

Establishing and Operationalizing the COVID Care Isolation
Centres and Hospital Management During Pandemic COVID-
19 in Batala, Gurdaspur

By

Sapna

*Dissertation submitted in partial fulfillment of the requirements of the degree
MBA Hospital and Health Management*

Academic year, 2018-2020



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ABSTRACT

The COVID-19 pandemic which hit the world and was declared as pandemic by WHO in December 2019 hit the state of Punjab on 9th march 2020 as a NRI returned was tested as positive the enemy was at the gate and health system was yet to prepare for this grave issue as a dissertation candidate I was deputed at S.D.H. BATALA when cases started pouring the district and hospital administration was given the task to quarantine and isolate the cases and mean while bring essential changes in structure of hospital to deal with pandemic of COVID-19.

My dissertation and study is generally focused on the establishment and maintenance of tier 1 and tier 2 facility meanwhile finding gaps and bringing changes which are necessary on time to deal with COVID-19.

We successfully established quarantine centre at RR BAWA DAV COLLEGE as per guidelines and checklist recommended by govt of India and govt of Punjab which should be seen as tier 1 facility.

We converted a whole floor located at SDH BATALA into isolation facility where mild and moderate cases can be managed as per sops and guidelines framed over time by govt of India and govt of Punjab as a part of isolation facility flu corner and isolation room was established in and near emergency various Training's were provided to staff and SOP are discussed and formed from arrival till discharge of patient and in case of referral or death what precaution or steps are to be initiated.

Essential changes which we brought in functioning of hospital to maintain social distancing and hand sanitisation are discussed in this document which are only measures available till date to successfully contain this disease . As a matter of fact due to pandemic there was change in BMW management for quarantine and isolation ward those guidelines are discussed and how they were implicated are discussed here

This study in future can be used as a reference document to prepare a SDH OR DISTRICT FACILITY to deal with COVID-19 or any other epidemic in future.

Acknowledgement

Firstly, I would like to express my sincere gratitude and thanks to my university mentor **Dr. Shweta Aggarwal** for encouraging and guiding me in all ways to complete my Project.

I am thankful to **Dr. Parvinder Pal Kaur**, Assistant Director of PHSC for providing me an opportunity to do my summer training and project work in “PUNJAB HEALTH SYSTEM CORPORATIONS” (PHSC Mohali, Punjab).

During the period of my internship work **Dr. Ravinder singh and Dr. Punit** Nodal Person COVID-19 Team, SDH Gurdaspur. Their guidance and suggestions provided me necessary insight into research problem.

My special gratitude goes to All Nursing Sisters and Housekeeping staff for all time support in SDH Gurdaspur.

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TABLE OF CONTENTS

Topic	Page no.
A. Observational Learning	1
Introduction	1
Mode of Data Collection	2
limitations	3
B. Specific Project Findings	3
Rationale	3
Research Question	3
Objectives	4
Research Methodology	4
Scope and objectives	6
Protocol for case management	7
Trainings	26
Gap analysis and Action taken	41
conclusion	58
(A) Recommendations	58
Appendix	59
Appendices	62

ABBREVIATIONS

CCIC	COVID Care Isolation Centre
PHSC	Punjab Health System Corporations
IEC	Information, Education and Communication
OT	Operation Theatre
IT	Information Technology
IPD	In-Patient Department
OPD	Ordinary People Department
GoI	Government of India
HMIS	Health Management Information System
SMO	Senior Medical Officer
QA	Quality Assurance
CWTF	Common Waste Treatment Facility
A & E	Accident & Emergency department
ALS	Advance Life Support
BMW	Bio Medical Waste
ANC	Anti Natal Check Up
BLS	Basic Life Support
HR	Human Resource
HDU	High Dependency Unit
ICU	Intensive Care Unit
SOP's	Standard Operating Procedures
DRS	Digital Radiological System
WHO	World Health Organization

PHC	Primary Health centre
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A. OBSERVATIONAL LEARNING

Introduction

As COVID- 19 present to world as a pandemic it presented as a challenge for already over stressed public health facilities as our country is among some nations which spend very less of its GDP on health facilities at

government facilities . Majority of tertiary care of health is provided by private sector government and ICMR combinely issued some standards and guidelines to tackle COVID-19 pandemic which have been developed keeping in the specific requirements for public health facilities as WHO guidelines . Three tier of facilities were suggested out of which tier 1 and 2 facilities are available for District Hospitals and SDH, CHCs, PHCs and Urban PHCs with quarantine facilities had been acknowledged as tier 1 facility where as District hospitals and SDH function as tier 2 facility and referral center for tier 1 facility Standards and guidelines are primarily meant for providers to assess their own facility to establish and maintain Covid care centres for improvement through pre-defined standards and to bring up their facilities for effective management of this pandemic. Each hospital is to make there own arrangements and guidelines to effectively manage social distancing and hand sanitisation . As per these guidelines we checked in each department gaps through the department specific checkpoints. All checkpoints for a department are collated, and together they form assessment tool called “Checklist” All these checklist and gaps identification helps us to effectively implicate these changes in existing infrastructure to make facility ready for managing covid 19 pandemic.

SDH Batala is a 100-bedded sub district hospital. It is one of the hospitals which is being focused upon for establishing Tier 2 isolation center in the state of Punjab. Tier 1 facility with 100 beds is established at RR BAWA

COLLEGE A baseline assessment of the available facilities was carried out for each objective element of the checklist provided by government of Punjab. Aim of the study was to establish quarantine and isolation facility

and to train health professionals and sanitation workers to effectively manage situation which raised due to this pandemic , then on the basis of the guidelines and checklists make an action plan effectively manage

these facilities .

- **AIM OF STUDY:** Aim of the study is to Establish isolation facility and help the Hospital management to fill the gaps as per isolation unit guidelines formulated by Govt. of India and Punjab Government.

➤ **Mode of data collection**

Location of study- Sub District Hospital, Gurdaspur

Period of study- 23rd March to 21st May 2020

Sample size- 62.

- Pharmacist -2
- Doctors-21
- Nursing crew-29
- Matron -1
- Sweepers & Ward servants- 9

Data collection Tool: Data will be collected through a structured isolation set up protocol approved by Ministry of Health and family Welfare, Government of Punjab.

Information was gathered by the following methods-

Primary data-

- Observation(direct)
- Staff interview

Secondary data-

- Record review -Registers maintained for COVID-19 Management and quantity of content filled, latest manuals and policies

Limitations

- One of the major limitations is the lack of funds to the hospital without which it is impossible to work upon infrastructure of the hospital and Adequate Man power.
- Time Constraint- Three months of study

B. SPECIFIC PROJECT FINDINGS

➤ Rationale

The purpose of the study is to Establish and operationalise the isolation units with analyzing the gaps in functioning of the hospital and making action plan for strengthening its services.

➤ Research question

Q. How to convert basic buildings with no medical facilities into fully functional isolation units to accommodate and treat COVID-19 patients ?

Objectives:

- To Assess Newly formed isolation units.
- To identify the gaps in existing basic buildings and prepare them for COVID-19 isolation units
- To suggest appropriate recommendations to bridge those gaps which arrived due to formation of covid-19 isolation units based on customized requirements as per recommendations by Govt of India.
- To help the hospital management to take managerial actions to bridge those gaps.

➤ Research Methodology

- **Study Type** : Observational Descriptive study
- **Study Area** : 100-Bedded Sub District Hospital Batala Gurdaspur, Punjab.
- **Duration of Study** : 3 Months (23rd March to 21st May 2020)
- **Location of study** : Sub District Hospital Batala, Gurdaspur, Punjab

➤ The Hospital constituted 13 departments-

1. Accident & Emergency
2. Maternity Ward
3. OPD
4. Labour room
5. Indoor Department
6. Paediatrics Ward
7. Operation Theatre
8. Laboratory
9. Radiology
10. Pharmacy
11. Auxiliary Services
12. General Administration
13. NBSU

➤ INTRODUCTION

The Corona-virus outbreak which started in December 2019 in Wuhan, China has been declared a pandemic by The World Health Organisation (WHO). This pandemic took the world on unprepared front including india and state of Punjab. First confirmed case to have been reported in state of the Punjab was on 9 March 2020, when an Indian man returning from Italy was tested positive in order to combat this pandemic, WHO and several national and international agencies such as the National Center for Disease Control (India), European Centre for Disease Prevention and Control, U.S. Department of Health and Human Services, and other European and American institutes, have put forth several operational considerations for case management of COVID 19 in health facilities and communities since there is no cure available for this disease it becomes important to isolate positive cases so spread of disease could be minimized since the spread of pandemic was rapid and there was need to develop isolation centres on rapid speed state govt identified many university/colleges/big educational institutes etc. were being identified for this purpose and various facilities

were needed to make these basic rooms functional to provide medical facilities to patients and suspect of COVID-19.

As per Punjab Government decision to set up COVID Care Isolation Centers (CCICs) as a state-operated isolation facility for positive cases for constant monitoring by trained health professionals COVID patients with very mild symptoms are proposed to be kept in these centres. the govt divided the facilities into three parts that is Tier 1 facility which is essentially a quarantine centre where people are quarantined returning from other states or nations could be kept they were largely made up of colleges , schools or other facilities marked by government, Tier 2 facility is isolation facility which is establishing wards for mild and moderate symptomatic patients they are mainly established in district and SDH hospitals, Tier 3 facility is kept for seriously ill patients who need tertiary care and ICU supports this mainly contains tertiary care hospitals and medical colleges.

➤ SCOPE AND OBJECTIVES

As COVID-19 cases are increasing across the globe, there is dire need to establish new isolation centres all around and due to sudden rise in people returning from abroad its becomes more important in state of Punjab. As its having a significant NRI population. Many started returning home which put more pressure on existing health structure . In this document

we are accessing how we established and operationalised covid care centres i.e. tier 1 facility namely at RR BAWA COLLEGE which was a basic building by using guidelines framed by govt of Punjab it was converted into fully functional covid care centre other centre we are

discussing is SDH BATALA in this centre isolation wards were set up I.e. tier 2 facility it was earlier basic wards and private rooms as per guidelines framed by Punjab government they were made fully functional tier 2 facility further in this document we will discuss various

actions initiated to prepare hospital to manage covid 19 pandemic more efficiently as per guidelines framed by hospital administration by viewing

guidelines framed by govt of india and govt of Punjab these guidelines were framed and tailor made to suit the needs of hospital

and in this we followed the manual and guidelines framed by Punjab government which is the possible information relevant to the state of Punjab.the aim of this document and dissertation

report is to share the process and procedure which we followed to establish tier 1 and tier 2 facilities plus changes we brought in hospital to manage government hospital in a effective and efficient manner for the scope in case of covid -19 or any future pandemic hits how can

the facilities be effectively managed.

➤ **PROTOCOL FOR COVID- 19 CASE MANAGEMENT**

The COVID patients can be categorized into three groups:

- Level I are the patients having very mild symptoms, such patients are to be admitted to COVID Care Isolation Center facilities
- Level II are the patients with mild to moderate symptoms, they are to be treated at District Hospital/ Government Isolation Facilities
- Level III are the patients who are in critical condition and are to be referred to ICU/HDU/Ventilator Facilities.
- The Level I facilities shall be triggered once 70% of the capacity of Level II facility stands exhausted. However, if the patient graduates from very mild to mild symptoms s/he shall be shifted to Level II. In critical condition shall further be sent to Level III facilities.
- Minimal transfers should be done to prevent the spread. Whenever there is transfer HR is exposed. Only when the sample has been found

positive, the patient should be brought to the CCIC to be kept under constant observation by trained health care professionals.

- **The work flow of COVID Care Isolation Centre (CCIC)-**
- **RR BAWA COLLEGE BATALA**

➤ **Step 1 - (Arrival):**

- The patient who has tested positive and in stable condition without or with mild symptoms will be admitted at the CCIC facility.

➤ **Step 2 (Triage/Waiting area):**

- A volunteer properly attired as per the protocol shall attend to the patient at the entrance.
- The patient shall be provided with the hand sanitiser and disposable triple-layer mask.

➤ **Step 3 (Registration):**

- The patient's details are noted by the data entry operator/nurse/paramedical staff who will wear the PPE kit and write down all the details.
- Patient details shall include their contact details, address, ID generation and generation of file. Details of emergency contact as well as people/institutions/societies, etc. that one has contacted during this period.

➤ **Step 4 (Assessment and Diagnosis Generation):**

- The patient is then referred to the doctor for a medical examination. The case history should be made online through the Health Management Information System (HMIS) and hard copy so that when the doctor receives the patient, s/he is aware of their case history.

- A paramedical staff should ideally be present to assist the doctor for these purposes. The doctor can also record the diagnosis as well as the treatment plan in the HMIS which will be used further.

- Identification and Segregation of high risk patient(co-morbid conditions) shall be done at this stage.

➤ Step 5 (Counselling Support):

- There shall be a special focus on the mental health of the patients, to speed en up their recovery process.

- The counsellor will help the patients clarify their doubts and also to offer moral and emotional support. Their diagnosis needs to be noted in such a way that follow up calls can be planned.

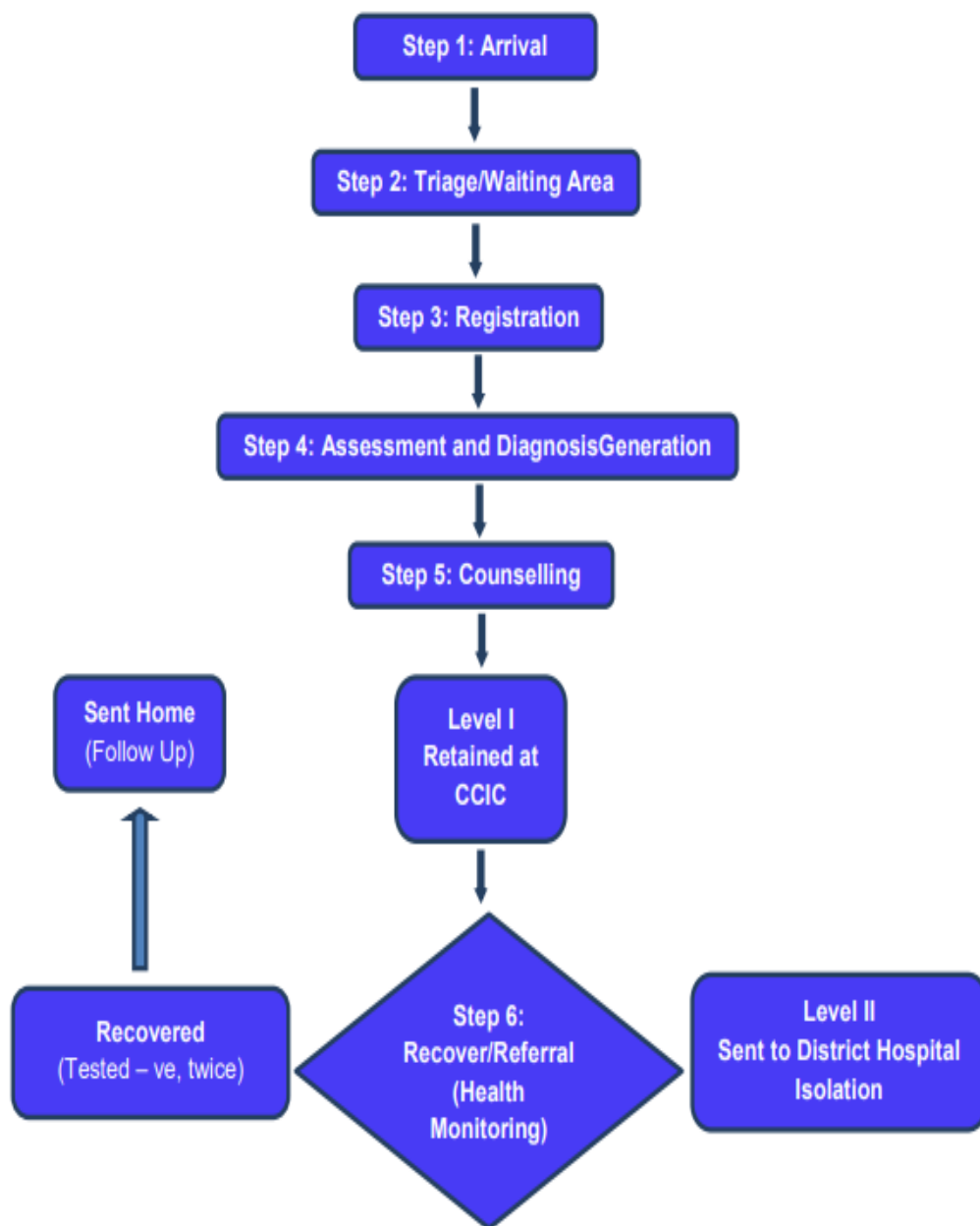
- Patient may be guided to use 104 helpline number for further counseling and any queries after leaving the CCIC.

➤ Step 6 (Recovery/ Referral):

- Mild and pre-symptomatic cases admitted to a COVID Care Facility has to undergo the regular temperature and pulse oximetry monitoring. The patient can be discharged after 10 days of symptom onset.

- During the time of discharge, the patient is advised to isolate himself at home and self monitoring their health for 7 days.

Flow Chart of Patient Management System at CCIC:



TIER I - QUARANTINE CENTER AT RR BAWA DAV COLLEGE:

CHECKLIST USED FOR ESTABLISHING AND MANAGING

QUARANTINE CENTER :

Basic Information:

- 1) **Name of the Quarantine Centre:** RR BAWA DAV COLLEGE
- 2) **Address:** SMADH ROAD BATALA DISTT GURDASPUR
- 3) **Officer In charge:** SMO INCHARGE
- 4) **Email address:** smocivilhospitalbtl@gmail.com
- 5) **Phone Number:** +919814045090
- 7) **Is Located away from the residential area? :** YES
- 8) **The Distance to nearby residential area? :** 1.2 KM
- 9) **Is it Away from an area where gathering expected (Eg: Temples, stadiums, Churches etc):**YES
- 10) **How far is it from the nearby airport?:**
55.1 KM
- 11) **How far is from the nearest railway station? :**
1.2 KM
- 12) **How far is the nearest bus station? :**

1.5 KM BATALA BUS TERMINAL10

13) The road to quarantine centre is free from heavy traffic? :

YES

14) The road to quarantine centre is wide enough to have two vehicles at a time?:

YES

15) How far is the nearest Tertiary care centre?:

37 KM GURU NANAK DEV HOSPITAL AMRITSAR

16) How far is the nearest District Hospital or SDH ? :

1.5 KM SDH BATALA



Sensitizing people about how to dispose waste (masks,used tissues,food,sanitary waste etc)



Medical team regular visits At Quarantine centre.



Checking Daily
Biomedical waste
management and
distribution of color
coded bins At
Quarantine centre

TIER II FACILITY ISOLATION WARD AT S.D.H. BATALA

FACILITY INFRASTRUCTURE

Checklist for Infrastructure

Remarks

1	Does the Facility have Ward or rooms?	☐ Wards ☐ Rooms ☐ Both	Both
2	Number of wards available		10
3	Total number of beds available in the wards (distance between two beds in a ward/room should be more than one meter)		50
4	Number of Rooms available		10
5	Total number of beds available in the rooms		50
6	Adequate hospital furniture, mattresses(one per room) and linen at the facility(4bed sheets per bed and two pillow covers per bed)	☐ Yes ☐ No	Yes
7	Are washrooms available as 1 toilet per 8 persons?	☐ Yes ☐ No	Yes
8	Provision for portable drinking water	☐ Yes ☐ No	Yes
9	Un-interrupted power supply on hotline	☐ Yes ☐ No	Yes
10	Availability of Generator for power back up	☐ Yes ☐ No	Yes
11	Availability of patient registration facility on HMIS	☐ Yes ☐ No	Yes
12	Availability of adequate computer and hardware	☐ Yes ☐ No	Yes
13	Availability of two dedicated mobile phone for doctor/ staff on duty with display of their numbers on each floor	☐ Yes ☐ No	Yes
14	Internet connection with Wi-Fi	☐ Yes ☐ No	Yes

15	Availability of Medical examination room	☐ Yes ☐ No	Yes
16	Is there a triage protocol in place?	☐ Yes ☐ No	Yes
17	Availability of counseling room	☐ Yes ☐ No	Yes
18	Is there any dedicated sample collection Area	☐ Yes ☐ No	Yes
19	Dedicated lab for testing	☐ Yes ☐ No	Yes
20	Is there a separate room for doctors on duty?	☐ Yes ☐ No	Yes
21	Is there a separate room for nurses on duty?	☐ Yes ☐ No	Yes
22	Is there a separate room Para medics on duty?	☐ Yes ☐ No	Yes
23	Changing room with attached washroom	☐ Yes ☐ No	Yes
24	PPEs available and located near the point of use?	☐ Yes ☐ No	Yes
25	Does the Available PPE Kit contains all of the Following		
	Gloves	☐ Yes ☐ No	Yes

	Shoe cover	☐ Yes ☐ No	Yes
	Face masks	☐ Yes ☐ No	Yes
	95 respirators	☐ Yes ☐ No	Yes
	Eye protection (visor or goggles)	☐ Yes ☐ No	Yes
	Face shield	☐ Yes ☐ No	Yes
26	Is there a pharmacy in the premises with storage and shelves?	☐ Yes ☐ No	Yes
27	Is there a separate room for pharmacist/s?	☐ Yes ☐ No	No
28	Is there a room for the Counsellor?	☐ Yes ☐ No	No
29	Availability of laundry services	☐ Yes ☐ No	Yes
30	Provision for cooked food	☐ Yes ☐ No	Yes
31	Cleanliness and sanitation facilities as per detailed list attached	☐ Yes ☐ No	Yes

32	Fire management plan	☐ Yes ☐ No	No
33	Security Plan	☐ Yes ☐ No	Yes
34	The hospital limits the movement of patients in the isolation facility outside for medically necessary purposes only?	☐ Yes ☐ No	Yes
35	Availability of ambulance for transport of patients (BLS and linkage with ALS)	☐ Yes ☐ No	Yes
36	Availability of non-touch water dispenser on each floor preferably with hot and cold water facility	☐ Yes ☐ No	Yes
37	Availability of Ramp or Lift	☐ Yes ☐ No	Yes
38	Stay arrangements within or near the premises for clinical staff and doctors, if required with the dedicated vehicle	☐ Yes ☐ No	No

Checklist for Biomedical Waste Management (BMWM)			Remarks
1	Availability of SOP for BMW management?	☐ Available ☐ Not Available	Available
2	Availability of agreement with CWTF	☐ Available ☐ Not Available	Available
3	Are color codes (red and yellow) bins available in BMW management?	☐ Yes ☐ No	Yes
4	Are white and blue containers available for BMW Management	☐ Yes ☐ No	No
5	Method of disposing of biomedical wastes?	☐ CWTF ☐ Deep burial ☐ Incineration	CWTF
6	Disposal protocol of sharps as per the standards	☐ Yes ☐ No	Yes
7	Availability of biomedical waste trolley?	☐ Yes ☐ No	Yes

8	Whether the COVID BMW waste is labelled separately?	☐ Yes ☐ No	Yes
9	Availability of dedicated BMW collection area?	☐ Yes ☐ No	No
10	BMW collected from isolation facility within 48hrs?	☐ Yes ☐ No	Yes

Novel coronavirus (nCoV) infection cases:

1. Triage in the isolation room : Early identification of patients with SARI associated with COVID infection should

be done by emo /Specialist on call or nodal office of covid 19. Patients with severe/critical illness laboured breathing should be immediately referred to the higher level of health care facility viz GURU NANAK HOSPITAL AMRITSAR i.e. tier 3 facilities with appropriate case

history and initial management and after detailed discussion with covid - 19 management team. Information regarding referral should be given to district Patient should be referred by designated ambulance for covid 19

with driver and assistant taking all precautions as per sop (attached further) to immediately shift the patient to tier 3 facility.

2. Implementation of appropriate IPC measures: As infection prevention control (IPC) is a critical and integral part of clinical management of patients and it should be initiated at the point of entry of the patient to hospital (from Emergency Department).

Standard precautions should always be routinely applied in all areas of health care facilities. Standard precautions include hand hygiene; use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin. Standard

precautions also include prevention of needle- stick or sharps injury; safe waste management; cleaning and disinfection of equipment; and cleaning of the environment as per SOPs.

3. supportive therapy and monitoring.

4. Collection of samples for diagnosis (at sample collection point) For unavoidable entries, there will use PPE kits according to protocol. hand hygiene practices prior to entry into the isolation area. There should be a designated waiting area for attendants which should be well-ventilated, adequately cleaned and disinfected regularly with sodium hypochlorite 1%. In isolation it should be ensured that the patient in the isolation will be provided food in disposable packed boxes and in

addition should be provided with disposable glasses, plates, napkins, water bottles etc.

Disposable plates, left over food, paper napkins, thermocol/cardboard foodbox used by patients may be considered contaminated and disposed as yellow category waste and plastic water bottles as red category waste.as per BMW guidelines amended 2020 for covid -19 pandemic

Distinction of patients in hospital

Red Area: COVID-19 positive patients on ventilator

Orange Area: COVID-19 positive patients on oxygen mask with oxiflow meter.

Yellow Area: COVID-19 positive patients not requiring ventilator/oxygen support.

Blue Area: COVID-19 suspect

patients Blue-I Area: Suspect

awaiting result

Blue-II Area: Suspects declared COVID-19 negative but still requiring hospitalization.

Green Area: Home quarantine

TRAININGS CONDUCTED FOR STAFF DEPLOYED

Training provided to staff regarding Handling COVID-19 in special populations

➤ In Pregnant patients:

- Testing to be prioritised
- Steroids may be given for foetal indications as per obstetrician's advice

Obstetrician to monitor fetal well-being daily

➤ Breastfeeding patients:

- Currently there is no data suggestive of viral transmission via breast milk.
- Infants born to mothers with suspected, probable or confirmed COVID-19 infection, should be fed according to standard infant feeding guidelines formulated by WHO and , while applying necessary precautions for IPC.

➤ Infants born with suspected or proven COVID-19 infection:

- Infants with suspected or proven COVID-19 constitute a susceptible subgroup which needs appropriate consideration in the guideline framework.
- As per the literature available, there is no evidence of vertical/in-utero transmission of virus from the mother to neonate.

• The perinatal and neonatal management:

1. All pregnant patients with the history of overseas travel or exposure to the suspected or proven COVID-19 patient will be isolated
2. The criteria for taking sample and laboratory testing of pregnant women with suspected or proven COVID-19 infection should be isolated
3. There should be a separate operation theatre and labour room for conducting Caesarean sections and deliveries respectively. All these rooms should have a dedicated new-born care corner at least 2 meters away from delivery table.

4. All the isolation rooms including operation theatre and labour room should have negative air pressure, if this facility not available then provision of appropriate number of exhaust fans can be made.
5. All the health care staff involved in the immediate care of the mother and new-born should wear full personal protective equipment including N95 mask and goggles.
6. The treatment of pregnant women with active COVID-19 infection should be done as per National ICMR guidelines for adult patients.
7. Neonatal resuscitation, if required, should be as per standard guidelines. Self- inflating Ambu bags should be preferred for providing positive pressure ventilation as compared to T-piece resuscitator.
8. Delayed cord clamping and early skin to skin contact should be avoided for stable neonates after delivery.
10. If the neonate is not stable and requires intensive care then a separate isolation room should be used for treatment and expressed breast milk can be given.

➤ **Training regarding protection of Health care workers from COVID-19**

STANDARD PRECAUTIONS

All standard precautions are procedures should be displayed at all contact points of patients in various places and at designated places for health care professionals.

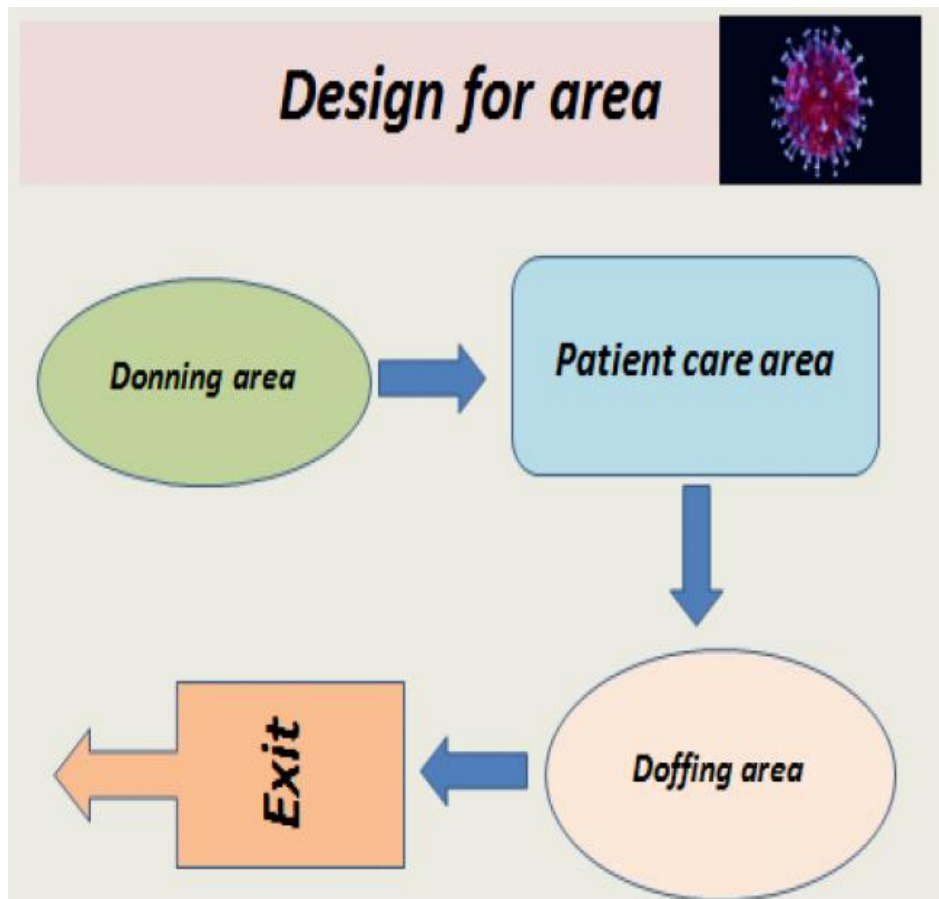
1. HAND HYGINE

- Health care personnel must wash hands with soap and water for 40 seconds and with alcohol rub for 20 seconds.

- Hand hygiene should be maintained before entering into patient's area and after leaving the area.
- Hand hygiene is necessary to maintained before and after each procedure.
- Hand washing Technique

➤ **Design of isolation area :**

- Donning Area: For putting on PPE
- Doffing Area: For removing the PPE



➤ **USE OF PPE (Personal Protective Equipments) Sequence of using PPE in Donning area:**

Donning of PPE

1. Remove home clothes and wear clean hospital scrubs.
2. Wash hands with soap and water or alcohol rub
3. Wear shoe cover first provided in PPE kit. Tie the laces in front of shin.
4. .Wash hands and Wear first pair of gloves. The gloves can be sterile or non sterile and should be fit in hands i.e. the size of glove should be smaller than comfortable size.

5. Wear gown provided in PPE kit

The health care professional should wear a clean, disposable non permeable gown.

The gown must cover the full torso from neck to knees, arms to end of wrists and wrap around the neck. The neck should be fastening at the back of neck and waist. If gown become soiled during procedure immediately decontaminate it Remove gown only in doffing area and discard in yellow bin before leaving the doffing area

6. Wear N95 mask or respirator While Cup mask in hand Place the lower strip of mask below the neck passing below ears and upper strip

should be at above of neck above the ears. Tight at the bridge of nose and check snug and fit mask below chin 1 and face Check for minimal air leakage from sides of mask.

7. Wear goggles/ eye pieces and adjust according to size. Open the ports at upper sides to prevent fogging on glasses of goggles. The upper end of N95 mask should be covered by goggles/eye pieces.

8. Wear 2 pair of gloves. Check the gloves should not be already torn and the size of outer gloves should be larger than first wearing pair of gloves and cover the sleeves of gown with gloves at wrists. If gloves get contaminated immediately remove the gloves and do hand hygiene. Remove and discard gloves before leaving doffing area

and do hand hygiene.

8. After wearing PPE check for fitness of gown, mask and gloves. The gown should not be loose at waist and sleeves.

Sequence of removing PPE in doffing area:

1. Never touch outer surface of gown to prevent contamination of hands

Unfasten gown ties without making any contact of sleeves with body

2. Pull away gown from neck and shoulder from touching inside of gown only Fold or roll into bundle and discard in waste container
3. Wash hands with soap and water and alcohol rub

➤ **BIOMEDICAL WASTE MANAGEMENT**

The biomedical waste has to be segregated as per BIOMEDICAL WASTE MANAGEMENT RULES, 2016 and subsequent amendment with following precautions:

1. Dustbins for COVID-19 suspect/ confirmed cases to be separate and labeled as COVID-19.
2. Double polythene to be used to prevent leakage of biomedical waste and labelled as COVID-19.
3. Maintaining register in Isolation ward/ emergency Isolation of the COVID-19 waste.

COVID-19 Isolation Wards:

- ✓ separate color coded bins in wards and they should maintain proper segregation of waste .
- ✓ As a precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no leaks.

- ✓ Collection and storage of biomedical waste separately prior to handling over the same CBWTF. Use a dedicated collection bin labeled as “COVID-19” to store COVID-19 waste and keep separately in temporary storage room prior to handling over to authorized staff of CBWTF.
- ✓ Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.
- ✓ mandatory labeling, bags and containers used for collecting biomedical waste from isolation wards, should be labeled as “COVID-19 Waste”.
- ✓ This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- ✓ General waste not having contamination should be disposed as solid waste as per Solid Waste Management Rules, 2016. Disposable plates, left over food, paper napkins, thermocol/cardboard foodbox used by patients may be considered contaminated and disposed as yellow category waste and plastic water bottles as red category waste.
- ✓ Facility has to maintain separate record of waste generated from COVID-19 isolation wards.
- ✓ Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label “COVID- 19 Waste” to be pasted on these items also. The (inner and outer) surface of containers/bins/trolley s used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution.
- ✓ Reporting the opening or operation of COVID-19 ward to SPCBs. Deputed dedicated sanitation workers separately for BMW and general

solid waste so that waste can be collected and transferred timely to temporary waste storage area.

- ✓ Reporting the opening / operation of COVID-19 sample collection centers and laboratories to concerned State Pollution Control Board

➤ **Training regarding Environmental Infection**

Control

Environmental cleaning is the part of standard precautions to control infection in all areas of health care facility. The following equipments are needed for maintaining cleanliness in health care facilities:

1. Three buckets of different colors Two extra buckets

Two floor mopping clothes Detergent Phenyl

2. 5% sodium hypochlorite solution Alcohol (isopropyl 70% or ethyl alcohol 70%)

3. Personal preventive equipments wear by person during cleaning and disinfection of health care facilities: Wear disposable gloves after that wear heavy duty gloves Triple layer mask/Medical mask ,Gown ,Heavy duty shoes and Face shield

➤ **Cleaning agents and solutions for disinfection:**

- ✓ The solutions for cleaning the floor and surfaces should be prepared fresh every time.
- ✓ The recommended time period for leaving agents on surface is 10 minutes.

➤ **For Cleaning Area:**

- ✓ Seal the area where confirmed cases have visited before cleaning procedures.
- ✓ During cleaning of sealed area and isolation area the cleaning staff should wear recommended personal protective equipments.
- ✓ Clean floor with freshly prepared recommended solutions
- ✓ The curtains, fabrics and linen should be washed under hot water cycle with routine detergent or disinfectant in hot water at 70C for 25 minutes.
- ✓ All the surfaces should be cleaned every 3-4 hours.
- ✓ The toilets and bathrooms should be cleaned with 1% hypochlorite solutions.
- ✓ The cleaning staff should immediately sanitize themselves before and after removing the Personal Protective Equipments.

➤ **PRECAUTIONS FOR CASES/SUSPECTS IN ISOLATION WARD EXPLAINED VIA HEALTH TRAINING :**

1. Patient should wear N95 mask OR TRIPLE LAYER MASK and is to be rested in a ventilated room
2. Patient movement should be limited and minimised at common and shared places.
3. Ensure that shared space (e.g. bathroom) is well ventilated (keep windows open).

4. Household members or relatives should stay in a different room or, if that is not possible, social distancing should be maintained. Alcohol rub To clean surfaces where bleach use is not possible e.g. metals.
5. Remove the mask using the appropriate technique – that is, do not touch the front, but instead untie it.
6. Discard the mask immediately after use and perform hand hygiene, Do not reuse masks or gloves.
7. Use dedicated linen and eating utensils and donor mix with those of others.
8. Everyday cleaning and disinfect surfaces that are frequently touched in the room where the patient is being cared for with regular household disinfectant containing 0.1% sodium hypochlorite (i.e. equivalent to 1000 ppm).
9. Clean and disinfect bathroom and toilet surfaces after every use.
10. Place contaminated linen into a laundry bag. Do not shake soiled laundry and avoid contaminated materials coming into contact with skin and clothes.
11. Do not share toothbrushes, cigarettes, eating utensils, dishes, drinks, towels, washcloths, or bed linen).

12. Limit the number of visitors. Ideally, maintain one meter from the normal person (e.g. sleep in a separate bed). person who is in good health and has no underlying chronic or immuno compromising conditions.

13. Visitors should not be allowed until the patient has completely recovered and has no signs or symptoms of COVID-19.

14. When washing hands with soap and water, it is preferable to use disposable paper towels to dry hands. If these are not available, use clean cloth towels and replace them frequently.

➤ **SHIFTING STRATEGY TRAINING OF SECURITY AND HOSPITAL STAFF**

➤ **Movement of patient to minimize contact with others -**

1. At receiving area patient will be received by hospital staff and security guard after wearing N-95 mask. and patient be wearing triple layer mask.

2. Observation of symptoms will be done by medical/ nursing staff to decide further category of patient at 6 feet distance.

3. If patient is suspected for COVID -19 will be shifted to emergency isolation room with three

4. layer mask along with hospital staff and security guard.

5. Screening will be done by medical staff after donning PPE (Personal protection equipment's)

5. If suspected for COVID -19 will be decided to shift to isolation ward with security guard Entry to hospital received at Flu corner by hospital staff + Security 1guard after wearing medical mask

observation of patient by medical staff from 6 ft distance (If suspected shift to emergency isolation room)

➤ **TRAINING OF HEALTH CARE STAFF REGARDING SPECIMEN COLLECTION, PACKAGING AND SHIPMENT**

- ✓ Appropriate and proper clinical sample need to be collected by trained health care professional wearing PPE, following all biosafety precautions.

Samples to be collected:

- ✓ **Essential samples - collect in Viral Transport Media (VTM)**

1. Throat swab (oropharyngeal swab)
2. Nasal swab (Nasopharyngeal swab)

- ✓ **Other preferred samples - Wide mouth sterile plastic containers**

Broncho alveolar lavage Tracheal aspirate Sputum

- ✓ **In lab confirmed patients - Wide mouth sterile plastic containers**

1. Blood
2. Stool and urine

- ✓ **Sample Collection:**

- ✓ If not suspected shift to general OPD or home

If hospitalisation is not needed give health education regarding home quarantine and send to home after giving triple layer mask

- ✓ **Oropharyngeal swab (e.g. throat swab):**

1. Tilt the patient's head back 70 degrees, avoid touching the tongue, teeth, and gums. Use only synthetic fibre swabs with the plastic shafts.
2. Place swabs immediately into sterile container containing 2-3 ml of viral transport media and transported to the designated lab at 4 degree Celsius as soon as possible (same day).

- ✓ **Nasal swab (Preferred):**

1. Tilt the patient's head back over 70 degrees.
2. By gently rotating the swab, insert the swab less than one inch into the Nostril
3. Rotate the swab several times against nasal wall and repeat in other nostril using the same swab. Place tip of the swab into sterile viral transport media tube and cut off the applicator stick.

- ✓ **Throat swab (Preferred):**

1. For the throat swab, take a second dry polyester swab, insert into mouth, and swab the posterior pharynx and tonsillar areas (avoid the tongue). Place tip of swab into the same tube and cut off the applicator tip.

- ✓ **Nasopharyngeal swab:**

1. Tilt patient's head back over 70 degrees.
 2. Gently, rub and roll the swab.
 3. Leave the swab in place for several seconds to absorb secretions before removing and transported to the designated lab at 4 degree Celsius as soon as possible (same day)
- ✓ **Other respiratory material** Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container .
- ✓ **Optimal timing for sample collection:** Within 3 days of symptom onset and no later than 7 days. Preferably prior to initiation of antimicrobial chemoprophylaxis or therapy
- ✓ **Specimen labelling and process:**
1. PPE (Apron, hand gloves, face shield, N95 Masks etc.)
 2. All biosafety precautions should be taken so to protect individuals and the environment.
 3. Proper and correct labelling (name/age/gender/specimen ID) were to be done on specimen container and other details of sender (name/address/phone number) on the outer container by mentioning "To be tested for COVID-19".
 4. Specimen for coronavirus testing is placed in a VTM vial and neck of vial is sealed using a parafilm. Specimen to be sent in a triple layer packaging. Arrange primary vial in a secondary container & place the secondary container in a double zip lock pouch.

5. Use of thermocol box as an outer container and place the zip lock pouch within it, surrounded by hard frozen gel packs.
6. Place the completed specimen referral form(Anx-I) and request letter inside a leak proof, zip lock pouch on the outer container.
7. All samples from district gurdaspur will be dispatched at VDRL lab Amritsar CONTACT DETAILS OF NODAL OFFICER VDRL AMRITSAR DR KD SINGH (9876148560)

Discharge Criteria

➤ For mild / very mild / pre-symptomatic cases:

- The patient can be discharged after 10 days of symptom onset and after displaying no fever for three days.
- The patient is advised to follow home isolation for the further seven days after discharge process

➤ For moderate cases:

- The patient can be discharged if asymptomatic for three days and (b) after 10 days of symptom onset
- The patient will be advised to follow home isolation for the further seven days after discharge process

➤ **For severe cases:**

- Clinical Recovery : If the patient tests negative once through RT-PCR (after the resolution of Symptoms)

➤ **GAPS IDENTIFIED AND ACTIONS TAKEN FOR GENERAL HOSPITAL FOR COVID 19 PANDEMIC**

- ✓ **HOSPITAL SETTING (RECEPTION OF SUSPECTED CASES)
FLU CORNER:**

Keeping in view the safety of the hospital staff, other patients and their attendants, it is better to make a place to attend the patients showing Signs and Symptoms of COVID-19 illness or if referred from other health facilities, with suspicion of coronavirus infection. It is better to have an initial screening facility for such patients in the form of “Flu Corner”.

STAFF AT FLU CORNER

1 Doctor

1 Nursing staff

1 Helper

1 Security guard

DUTY HOURS: 3 shifts in 24 hours

A.FACILITIES AT FLU CORNER

1) Hand washing

- 2) Sanitiser
- 3) Triple layered medical masks and N95 masks
- 4) Personal Protective Equipment (PPE) for staff and doctors 5) A screening proforma
- 6) Hospital waste management facility
- 7) Health education

➤ **GAPS IDENTIFIED**

- ✓ Flu corner was located inside the premises near general opd not on entrance of emergency
- ✓ Due to its location there was segregation of general patients and suspected patients
- ✓ non availability of staff 24*7
- ✓ absence of hand washing facility
- ✓ doctors and staff were not donning ppe kits during initial assessment of patient
- ✓ Screening performa was not filled properly
- ✓ Hands of patients were not sanitized
- ✓ Hospital waste management was not up-to the mark segregation of Biomedical waste Management.

- ✓ Staff was not fully oriented about use of thermoscanner distance to measure temp was more than prescribed limits
- ✓ No provision of masks for patients and there relatives
- ✓ No health education being provided

➤ **ACTION ADVISED AND INITIATED**

- ✓ flu corner was shifted on entrance of emergency so all symptomatic patient can be screened before gaining access to hospital.
- ✓ Duty was regulated 24*7
- ✓ Portable Hand wash facility with soap and tissue was provided at flu corner.
- ✓ It was insured that during duty and screening doctors and staff make sure to wear PPE and N-95 mask
- ✓ Staff was educated about filling screening performa
- ✓ Sanitiser was provided and ensured that everyone hands are sanitised
- ✓ Staff was given orientation about handling and use of thermoscanner
- ✓ Health education which is as an important part which applies to every individual viz health care personnel, patient and attendant.

- ✓ The staff nurse, ward attendant and security guard at the flu corner educates the patient's attendants for the prevention of COVID-19 including hand washing, use of sanitiser, social distancing, home quarantine and obeying the orders of government in regarding prevention of COVID-19.
- ✓ Some study material is being provided and by help of lectures and role plays patient are educated.

B.OPD FLU CORNER:

- ✓ Before attending OPD patient have to report at OPD flu corner if he/she has any of the symptoms:
- ✓ High fever
- ✓ Dry cough
- ✓ Dyspnoea
- ✓ Flu like symptoms
- ✓ He should report at opd flu corner after initial assessment security personnel will take this patient to specific designated isolation area near emergency for covid-19 suspects

➤ GAPS IDENTIFIED

- ✓ OPD flu corner was not established

- ✓ No facility for providing mask

- ✓ No facility for hand wash and sanitisation

- **Action advised and initiated:**

- ✓ Designated flu corner was established for prior screening before entering OPD

- ✓ Facility for hand wash and sanitisation was established.

- ✓ Mask was provided to patients visiting OPD who hasn't covered their face

- **EMERGENCY DEPARTMENT** :Since every suspect patient whether in emergency or OPD will be first assessed in isolation room presented in emergency department some important steps are suggested to already existing facilities.

- ✓ Emergency dept should chest X-ray facility in vicinity

- ✓ There should be a isolation room in emergency

- ✓ Triage centre should be established in emergency for COVID-19 patients

- ✓ Designated ambulance for referral of COVID- 19 patients

➤ **GAPS IDENTIFIED**

- ✓ No separate X-ray room for chest X-ray in emergency
- ✓ No isolation room in emergency
- ✓ Absence of security guard
- ✓ No hospital made referral policy for COVID-19 patients
- ✓ No triage Area and Plan.
- ✓ No training of doctors and staff about donning and removal of PPE
- ✓ No separate exit for shifting of suspect case of COVID- 19 to isolation ward

➤ **ACTION ADVISED AND INITIATED**

- ✓ portable x ray suggested with a separate room
- ✓ If possible suspected cases X-rays to be be down after OPD hours with radiographer wearing PPE
- ✓ Every touched area should sanitized with 1% sodium hypochlorite

- ✓ Security person wearing triple layer mask should accompany suspect by insuring 1m distance from surroundings
- ✓ Hospital centric reference policy formed and implicated
- ✓ Doctors and staff provided training by open WHO course
- ✓ Designated COVID- 19 isolation room formed
- ✓ Triage area formed
- ✓ Exit area formed for COVID-19 suspects
- ✓ Driver and helpers provided training to handle and transport and shift COVID-19 suspects
- ✓ Policy formed to give first aid do all aerosol generating procedure of suspect case in isolation room
- ✓ Sweepers and helpers were provided training to disinfect surfaces and other area
- ✓ Training provided to concerned staff and officials to handle COVID-19 suspects
- ✓ Proper collection of Biomedical waste generated from isolation room
- ✓ COVID-19 suspect coming either from emergency or out patient should reach the emergency isolation room as per govt protocol .

MATERNITY WING:

Since pregnant women are more susceptible to covid 19 infection all precautions are necessary to save them from contracting infection.

➤ GAPS IDENTIFIED

- ✓ There was no separate entry for paediatric and pregnant women
- ✓ Common OPD slip counters
- ✓ X-Ray department at the entrance of MCH wing
- ✓ Presence of general lab and sampling area inside MCH wing
- ✓ Presence of relatives without mask inside waiting area and wards
- ✓ No designated breast feeding area for suspected patients
- ✓ No designated MCH ward for COVID-19 suspect or suspect cases
- ✓ No written breast feeding policy for COVID-19 or suspected patient
- ✓ No hand washing or sanitisation area before entering
- ✓ Presence of immunization area inside complex

➤ **ACTIONS ADVISED AND INITIATED**

- ✓ one separate entry established for paediatric and pregnant patients
- ✓ separate desk for OPD entry plus fever and symptoms measurement
- ✓ x ray department advised to have social distancing and let only one person enter at one time patient should stand away from entrance
- ✓ attendant timings fixed and only single attendant allowed post wearing triple layer mask.
- ✓ designated room for suspect cases for breast feeding and breast feeding policy implemented
- ✓ designated ward formed in MCH Center for COVID-19 suspected or positive cases
- ✓ hand sanitisation and temporary hand washing facility made near entry desk
- ✓ Immunization area established in a separate building
- ✓ special timings of OPD for children with fever and respiratory problems rather than patients with other problems
- ✓ As per Govt guidelines COVID-19 testing for pregnant women with symptoms made mandatory before c section it its implemented in full spirit

- ✓ Frequent cleaning of labour room post Delivery patient with 1% sodium hypochlorite solution
- ✓ For immunization and contraceptive needs of women separate room formed in different building

➤ **GENERAL OPD**

➤ **GAPS IDENTIFIED**

- ✓ No social distancing at registration counter
- ✓ Geriatric patients with various ailments attending OPD at risk with mixing of symptomatic cases
- ✓ Presence of NCD clinic in medical OPD
- ✓ No social distancing in waiting area and over crowding
- ✓ Flu corner is not strictly followed before coming to OPD

- ✓ No arrangement for hand wash and sanitation before entering OPD
- ✓ Crowd at dispensary no minimum distance maintained

➤ **ACTION ADVISED AND INITIATED**

- ✓ white circles drawn at registration counters to maintain social distancing
- ✓ Proposed and separated geriatric clinic from normal opd which included NCD too
- ✓ All symptomatic and patient having fever to be consulted in isolation room post PPE and N-95 mask donning
- ✓ Promotion and use of Telemedicine
- ✓ Medicine should be prescribed for longer duration for followup patients
- ✓ For followups or patients with not serious issues should be only seen in OPDs and Telemedicine consultations should be promoted
- ✓ Circles drawn at dispensary and patients with fever and flu like symptoms given medicine from different counter exclusively for flu patients
- ✓ Number display advised and implicated at opds so only one person is allowed at a time while rest can sit at 1m distance from each other

- ✓ There should be regular cleaning of area and sitting places where a person can touch with sodium hypochlorite 1%. solution.

➤ **OPERATION THATRE**

➤ **GAPS IDENTIFIED**

- ✓ No flu corner assessment before elective surgery
- ✓ Over crowding in post operative and pre operative areas
- ✓ Positive pressure not maintained
- ✓ No designated area and OT and no policy for operating in covid-19 positive patients
- ✓ No separate area for donning and doffing of PPE

➤ **ACTION ADVISED AND INITIATED**

- ✓ every patient should be assessed before surgery
- ✓ Separate septic OT designated for COVID-19 patients and those with symptoms
- ✓ SOP made for Elective surgeries which should be taken after assessment and if symptoms persist after RT/PCR

- ✓ Only one attendant allowed in pre and post operative area if very important Ensure hand sanitisation and triple layer mask
- ✓ Periodical sanitisation of OT complex and Pre and post operative area
- ✓ Separate area designated for PPE donning and doffing

➤ **NBSU**

As neonates are at max risk of contracting and complication of covid 19 disease since needs the max care in time of pandemic

➤ **GAPS IDENTIFIED**

- ✓ over crowding with relatives and majority without mask
- ✓ visitor policy not strictly being followed
- ✓ No hand washing and hand sanitisation point at entrance
- ✓ No separate area for children Born to COVID-19 positive mothers
- ✓ No point for PPE donning and doffing in NBSU complex 1
- ✓ No hand washing and hand sanitisation area inside SNCU
- ✓ Mothers not aware of breast feeding precautions if they are positive or symptomatic

- ✓ No sanitizers present near desk of every neonate
- ✓ No provision for storage of express milk for positive and symptomatic mothers.

➤ **ACTION ADVISED AND INITIATED**

- ✓ visitors policy strictly being implicated not more than one relative allowed
- ✓ Triple layer mask to be Used inside NBSU
- ✓ Hand wash and sanitisation point made outside SNCU entrance
- ✓ Separate beds and room demarcated for neonates born to positive or symptomatic mothers
- ✓ Room designated for PPE donning and doffing
- ✓ Sanitisers being made compulsory at every patient desk to be used by nurses attendant or mother before touching neonate
- ✓ Breast feeding during pandemic explained by role play and promotional material
- ✓ Sanitisers made available at every patients side
- ✓ Express milk pumps and refrigerator provided to store and utilise express milk

- **X-Ray DEPARTMENT :** During COVID-19 pandemic who and cdc recommended Radiological investigation as a tool of choice for investigation and severity of disease

- **GAPS IDENTIFIED**

- ✓ over crowding outside the department
- ✓ Radiographers not wearing ppe and donning and doffing of PPE point not available
- ✓ No sop for COVID-19 suspect cases timings and separate entry and exit point
- ✓ No DRS available
- ✓ No sop for minimum contact with COVID-19 suspects

- **ACTION ADVISED AND INITIATED**

- ✓ white circles demarcated out side department
- ✓ Radiographers provided training on wearing PPE
- ✓ Separate point made in department for donning and doffing of PPE
- ✓ COVID-19 suspects or any persons with fever or other symptoms

- ✓ Time fixed for X-ray after 2 pm in case of emergency separate and exit point fixed
- ✓ Request given to authorities for installation of DRS SYSTEM to have minimum contact with patient and cartridges
- ✓ To make minimum contact with patient and material a separate Group made on what's app to have discussion
- ✓ over X-rays with all concerned specialist at one platform

➤ **LABORATORY**

➤ **GAPS IDENTIFIED**

- ✓ over crowding at entrance
- ✓ No separate sample collection area and report distribution area
- ✓ Patients coming without hand sanitisation and masks
- ✓ Presence of lab inside MCH wing
- ✓ No separate sample collection facility for fever or flu related symptoms
- ✓ No COVID-19 related Seprate BMW collection facility according to amendment 2020

➤ **ACTION ADVISED AND INITIATED**

- ✓ social distancing maintains at vital point near laboratory
- ✓ Separate sample collection and report dispensing area formed
- ✓ Masks provided at help desk to persons coming in lab and other areas
- ✓ MCH wing lab shifted
- ✓ Separate test collection established near OPD flu corner for suspects and persons with fever and flu like symptoms
- ✓ BMW collection point established as per COVID-19 (2020)amendment

CONCLUSION:

The Sub District Hospital can easily Manage management during Pandemic if the staff including Medical Superintendent, Senior Medical Officer, Medical Officers, Staff nurses and Assistant Hospital Administrator collectively works to improve the procedures (clinical, administrative and auxiliary) . The hospital also needs funds to improve its infrastructure so the hospital should demand funds from various NGOs and State Government.

RECOMMENDATION:

- Dedicated Infection Committee
- Staff deployment to run multiple shifts
- Provision of Television in Isolation ward for Patients
- Dedicated Biomedical waste collection Room
- Availability of Emergency case medicines
- Maintaining COVID-19 biomedical waste registers for Record
- Triage Area
- Daily collection of waste from Quarantine centres and record of Slips
- Maintenance of biomedical case management.
- Dedicated doctors and nurses room with privacy in isolation unit
- Dedicated Donning And Doffing Area
- Portable Hand wash can be provided as there is no sepreate Hand washing area

APPENDIX:

1. NHSRC Website- <http://nhsrcindia.org/>
2. Punjab Government -<http://pbhealth.gov.in/>
3. <https://corona.punjab.gov.in/>

4. [http://cpcbenvvis.nic.in/Bio Medical waste.html](http://cpcbenvvis.nic.in/Bio_Medical_waste.html)
5. <https://ncdc.gov.in/>
6. [https://www.mohfw.gov.in/pdf/1584423700568 COVID19GuidelinesonDeadbodymanagement.pdf](https://www.mohfw.gov.in/pdf/1584423700568_COVID19GuidelinesonDeadbodymanagement.pdf)
7. http://pbhealth.gov.in/rtpcr_guidelines.pdf
8. <https://www.mohfw.gov.in/>
9. Revised guidelines on clinical management of COVID-19, MOHFW, GOI, 31 March, 2020.
10. Guidelines Home Quarantine of COVID – 19, Ministry of Health & Family Welfare, GOI, dated 31.03.2020
11. PGIMER, Chandigarh, Guidelines for drug therapy of adults suspected/proven cases of COVID-19 and prophylaxis of Health care workers
12. COVID-19 Preparedness Document, AIIMS, New Delhi (27 March, 2020)
13. Corona Preparedness March 2020, Sree Mookambika Institute of Medical Sciences, Padanilam, Kulasekharam, Kanyakumari
14. Revised testing strategy for COVID-19 by ICMR (27 March 2020)
15. Final recommendations of the national task force for COVID-19 for the use of hydroxy chloroquine as prophylaxis by ICMR (22 March 2020)

16. WHO: [http://www.who.int/publications-details/global surveillance for human infection with Novel Corona Virus\(2019-nCoV\)](http://www.who.int/publications-details/global-surveillance-for-human-infection-with-novel-coronavirus-2019-ncov)
17. 2019 Novel Corona Virus disease (COVID-19) pandemic: review of current evidence. Indian J Med Res.(29 Feb 2020)

APPENDICES:

FACILITY INFRASTRUCTURE

Checklist for Infrastructure			Remarks
1	Does the Facility have Ward or rooms?	☐ Wards ☐ Rooms ☐ Both	
2	Number of wards available		
3	Total number of beds available in the wards (distance between two beds in a ward/room should be more than one metre)		
4	Number of Rooms available		
5	Total number of beds available in the rooms		
6	Adequate hospital furniture, mattresses (one per room) and linen at the facility (4 bed sheets per bed and two pillow covers per bed)	☐ Yes ☐ No	
7	Are washrooms available as 1 toilet per 8 persons?	☐ Yes ☐ No	
8	Provision for portable drinking water	☐ Yes ☐ No	
9	Un-interrupted power supply on hotline	☐ Yes ☐ No	
10	Availability of Generator for power back up	☐ Yes ☐ No	
11	Availability of patient registration facility on HMIS	☐ Yes ☐ No	
12	Availability of adequate computer and hardware	☐ Yes ☐ No	
13	Availability of two dedicated mobile phone for doctor/ staff on duty with display of their numbers on each floor	☐ Yes ☐ No	
14	Internet connection with Wi-Fi	☐ Yes ☐ No	
15	Availability of Medical examination room	☐ Yes ☐ No	
16	Is there a triage protocol in place?	☐ Yes ☐ No	
17	Availability of counseling room	☐ Yes ☐ No	
18	Is there any dedicated sample collection Area	☐ Yes ☐ No	
19	Dedicated lab for testing	☐ Yes ☐ No	
20	Is there a separate room for doctors on duty?	☐ Yes ☐ No	
21	Is there a separate room for nurses on duty?	☐ Yes ☐ No	
22	Is there a separate room Para medics on duty?	☐ Yes ☐ No	

CHECKLIST II WAITING AREA / TRIAGE

Checklist for Waiting Area/ Triage			Remarks
1	Is sufficient seating capacity available maintaining 3ft.distance between chairs and rows?	☐ Yes ☐ No	
2	Is cross ventilation available in the waiting area?	☐ Yes ☐ No	
3	Are Sanitizer dispensers available in waiting area with an instruction poster near it for guidance?	☐ Yes ☐ No	
4	Is Automatic Water dispenser along with paper cup dispenser available in the waiting area?	☐ Yes ☐ No	
5	Are foot operated waste collection bins with covered lids and related signage available in waiting area ?	☐ Yes ☐ No	
6	Are advisories and protocol displayed properly in the waiting area?	☐ Yes ☐ No	

CHECKLIST IX

INFECTION PREVENTION AND CONTROL PRACTICES

Checklist for Infection Prevention and Control			Remarks
1	Does the CCIC have Infection control Committee?(The committee shall comprise of facility-in-charge, Specialist,Doctor, senior staff nurse,Lab Technician,pharmacist,Class 4 supervisor)	☐ Yes ☐ No	
2	Are there any infection control protocols/guidelines available?	☐ Yes ☐ No	
3	Functioning hand washing station at the entrance	☐ Yes ☐ No	
4	Is alcohol-based hand sanitizer available at all locations?	☐ Yes ☐ No	
5	Are there posters to reinforce hand washing and PPE usage available at hand washing stations and at all relevant locations ?	☐ Yes ☐ No	
6	Is there a facility to sanitize the CCIC twice daily with sodium hypochlorite?	☐ Yes ☐ No	

Checklist for Biomedical Waste Management (BMWM)			Remarks
1	Availability of SOP for BMW management? Detailed guidelines available as Annexure E	☐ Available ☐ Not Available	
2	Availability of agreement with CWTF	☐ Available ☐ Not Available	
3	Are color codes (red and yellow) bins available in BMW management?	☐ Yes ☐ No	
4	Are white and blue containers available for BMW Management		
5	Method of disposing of biomedical wastes?	☐ CWTF ☐ Deep burial ☐ Incineration	
6	Disposal of sharps as per the standard protocol?	☐ Yes ☐ No	
7	Availability of biomedical waste trolley?	☐ Yes ☐ No	
8	Whether the COVID BMW waste is labelled separately?	☐ Yes ☐ No	
9	Availability of dedicated BMW collection area?	☐ Yes ☐ No	
10	BMW collected from isolation facility within 48hrs?	☐ Yes ☐ No	