical contact with a confirmed case of nCoV infection, while that patient was symptomatic**; or
- **a healthcare facility in a country where hospital-associated nCoV infections have been reported**;

# Close contact' is defined as:

- Health care associated exposure, including providing direct care for nCoV patients, working with health care workers infected with nCoV, visiting patients or staying in the same close environment of a nCoV patient.
- Working together in close proximity or sharing the same classroom environment with a with nCoV patient
- Traveling together with nCoV patient in any kind of conveyance
- Living in the same household as a nCoV patient

# Clinical syndromes associated with nCoV infection

## Uncomplicated illness

fever, cough, sore throat, nasal congestion, malaise, headache, muscle pain or malaise  
do not **have any signs of dehydration, sepsis or shortness of breath.**

## Mild pneumonia

Respiratory **rate >30 breaths/min**, severe respiratory distress, or **SpO<sub>2</sub> <90%** on room air.

## Acute Respiratory Distress Syndrome

Onset: **new or worsening respiratory symptoms within one week** of known clinical insult.

**Chest imaging:** (radiograph, CT scan, or lung ultrasound): bilateral opacities, not fully explained by effusions, lobar or lung collapse, or nodules.

Origin of oedema: respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echocardiography) to exclude hydrostatic cause of oedema if no risk factor present.

# Sepsis

life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection, with organ dysfunction.

altered mental status, difficult or fast breathing, low oxygen saturation, reduced urine output, fast heart rate, weak pulse, cold extremities or low blood pressure, skin mottling, or laboratory evidence of coagulopathy, thrombocytopenia, acidosis, high lactate or hyper-bilirubinemia.

## Septic shock

persisting hypotension despite volume resuscitation, requiring vasopressors to maintain MAP  $\geq 65$  mmHg and serum lactate level  $> 2$  mmol/L. Prolonged capillary refill ( $> 2$  sec) or warm vasodilation with bounding pulses; tachypnea; mottled skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.

# The SOFA

- **The SOFA score** ranges from 0 to 24 and includes points related to 6 organ systems: respiratory (hypoxemia defined by low  $\text{PaO}_2/\text{FiO}_2$ ),
- coagulation (low platelets), liver (high bilirubin),
- cardiovascular (hypotension),
- central nervous system (low level of consciousness defined by Glasgow Coma Scale),
- renal (low urine output or high creatinine).
- **Sepsis is defined by an increase in the Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score of  $\geq 2$  points.** Assume the baseline score is zero if data are not available

## ICU CONSULTATION:



## 2. Infection Prevention & Control Measures

Application of Standard Precautions for all patients.

Standard Precautions include hand and respiratory hygiene; use of Personal protective equipment (PPE) depending on risk; prevention of needle-stick or sharps injury; safe waste management; environmental cleaning and sterilization of patient-care equipment and linen.

Ensure the following respiratory hygiene measures:

- Offer a medical mask for suspected nCoV infection for those who can tolerate it
- Cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others
- Perform hand hygiene after contact with respiratory secretions.

## Personal protective equipment (PPE)

- hand hygiene
- environmental cleaning and disinfection procedures with water and detergent and applying commonly used hospital level disinfectants (such as sodium hypochlorite) is an effective and sufficient

## Isolation Strategy

- epidemiological and clinical definition

## 3. Early supportive therapy and monitoring

- hypoxaemia ( $\text{SpO}_2 < 90\%$  in room air) , or shock. Initiate oxygen therapy at 5 L/min and titrate flow rates to reach target  $\text{SpO}_2 \geq 90\%$  in non-pregnant adults and  $\text{SpO}_2 \geq 92-95\%$  in pregnant patients.
- Closely monitor signs of clinical deterioration
- co-morbid condition(s). Communicate early with patient and family
- empiric antimicrobials to treat all likely pathogens causing SARI. Give antimicrobials **within one hour** of initial patient assessment for patients with sepsis.

Empiric antiviral: **Tamiflu (Oseltamivir) 75 mg bd x 5 days**

## **Empirical Antibiotic therapy**

### **For pneumonia**

PO Augmentin 625 mg tds **plus**

PO Clarithromycin 500mg bd or PO Azithromycin 500mg od x 5 days

### **For severe pneumonia**

IV Cefoperazone + sulbactam 2g 12hrly **plus**

PO Clarithromycin 500mg bd or IV Azithromycin 500mg infusion od x 5 days

### **For severe pneumonia with complications**

IV Cefepine 1g 12 hrly **plus**

IV Meropenem 1g 12hrly or IV Ertapenem 1g od **plus**

IV Moxifloxacin 250 ml infusion od or IV Levofloxacin 500mg od **plus**

IV Amikacin 500mg infusion od x 5 days (if renal function normal)

## 4. Collection of specimens for laboratory diagnosis

- BOTH the upper respiratory tract (URT; nasopharyngeal and oropharyngeal) AND lower respiratory tract
- Serology depend upon the National Health Laboratory Guideline.

## 5. Management of Septic shock

- needed to maintain mean arterial **pressure**
- septic shock in adults, give **at least 30 ml/kg of isotonic** crystalloid in adults in the first 3 hours
- vasopressors when shock persists during or after fluid resuscitation.
- Norepinephrine is considered

## **- 6.Prevention of Complications**

- Reduce days of invasive mechanical ventilation
- incidence of ventilator associated pneumonia
- incidence of venous thromboembolism
- incidence of catheter related bloodstream infection
- incidence of pressure ulcers, stress ulcers and
- gastrointestinal bleeding.
- ICU-related weakness

## **7. Specific anti-Noel-CoV treatments and clinical research**

no current evidence

## **8. Special considerations for pregnant patients**

Consultations with obstetric, neonatal, and intensive care specialists

# Isolation ward









# ISO Changing Room

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38





## Duty Room





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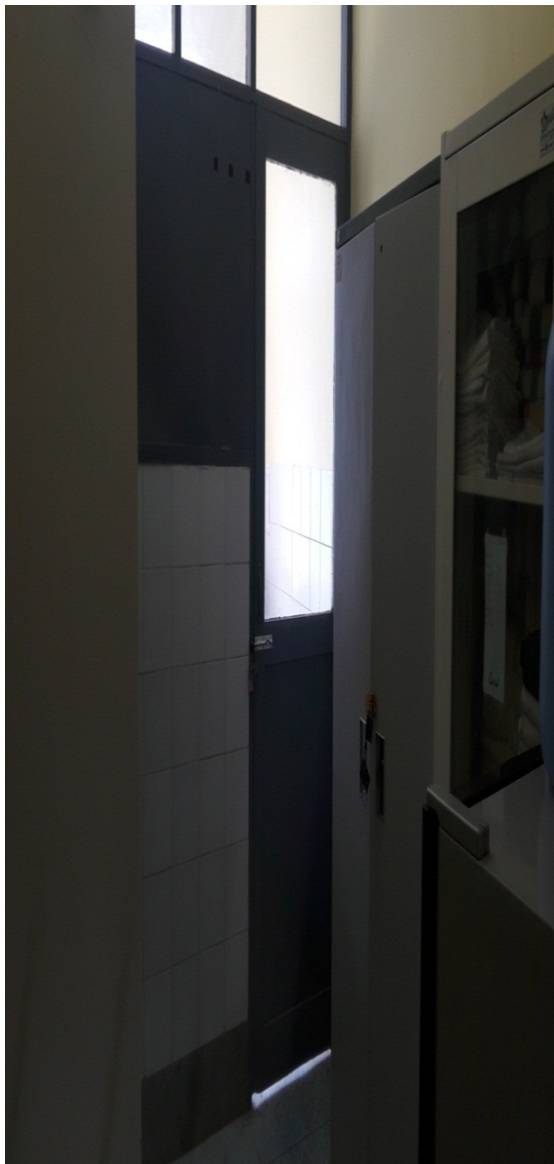
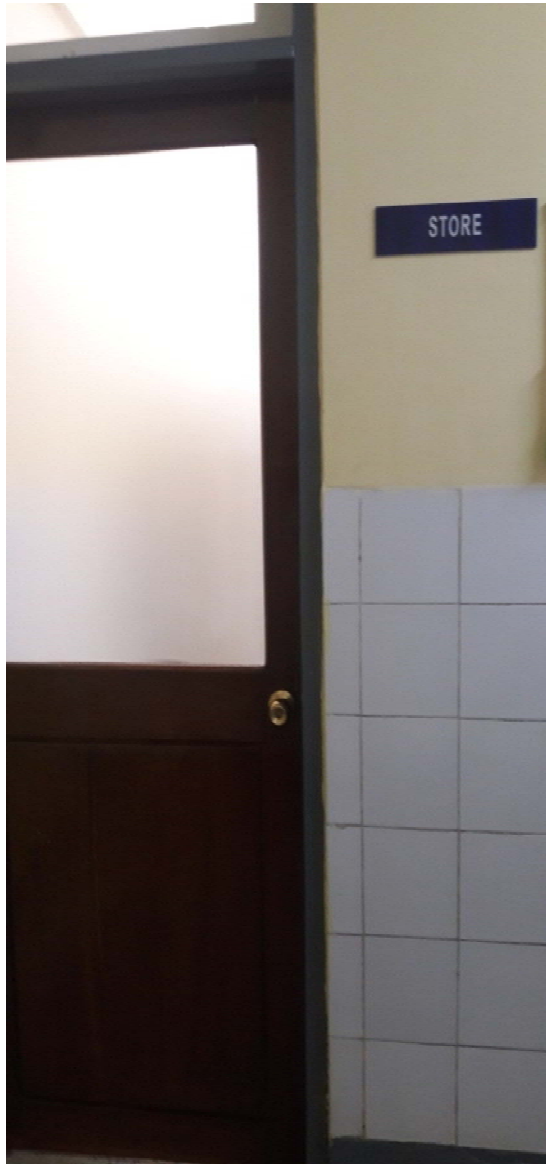
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41





## MINI ICU



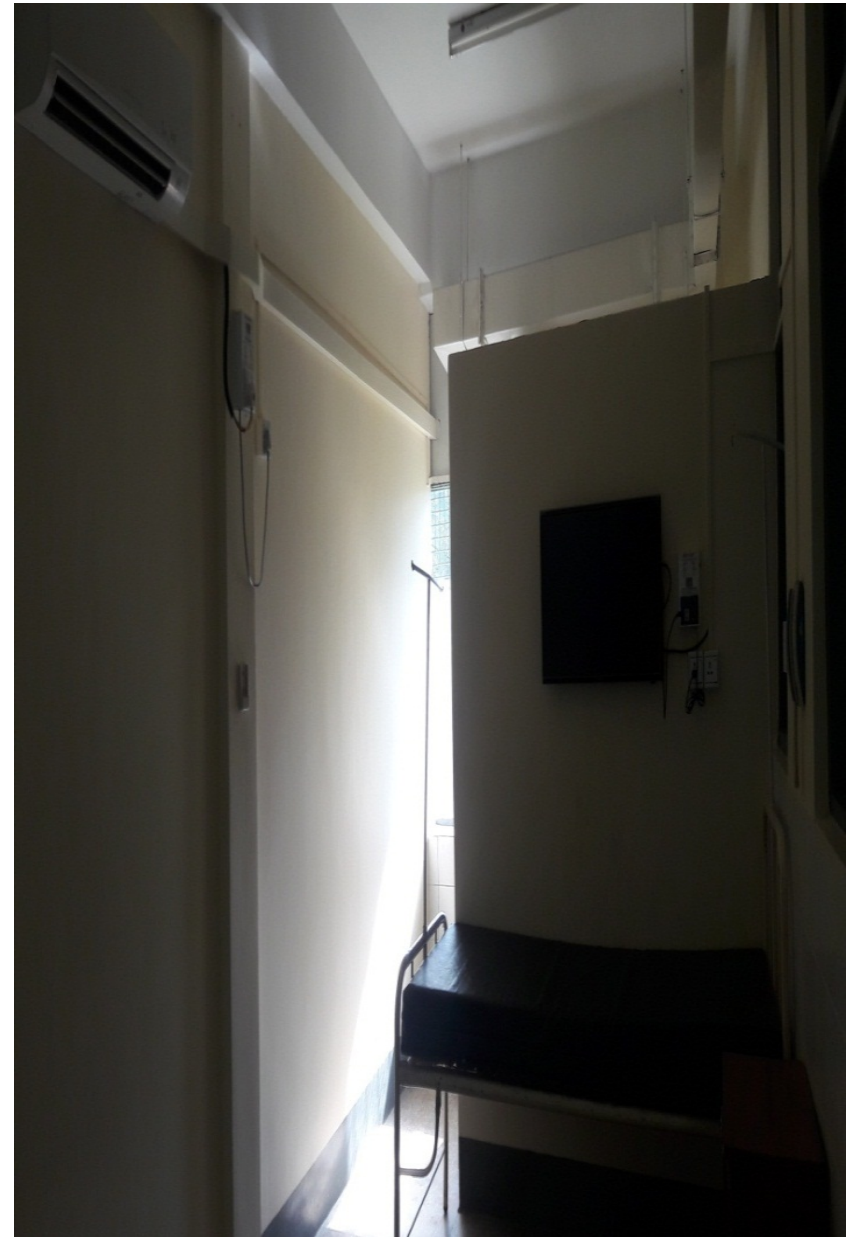
## Store

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43





# Single Room

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44





# Double Rooms

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45



## Common Bath Room











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49



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50



# ICU





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53



# ICU





# Patients Monitor Room

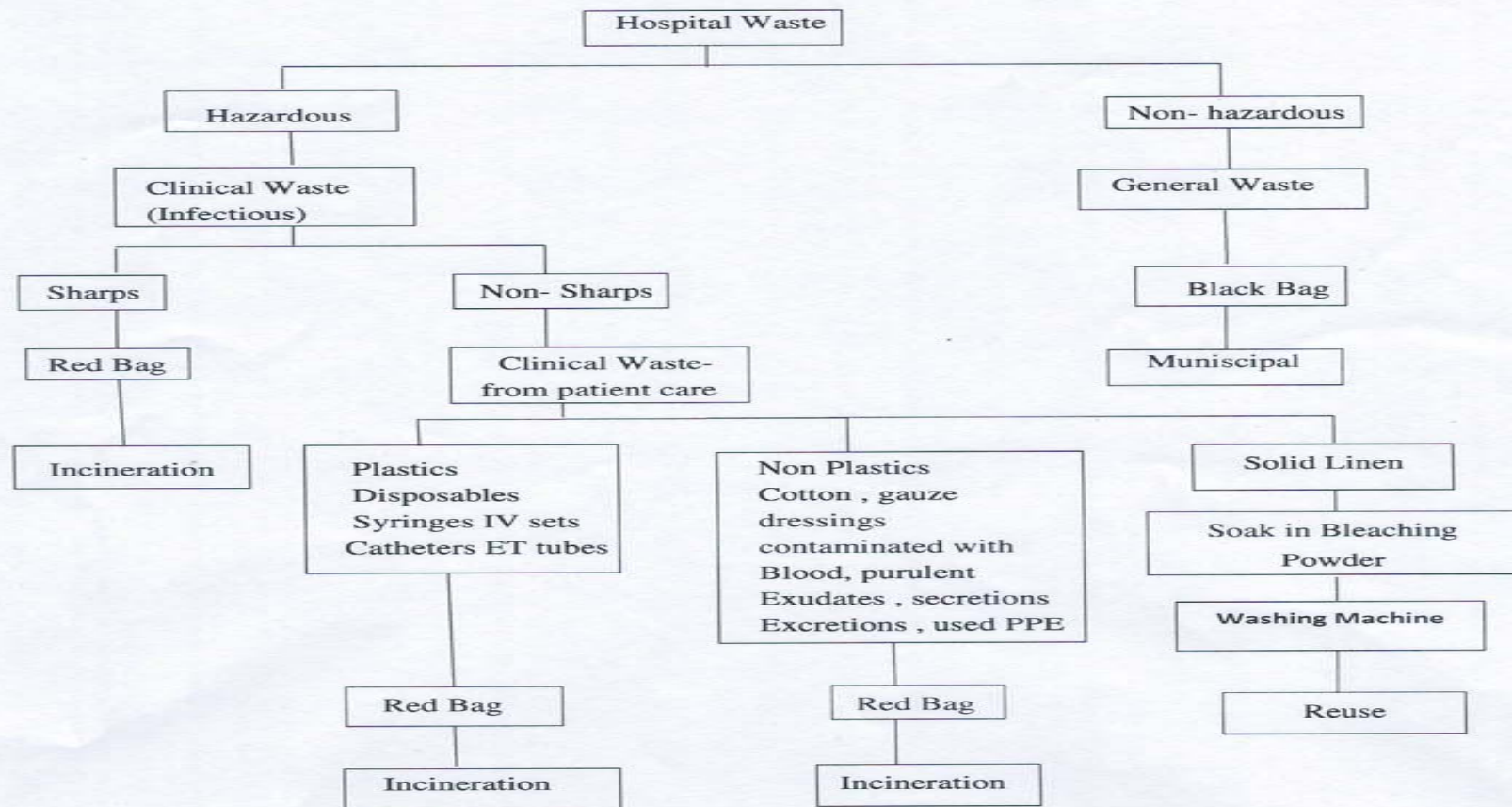


## ICU Changing Room





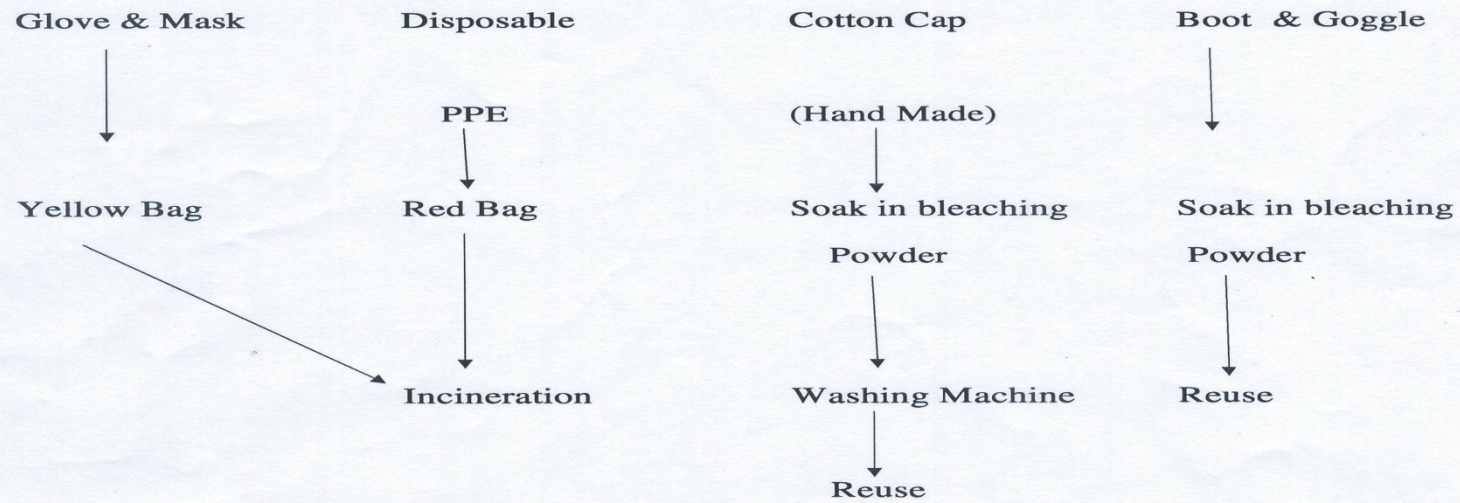
### Waste Management in Isolation Ward , ICU



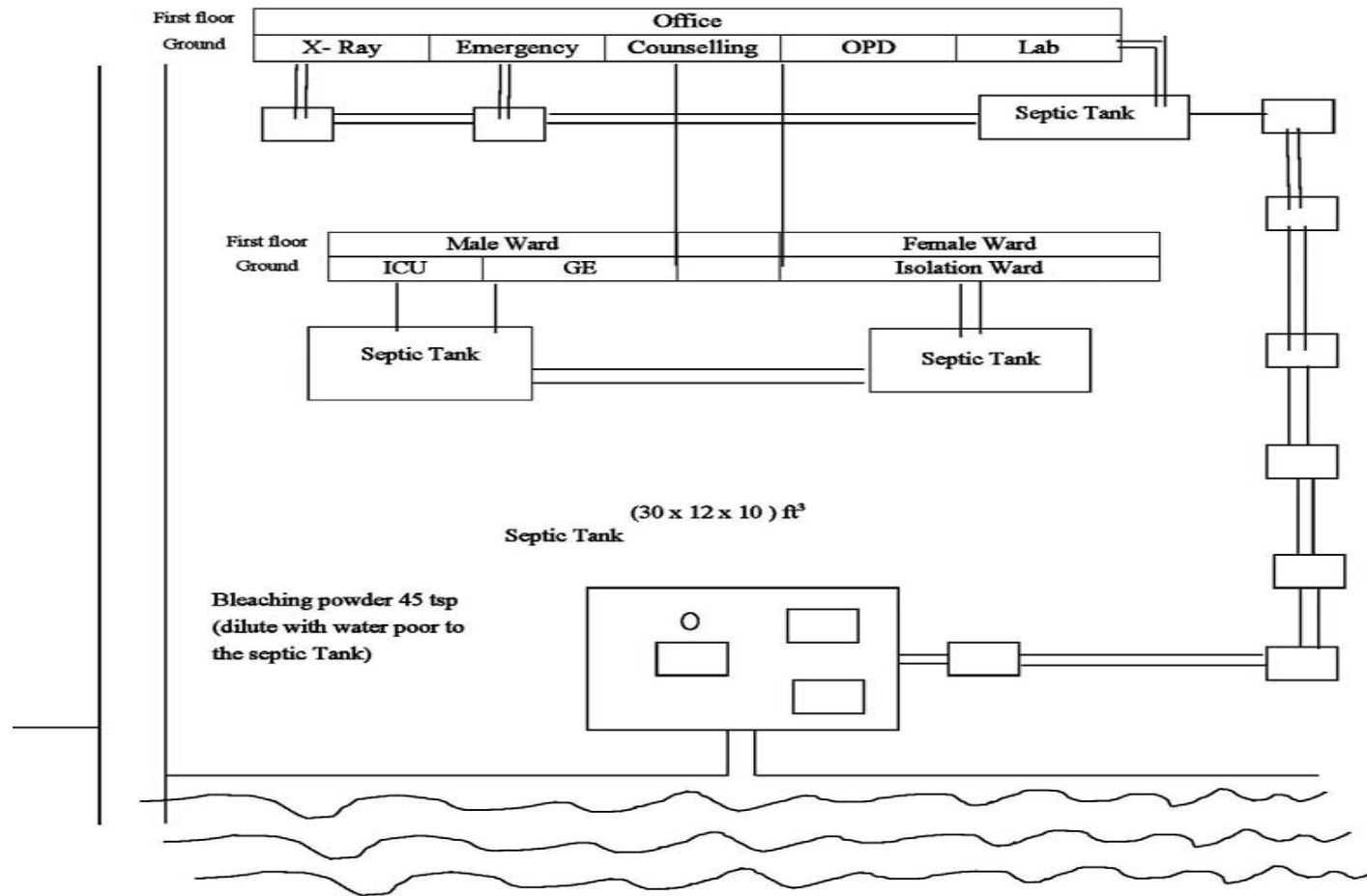


## Waste Management in Isolation Ward / ICU

### Solid Waste



## Liquid Waste Management











24/01/2020

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62

Wuhan coronavirus total infection	- 553
Death	- 25
Wuhan City	- 444
Beijin City	- >9
Shanghai City	- >9
Koon Long City	- >9
Jae Jin City	- >9



# THANKS SO MUCH

