

Government of West Bengal
Directorate of Health Services
Strategic Planning & Sector Reform Cell
Swasthya Bhavan, GN - 29, Sector V, Bidhannagar

Memo no: HFW-14014(11)/2/2021-SPSRC | 301

Date - 07.09.21

Order

Department of Health & FW, GoWB has planned establishment of **24 bed Hybrid Critical Care Unit** (8 CCU beds and 16 HDU beds) at MCH/DH/SDH/SSH level either by setting up new Critical Care units at some hospitals or augmentation of existing beds (existing 6-12 beds) at the Critical Care Unit/High Dependency Unit/Trauma Care Units/Burn units.

Approximate area required per hospital to set up 24 bed unit is 3500 sq ft. The additional space required for 24 bed Hybrid Critical Care Unit may be arranged either by converting a General Ward or utilizing the space at the already functional CCU/HDU unit. Necessary technical requirements for the 24 bed Hybrid CCU is attached herewith for Civil & Electrical up-gradation works.

It may please be borne in mind that these units are to be made functional within very short period to combat probable surge of Covid- 19 cases. Thus all civil, electrical and MGPS works are to be completed at the earliest. **Construction work is to be avoided as far as practicable.** Fund would be provided for only minor renovation works, installation of air conditioning system, negative pressure ventilation.

Name of the units where 24 bed Hybrid Critical Care Unit (8 CCU beds and 16 HDU beds) would be set up is mentioned below:

<u>Name of Hospital</u>	<u>District</u>
1. Alipurduar DH	Alipurduar
2. Birpara SGH	Alipurduar
3. Falakata SSH	Alipurduar
4. Bankura MCH	Bankura
5. Barjora SSH	Bankura
6. Bishnupur DH	Bankura
7. Chatna SSH	Bankura
8. Khatra SDH	Bankura
9. Onda SSH	Bankura
10. Bolpur DH	Birbhum

11. Rampurhat Government MCH	Birbhum
12. Suri DH	Birbhum
13. Coochbehar Government MCH	Coochbehar
14. Dinhata SDH	Coochbehar
15. Mathabhanga SDH	Coochbehar
16. Balurghat DH	Dakhin Dinajpur
17. Gangarampur SDH	Dakhin Dinajpur
18. Darjeeling DH	Darjeeling
19. Kalimpong DH	Darjeeling
20. Kurseong SDH	Darjeeling
21. NBMCH	Darjeeling
22. Siliguri DH	Darjeeling
23. Diamond Harbour Government MCH	Diamondhurbour HD
24. Kakdwip SDH	Diamondhurbour HD
25. Arambagh SDH	Hooghly
26. Hooghly DH	Hooghly
27. Srerampur SDH	Hooghly
28. Amta RH	Howrah
29. Howrah DH	Howrah
30. Uluberia SDH	Howrah
31. Jalpaiguri DH	Jalpaiguri
32. Jalpaiguri SSH	Jalpaiguri
33. Mal SDH	Jalpaiguri
34. Jhargram DH	Jhargram
35. CNMCH	Kolkata
36. Kolkata MCH	Kolkata
37. NRSMCH	Kolkata
38. RGKMCH	Kolkata
39. Chanchal SDH	Malda
40. Malda MCH	Malda
41. Domkal SSH	Murshidabad
42. Jangipur SDH	Murshidabad
43. Kandi SDH	Murshidabad
44. MSD MCH	Murshidabad
45. Sagardighi SSH	Murshidabad
46. Barasat DH	N 24 PGs
47. Basirhat DH	N 24 PGs
48. Bongaon SDH	N 24 PGS
49. Karimpur RH	Nadia
50. Krishnanagar DH	Nadia
51. Ranaghat SDH	Nadia
52. Tehatta SDH	Nadia
53. Contai SDH	Nandigram HD
54. Nandigram DH	Nandigram HD

55. Asansol DH	Paschim Bardhamann
56. Durgapur SDH	Paschim Bardhamann
57. Kharagpur SDH	Paschim Medinipur
58. Belda SSH	Paschim Midnapur
59. Debra SSH	Paschim Midnapur
60. Ghatal SDH	Paschim Midnapur
61. Gopiballavpur SSH	Paschim Midnapur
62. Nayagram SSH	Paschim Midnapur
63. Salbani SSH	Paschim Midnapur
64. Burdwan MCH	Purba Bardhamann
65. Kalna SDH	Purba Bardhamann
66. Katwa SDH	Purba Bardhamann
67. Egra SDH	Purba Midnapur
68. Haldia SDH	Purba Midnapur
69. Panskura SSH	Purba Midnapur
70. Tamluk DH	Purba Midnapur
71. Purulia Government MCH	Purulia
72. Raghunathpur SDH	Purulia
73. Baruipur SDH	South 24 PGS
74. Canning SDH	South 24 PGS
75. Vidyasagar SGH	South 24 PGS
76. Amtala TCU	South 24 PGs
77. Metiabruz SSH	South 24 PGs
78. Islampur SDH	Uttar Dinajpur
79. Raiganj Government MCH	Uttar Dinajpur

Respective MSVPs & CMOHs are hereby requested to submit the related site proposal & plan – estimate by 12-9-21.

Existing CCUs / HDUs with all HR, equipment will be relocated to the new unit. Extra equipment either will be provided centrally or will be procured locally, as per standard guideline.




**Mission Director, National Health Mission
and Secretary, Department of Health & FW
Govt of West Bengal**

Copy forwarded for kind information:-

1. Secretary (Drug and Equipment), Dept of Health & Family Welfare
2. Secretary (HS), Dept of Health & Family Welfare
3. Secretary (IT), Dept of Health & Family Welfare
4. Director of Medical Education, Dept of Health & Family Welfare
5. Director of Health Services, Dept of Health & Family Welfare
6. Managing Director, WBMSCL, Secretary (Drug and Equipment), Dept of Health & Family Welfare
7. Director, SPSRC , Dept of Health & Family Welfare
8. Special Secretary ME , Dept of Health & Family Welfare
9. Jt Secretary (Nursing), Dept of Health & Family Welfare
10. Jt DHS (SPSRC), Dept of Health & Family Welfare
11. State Family Welfare Officer
12. Director - IPGMER
13. Principal – Medical College, Kolkata / NRS Medical College &Hospital / CNMC&H , Kolkata/ R G Kar Medical College & Hospital, Kolkata/Chittaranjan Seva Sadan, Kolkata/ BC Roy PGIPS, Kolkata / Burdwan Medical College & Hospital, Purba Bardhaman/ BSMC&H, Bankura/ North Bengal MC&H, Darjeeling / Rampurhat GMCH, Rampurhat /Diamond Harbour GMC&H , DHHD / Malda Medical College, Malda / Murshidabad Medical College, Murshidabad / Coochbehar Medical College/ Raigunj Medical College/ Purulia GMCH, Purulia/ Midnapore MCH/ COM & Sagar Dutta Hospital
14. MSVP -- Medical College, Kolkata / NRS Medical College &Hospital / IPGMER, Kolkata /CNMC&H , Kolkata/ R G Kar Medical College & Hospital, Kolkata/Chittaranjan Seva Sadan, Kolkata/ BC Roy PGIPS, Kolkata / Burdwan Medical College & Hospital, Purba Bardhaman/ BSMC&H, Bankura/ North Bengal MC&H, Darjeeling / Rampurhat GMCH, Rampurhat /Diamond Harbour GMC&H , DHHD / Malda Medical College, Malda / Murshidabad Medical College, Murshidabad / Coochbehar Medical College/ Raigunj Medical College/ Purulia GMCH, Purulia/ Midnapore MCH/ COM & Sagar Dutta Hospital
15. Dy Director of Health Services (Admin), Dept of Health & Family Welfare
16. ADHS (CH) , Dept of Health & Family Welfare

17. DFWO, Kolkata
 18. Dr Susanta Kr Roy, OSD North Bengal
 19. CMOH – Alipurduar / Jalpaiguri / Coochbehar/ Darjeeling/ Kalimpong / Uttar Dinajpur / Dakshin Dinajpur / Malda / Murshidabad / Birbhum / Rampurhat HD / Purba Burdwan / Paschim Burdwan / Purba Midnapur / Paschim Midnapur / Jhargram HD / Nandigram HD / Nadia/ Hoghly / Howrah / North 24 Parganas/ Basirhat HD / South 24 Parganas / Diamond Harbour HD / Bankura / Bishnupur HD /Purulia
 20. Dy CMOH 1 & District Nodal Officer Alipurduar / Jalpaiguri / Coochbehar/ Darjeeling/ Kalimpong / Uttar Dinajpur / Dakshin Dinajpur / Malda / Murshidabad / Birbhum / Rampurhat HD / Purba Burdwan / Paschim Burdwan / Purba Midnapur / Paschim Midnapur / Jhargram HD / Nandigram HD / Nadia/ Hoghly / Howrah / North 24 Parganas/ Basirhat HD / South 24 Parganas / Diamond Harbour HD / Bankura / Bishnupur HD /Purulia FBNC Cell
 21. Sr. PA to Secretary, DoH&FW
 22. Co-ordinator, IT with request for web posting.
23. Office Copy


Joint Secretary (PHP)
Department of Health & Family Welfare
Govt. of West Bengal

Annexure: I

Technical aspects for 24 bedded Hybrid CCU

Following specifications are for the establishment of 24 bedded Critical care Unit and will be followed while doing infrastructural up gradation work.

A. CIVIL CONSTRUCTION:

- Unit is preferably on Ground floor, otherwise Electric elevator is must for patient transportation. In the ground floor dust contamination & chance of infection are more.
- Front Gate – Single entry/exit, 2 barriers before patient care area. One emergency exit – separate as appropriate, No thoroughfare.
- All the doors should have self-closing property. Door at the entry point of main patient care area preferably of no touch auto-sliding door.

- Floor space for Patient care area: 100 – 125 Sq. Ft. / Bed. 20% extra space for cubicle type.
- Distance between two adjacent beds should be at least 4 ft and a free space of 2 ft should be provided at head end & foot end.
- Isolation cubicle: 2 in HDU area, This cubicle will be glass walled with clear glass.
- Additional Space: 100 – 150% of Pt. care area
- Approximate area requirement for establish a 6 bedded unit is 1500 sq ft, for a 12 bedded unit is 2500 sq ft, and for a 24 bedded unit is 3500 sq ft.
- Additional Rooms
 - Inside the sterile zone:
 - MO's Room, Nurses Room, Room for paramedical staffs – all 3 rooms with attached toilet & AC facility
 - Outside the sterile zone but within the CCU complex
 - Room for Nurse In-charge, Room for sweepers, Store room, Laboratory, Hand Wash area, Linen wash area, common toilet (2 in no) Reception area, shoe rack, Doning & doffing area
- Wall Rack @ height of 5 ft from floor for keeping Multichannel Monitors size 1½ ft X 1 ft (if rack not provided with the Multi-channel Monitors).
- Wall fixed rack in lab room 'L' shaped to keep machines.
- Wall fixed rack in Store.
- Coving at the junction of wall with floor for better cleaning.
- Wall should be fitted with tiles up to the minimum height of 8ft. ; preferably upto roof height
- Hole in the walls for cleaning purpose is essential with proper drainage system.
- Wash basins one each in the rooms of Medical Officer & Nursing Personnel.
- One Wash basin is required in Lab room.
- A common hand wash area is to be provided with deep sink and elbow operated taps.
- Floor with large marble plates (No visible junction in between) / Vitrified anti-skid floor tiles.
- Marble plated / wooden semicircular or half squire or L-shaped Central Work station with inside rack. Wooden work station with drawers is preferred as its position can be

shifted if needed.

- Rack beside Nursing Station for emergency medicine cum equipment store.
- **False ceiling should be avoided as far as possible.** If required, false ceiling will be made of fire proof material to conceal central A/C ducts and certain other cables.
- Windows 2 piece Sliding with clear glasses.
- Screen made with easy washable materials (**avoid cotton material**) should be available for all Doors and Windows.
- Drinking water supply is must (may be through water purifiers).
- In wash area an area of 5ft X 3 ft should be guarded with ½ ft high cement wall with proper drainage system for linen cleaning purpose.
- Colour of the ceiling should be white.
- Colours of the walls are either light cream or off-white or light pista or any light colour except white (colour of ceiling).
- Beds are separated by Screen fitted stands. The screen also should be light coloured and preferably made by easily washable material.
- Annual Maintenance of the whole Unit from civil part is must.
- Arrangement of Pipeline for dialysis with two portals in CCU should be provided for future use.
- **Patient care area should be provided with Negative pressure ventilation** facility with the following minimum criteria:
 - Negative-pressure room has at least 12 air changes per hour and controlled direction of airflow.
 - Negative-pressure differential greater than 2.5 Pa (0.01 inch water gauge), or an airflow differential greater than 56 l/s (125 cfm) exhaust versus supply
 - Clean-to-dirty airflow
 - Sealing of the room, allowing approximately 0.046 m² (0.5 square feet) leakage
 - An exhaust to the outside, or a high-efficiency particulate air (HEPA) filter if room air is re-circulated

B. ELECTRICAL CONSTRUCTION:

- 12 Electric Points of which 4 may be near the floor, 4 on each side of the patient.
- Electric outlets/Inlets should be common 5/15 amp pins. Should have pins to accommodate all standard electric pins /sockets. Adapters should be discouraged.

- UPS Power back-up is essential for at least 50% of bed side Electrical points and at least one emergency light per bed.
- Voltage stabiliser for the entire unit.
- Total load per bed is approximate 1.5 KV.
- AC should be of split type. Centralised AC should be avoided as far as possible. No duct of AC is allowed inside the room. If unavoidable, it should be strictly fixed to the roof and length should be minimised as far as applicable.
- Laboratory room requires 4 electrical boards in equidistance with 3 plug points in each of whom 1 must be of 15 amps.
- At least one electrical extension board with earthing should be supplied to each room.
- Wall Hanging fan is essential on the head end of the patient on the wall at 8 ft height from floor
- Wearing preferably be of concealed type with fire retardant wires
- One calling bell in each room with switch outside the complex (outside Buffer zone) should be there.
- Additional electric board to be established on the wall at the back of central work station for charging equipment. That board will be of same specification as earlier, number of boards should be at least 2 with 4 plug points on each board.
- At least one computer board is must in Nursing station and MO room with provision for teleconferencing.
- Annual Maintenance of the whole Unit from electrical part is must.

C. ENVIRONMENTAL:

- Fully A/C – Controlling – Temp. / Humidity. Preferably Split A/C.
- Temperature maintained = 16 – 25° Celsius
- Humidity should be <70%
- Minimum of 12 total air changes /room/hour with two changes/ hour by outside air
- Re-circulated air must pass through appropriate filter : HEPA filter
- Provision of regular maintenance of HEPA filter should be available.

D. CENTRALISED LAMINAR FLOW:

- Compressed air outlet = 1 per bed (Lacking compressed air supply – Ventilators will run by inbuilt compressor or turbine)
- Oxygen outlet = 1 per bed (preferably 2)
- Vacuum outlet= 1 per bed for suction
- With alarm system

E. CENTRALISED MEDICAL OXYGEN SUPPLY SYSTEM (either through mini-manifold or liquid oxygen supply system):

i) Oxygen:

- Preferably through pipeline with manifold room at the same floor or attached to the Central Medical Gas Pipeline system (MGPS) of the hospital.
- If separate manifold system is required to establish for CCU, manifold should contain at least 6 cylinders in two rows (10x10) for 24 bedded unit.
 - One point at head end of each bed.
 - Oxygen supply key is to be established on the pipeline at least two in number, one just outside CCU and other at manifold room.
- Additional 2 Jumbo Cylinders with MOX Adapter are to be supplied to each room as back-up for ventilators. Additional medium/ small size cylinders are to be supplied as back up for non-ventilated patients.
 - Flow meter with Humidifier is essential for each port

F. CENTRALISED SUCTION SYSTEM:

Suction:

- Can be performed by suction machine in CMS Category too. (1/4 H.P.)
- In case of suction machine, ratio should be 1 / bed.

G. LIGHTING:

- Spot light for procedures will be required over each bed.
- Overhead lighting of at least 20. Candle ft.

- Overhead lighting by one twin tube set, box covered with transparent glass
- In conference room lighting should be concealed type

H. NOISE CONTROL:

- Noise level is to be ideally under 45 dB - daytime, 40 dB - evening and 20 dB - night

I. BIO-MEDICAL WASTE DISPOSAL & POLLUTION CONTROL:

- Four covered bins – colour coded –(Yellow, blue, Red, Black)
- Adequate wash basins, preferably in the washing area. Wash basin inside the Critical care area should be avoided as far as possible.
- Adequate no. of toilets.

