

Additional File 5

Joint display- Integrated interpretation (Meta inference) between Themes and Q statements subjected to factor analysis supported by verbatim from FGDs

Themes	Q Statements	Supportive Verbatim
1. Working environment, mental health, and Safety	S1 Lack of proper visitor control and absent guards' compromises both patient and staff safety S2 Structured visitor management systems are essential to ensure a safe hospital environment S24 Patient safety is sometimes compromised by infrastructural and systemic gaps	<i>F2P1: "Yes, we try to solve it but if things get out of control we call the guards" (C)</i> <i>F2P3: "We have one guard in emergency but in such situation, we do not have enough time. The best option is to divert them and calm oneself" (C)</i> <i>F1P2: "Sometimes there are chances the patient attendant might come drunk, so it becomes tedious to handle the situation. During the day, we have many staff here and during the night we feel a little,.....like.... if we are given a guard, we might feel safe here" (E)</i>
2. Patient care and service delivery	S36 Effective teamwork reduces burnout and increases job satisfaction S4 Encouraging structured interaction between residents and nursing staff fosters collaborative learning S25 Resource limitations make it difficult for staff to meet patient care expectations	<i>F4P1: "Thankfully we got the nursing students now, with many new colleges opening up. We got a very big help because of them. They change the bottle. In the morning when we have our round, they come and help us in putting cannula" (Co)</i> <i>F5P3: "If there's an emergency situation and the doctors are busy with the OPDs, then the PGs come or the doctors send them to help us. We also learn" (C)</i> <i>F3P2: "Portable X-ray is not there. There are some critical cases in which the patient is not able to go to the X ray room, but we have no option" (C)</i> <i>F1P4: "We have no ventilators in the hospital and some equipment is less" (C)</i> <i>F1P3: "One evening, an instance happened, when I was handling three patients by giving them thermometers, two were given on time, but the third was a little delayed. All the patients gathered and started shouting at us. For us, each patient is equal."</i>

		<i>So, I arranged a thermometer from the ICU department and then handled the patient” (E)</i> <i>F4P4: “We have wheelchairs, but are very old, we require the facilities provided in the private hospitals for easy mobility of the patients” (Co)</i>
3. Staff Workload and related challenges	S7 Manual documentation is time-consuming and adds to operational burden S26 Overburdened staff face challenges in maintaining both accuracy and efficiency S29 Heavy workload reduces the time nurses can spend on direct patient interaction S31 Staff shortages intensify operational pressures in healthcare delivery	<i>F2P2: “There are situations here, we have a big workload and little time” (C)</i> <i>F2P3: “The prior focus is to complete all work in our shift. If we have 12 patients, we should treat them on time, but sometimes due to staffing issue, it is difficult to manage. Like if we currently have 10 patients and one additional comes in, so all our focus diverts to the 11th patient and the remaining must wait. Since in morning we have 2 staff and sometimes if one is on leave, then the task becomes tedious and, in the night, only one staff is present” (E)</i> <i>F4P1: “There should be proper work division. Staff shortage is still a weakness” (Co)</i> <i>F4P3: “Sometimes, during dengue season, we feel overburdened. But now a lot of medical colleges have been started so their students come, so we do not feel that burdened. Yes, earlier we used to feel that” (D)</i> <i>F4P2: “I had even performed my duty for 12 consecutive days without any off. All because there was no staff” (C)</i> <i>F3P4: “There is high patient load and limited staff, especially during night duty. We try to give our best because most patients are poor and depend completely on government hospital. We learn a lot from our seniors and HODs, but staff shortage affects our work” (Co)</i> <i>F3P3: “We have two attendants (ward boys). In the morning two attendants and during the night one attendant. Manpower is the biggest issue faced by us” (C)</i>

		<i>F1P2: “Lack of staff is directly influencing the rate of delivery it is the biggest drawback. We want more staff in the district hospital” (C)</i>
4.Nurse-Doctor Interaction and communication	S3 Interaction between nursing staff and residents is largely underutilized in the DRP program S4 Encouraging structured interaction between residents and nursing staff fosters collaborative learning S6 Strong communication and support within teams and with doctors is a positive aspect of current practice	<i>F2P1: “Whatever guidance we provide to doctors who have come, they tend to follow those. This is all trust they have on us. They know we’re telling them for their own benefit” (D with S3)</i> <i>F3P3: “By the time we get to know PGs, their posting changes” Convergent with S3 (C)</i> <i>F1P4: “They are not on night duties, so we call the senior doctor only” Complementary with S3 (C) but divergent (D) with S4</i> <i>F1P2: “Sometimes when the in-charge feel, they go straight to CMS and inform him or they talk to the matron directly regarding any problems or any requirement. We inform the incharge and she conveys it further” (Co)</i> <i>F3P1: “We talk with the staff. If we require an X-ray of any patient, we talk to the nurses in that department and also with the HODs. We inform our in-charge, and the in-charge then reports to the HOD and forwards. Communication is very good from top to bottom” Convergent with S6 (C)</i>

5.Motivating and demotivating factors	S30 Nurses value professional respect and recognition as key motivators S28 Respectful communication from doctors is crucial for nurse motivation S5 Nurses perceive that their professional dedication often goes unrecognized	<i>F3P3: “The biggest demotivating factor is that doctors do not cooperate with us, most of time. There are lots of things we can do according to experience but we are not authorized to do so” Convergent (C) with S5</i> <i>F2P2: “We are not appreciated as per the dedication we provide in our work. We are blamed for the minor mistake and also when we do not even commit any mistakes. The doctors put the whole blame on us. They do not support us” Convergent (C) with S5</i> <i>F2P4: “We work in the whole state. We keep on getting transferred. But the only motivating thing is that this is a noble job. We get to maintain good relation with the patient” (Co)</i> <i>F2P3: “Yes ma’am. Patient’s smile when we provide them good care and treatment which saved the life of a patient. This motivates us to do even better” (E)</i> <i>F2P1: “Doctors try to dominate us by saying until and unless we allow you, you cannot do so” (C) with S 28 and S30</i>
6.Teamwork and collaboration among nurses and resident doctors	S32 Collaborative learning between junior and senior staff is not adequately promoted	<i>F3P1: “We take help from our seniors, sometimes the name of the medication or the procedure, so we take help from seniors” (C)</i> <i>F2P5: “I was new in the ward and there was a sick child nearly one year of age. That day I was alone since our nurse in charge was on leave due to work. The patient was so sick having a respiratory fever. Since I was new, I was facing issues with equipment and medication, that day I took help from a senior; since Mam was asking for Ambu, laryngoscope, Emergency tray, and since I was new, I did not know how to procure the items. Yet with the help of our senior, I arranged the things, but the child eventually expired due to sickness” (E)</i>

7.In-service training	S12 Irregular training schedules limit professional development among nursing staff S10 Consistent and skill-specific training opportunities are required to strengthen staff competence S33 Training on new technology is inconsistent and insufficient	<i>F3P2: “In college, we were trained theoretically and the focus on practical is less and when we are placed at the District Hospitals, the scenario is different. Like any procedure, cannulization, for instance, is different in theory from practical” (Co)</i> <i>F3P1: “Training is always required. We work with limited resources at the District Hospital” (C)</i> <i>F4P1: “They come to train us whenever a new equipment or anything happens. Recently we had CPR training, then we had fire exit training. So, they come to train us whenever new thing comes” (Co)</i> <i>F4P2: “There are trainings, but we need to refresh our skills and need more” (C)</i> <i>F2P5 “We should be trained regularly as new technologies are coming” (C)</i>
8.Documentation and digital support	S7 Manual documentation is time-consuming and adds to operational burden S8 A secure online documentation system could improve efficiency and patient care focus S9 Nurses experience strain due to inadequate support in routine documentation tasks S19 Basic digital tools can significantly ease clinical and operational tasks	<i>F3P1: “The documentation is more hectic as compared to patient care” (Co)</i> <i>F4P5: “Everything is recorded manually” (C)</i> <i>“We feel like we are a few steps back in comparison to the private hospitals. In private hospitals, nursing staff have a system (computer, Laptop), so if a lab report is sent it is present in their devices, here we first confirm it from the lab, then it is sent to the doctor and finally it comes to us. Also, if any new advancement is made, we should learn about that” (Co)</i> <i>F2P6: “There should be a data entry operator in every ward” (Co)</i> <i>F2P4: “Intercom is there but phones are mostly personal. Manual work takes more time” (D)</i> <i>F5P2: “We could have data entry operator in every ward so that the time that we put in manual documentation we can utilize in patient care” (Co)</i> <i>F3P2: “documentation is manual” (C)</i>

		<i>F4P3: “Implementation of intercoms in the District Hospitals is needed” (Co)</i> <i>F2P1: “The Documentation should be reduced and shifted to the online medium. Since it is a secure medium” (E)</i> <i>F1P4: “We do not have computers in the ward. Documentation is manual” (C)</i>
9.Workforce development and Telemedicine	S20 Lack of awareness and training in telemedicine limits its effective use S35 Telemedicine remains an untapped opportunity in improving rural healthcare access S22 Digital platforms can enhance referral systems for patient management S23 Staff perceive technology adoption as an opportunity for meaningful system upgrade S33 Training on new technology is inconsistent and insufficient	<i>F2P3: “I have felt that even where there was telemedicine facility, we didn’t know how to use it. They often go to faith healers and do not come to the hospital, even fever, when it gets very high, they travel from villages in hills and it takes time” (C) with S 20 and S35, (Co) with S22</i> <i>F4P5: “It can help mothers if their day-to-day queries, little problems like what is to be done when seizures occur” (C)</i> <i>F3P3: “Even when it’s there, we don’t see it functional’, ‘staff needs training’, ‘there should be dedicated staff for operationalization” (C)</i> <i>F3P2: “No. we do not have computers and telephonic devices. If we are given telephones or intercoms in the hospital, it will become easy to communicate with the other department. We only interact through our mobile phones in case of emergency, referral, etc.” (Co) with S22 and (C) with S23</i> <i>F2P5: “Telemedicine would benefit patients for minor issues and guide serious ones about when to go to the hospital” (Co)</i> <i>F3P2: “We have a WhatsApp group with the doctors. There only we ask for any query. Students suggested the implementation of HIS” (Co)</i> <i>F4P5: “We have training, but no training for telemedicine” (C)23 and 33</i>

10. Policy, Infrastructure & Service delivery	S15 Regular review of manpower and equipment needs improves service delivery outcomes S17 Current policy implementation is often disconnected from ground-level challenges faced by staff S18 Nurses identify policy-level neglect as a contributor to workplace inefficiencies S16 Policy changes should prioritize enabling staff to focus more on patient care	<i>F1P2: “Regular Inspections are conducted here, it motivates us to do work so at the time of inspection, we give best possible” (C)</i> <i>F5P5: “We have worked in private sector too. They are more systematic so everything is done properly there, be it patient care or anything. Here in the District Hospital, we don’t see more systematic approach” (E)</i> <i>F4P4: “The ambulance is mostly used for the VIPs” (Co)</i> <i>F5P2: “Everything is good. All departments are available. Only one thing we do not have ENT department. From the time I have been here I have not seen any ENT doctor. We have to refer the patients” (Co)</i> <i>F5P7: “Rotation (Rotatory posting) is good ma’am, because if we will be posted in one department we tend to forget everything. We will not be in practice. Rotation will keep us updated of all the wards. How to manage the problems” (Co)</i>
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C: Convergent and in High Agreement, D: Divergent, Co: Complimentary, E: Elaborative, F: FGD, P: Participant