HEALTHCARE DELIVERY

COVID-19: Experience of a tertiary children's hospital in Western Cape Province, South Africa

A N Parbhoo,[1,2] MB ChB; **A Numanoglu,**[1,3] MB ChB, FCS (SA); **A C Argent,**[1,2] MB BCh, FC Paed (SA), PhD; **M Franken,**[1] Dip (Nursing), Adv Cert (Midwifery and Neonatal Nursing Science); **M Mukosi,**[1] MB ChB, PGDHM, MBA; **M I McCulloch,**[1,2] MB BCh, FC Paed (SA), FRCPCH (UK)

[1] *Red Cross War Memorial Children's Hospital, Cape Town, South Africa*
[2] *Department of Paediatrics and Child Health, Faculty of Health Sciences, University of Cape Town, South Africa*
[3] *Department of Paediatric Surgery, Faculty of Health Sciences, University of Cape Town, South Africa*

Corresponding author: *A N Parbhoo (anita.parbhoo@westerncape.gov.za)*

The COVID-19 pandemic necessitated rapid changes in healthcare systems and at Red Cross War Memorial Children's Hospital (RCWMCH), Cape Town, South Africa. Paediatric services in particular required adjustment, not only for the paediatric patients but also for their carers and the staff looking after them. Strategies were divided into streams, including the impact of COVID-19 on the hospital and the role of RCWMCH in Western Cape Province, communication strategies, adaptation of clinical services at the hospital, specifically with a paediatric-friendly approach, and staff engagement. Interventions utilised: (*i*) Specific COVID-19 planning was required at a children's hospital, and lessons were learnt from other international children's hospitals. A similar number of patients and staff were infected by the virus (244 patients and 212 staff members by 21 December 2020). (*ii*) Measures were put in place to assist creation of capacity at metro hospitals' adult services by accepting children with emergency issues directly to RCWMCH, as well as accepting adolescents up to age 18 years. (*iii*) The communication strategy was improved to include daily engagement with heads of departments/supervisors by early-morning structured information meetings. There were also changes in the methods of communication with staff using media such as Zoom, MS Teams and WhatsApp. Hospital-wide information and discussion sessions were held both on social platforms and in the form of small-group physical meetings with senior hospital administrators (with appropriate distancing). Labour union representatives were purposefully directly engaged to assess concerns. (*iv*) Clinical services at the hospital were adapted. These included paediatric-friendly services and physical changes to the hospital environment. (*v*) Staff engagement was particularly important to assist in allaying staff anxiety, developing a staff screening programme, and provision and training in use of personal protective equipment, as well as focusing on staff wellness. In conclusion, visible management and leadership has allowed for flexibility and adaptability to manage clinical services in various contexts. It is important to utilise staff in different roles during a crisis and to consider the different perspectives of people involved in the services. The key to success, that included very early adoption of the above measures, has been hospital staff taking initiative, searching for answers and identifying and implementing solutions, effective communication, and leadership support. These lessons are useful in dealing with second and further waves of the COVID-19 pandemic.

S Afr Med J. Published online 15 February 2021. https://doi.org/10.7196/SAMJ.2021.v111i4.15539

Planning for COVID-19 at a children's hospital

The COVID-19 pandemic necessitated rapid changes in healthcare systems. Red Cross War Memorial Children's Hospital (RCWMCH) in Cape Town, South Africa (SA), is a dedicated tertiary academic children's hospital. In preparation for the COVID pandemic, drawing on the experiences of colleagues in paediatric services worldwide but especially in London and Milan, attention was focused on three main goals: (*i*) providing appropriate care to the relatively small number of children who became ill as a consequence of COVID; (*ii*) reducing the risk of exposure of children with significant underlying comorbidities to COVID; and (*iii*) protecting and supporting staff and caregivers.

Impact of COVID-19 at RCWMCH

The first COVID-positive patient in SA was confirmed on 5 March 2020, with the first paediatric COVID-positive patient seen at RCWMCH on 23 March.

As of 21 December 2020, RCWMCH had recorded 244 patients and 212 staff members who had tested positive for COVID; 179 staff members had returned to work. There were 4 recorded deaths of COVID-positive paediatric patients. All the patients who died had significant underlying comorbidities, with one of the patients having previously been placed on a palliative care plan. There were 3 confirmed COVID-positive staff deaths, and several severe infections requiring intensive care unit admission.

Considering the role of the hospital in Western Cape Province

Multiple measures were implemented to accommodate different levels of impact, ranging from managing in-hospital impact at RCWMCH to a supportive role in the creation of COVID capacity to manage additional paediatric cases for the province.

The hospital focused on:

- Relieving pressure on adult hospitals by not transferring adolescent long-term patients to adult services; increasing the age cut-off from 13 to 18 years; moving paediatric and adolescent services from Groote Schuur Hospital to RCWMCH (without moving all associated staff); and taking 'red' emergency referrals directly instead of through some regional services.

- Ensuring that particular needs of children and adolescents remained on the high-level agenda of the Western Cape Department of Health (WCDoH), even when there was high pressure on adult beds. There was a paucity of information on the management of COVID in children. RCWMCH had to take the lead in various issues relating to the impact of the pandemic on child health. The chief executive officer (CEO) of RCWMCH, in his role as child health lead in the WCDoH, led a task team to develop guidelines for maternal and child health (Western Cape Government: Health, 2020[1]).
- Seconding members of the RCWMCH team to advocacy functions in a wide range of areas including schooling and social services, as well as providing expert advice on a wide range of activities related to paediatric COVID.

Communication strategy

Daily engagement with heads of departments and supervisors

A key measure was implementation of a daily online staff meeting on weekdays at 08h00 from 16 March 2020. These meetings provided an important opportunity for communication and connecting of all senior staff across all disciplines in a way that made everyone feel that their voices were heard. Information shared at this meeting was not only COVID related but also provided an opportunity to share general hospital and topical information. The meetings were time limited and well structured, so as not to interfere with clinical workloads. They provided a platform for staff from different departments, including non-clinical staff, to share the latest information, discuss issues of concern, allocate a leader for each discussion, and provide feedback to the meeting thereafter. A labour union representative was invited to participate in this meeting. This platform for discussion has been useful and is being continued after the first wave of COVID and into the second wave, with reduced frequency. Recognition and celebration of staff contributions were important aspects of these meetings.

Change in method of general communication with staff

Staff anxiety was present across all departments. Sharing of accurate information on the utility, priority and availability of personal protective equipment (PPE) was important. Informal methods of communication were used. WhatsApp groups enabled a wide reach of instant information to different categories of staff, including labour union representatives. A 'key message' was sent out daily as a trigger for supervisors to discuss key points with their staff. There was a move from physical meetings to virtual meetings using Zoom and Microsoft Teams. A key enabler was technical support. This was not readily available through formal channels, but was garnered through informal methods. A lack of Wi-Fi access in the hospital resulted in staff using their phone data at their own expense, and this had to be addressed. Wi-Fi has now been partially implemented across the facility.

Levelling of 'knowledge power' is key to provide information to all categories of staff. The management team considered what types of information staff requested. Staff adapted quickly to using new technology to move to online meetings. We had to guard against information and communication 'overload' by avoiding unnecessary informal banter.

Purposeful and directed engagement with labour union representatives

Labour union representatives were invited to participate in the daily meetings and to meet directly with the CEO in addition to the usual labour and management caucus meetings. Clinical heads were incorporated into the management/labour meetings to ensure that clinical information was provided to all staff. The main concern initially was availability of PPE for all staff.

Although the rules of engagement between labour and management are strictly guided by the Organisational Rights Agreement, flexibility in terms of this engagement may be required during a crisis. The direct engagements enabled the CEO and management team to hear concerns from staff on the ground, listen to their possible solutions, and respond appropriately. Labour expressed their gratitude for being asked to participate in the management of the hospital's COVID response.

Hospital-wide information sharing and discussion sessions

Online meetings were held for all staff to share information, hear concerns and give feedback on issues raised previously. This process contributed to positive staff morale and provided a platform for all categories of staff to engage directly with the CEO and senior managers. It provided an opportunity for management to connect with staff much more frequently than usual and in a different format to physical meetings, making it accessible to most staff. This did not replace the physical encounters described later in this article, but was in addition to these.

Communication across different service levels

There was good communication between different facilities in the province – specifically at gold, silver and bronze command level. The communication structures spanned different health systems (provincial government and City of Cape Town) and included representation from the private and public sector, including military health. The CEO and senior medical manager were included in these structures. These engagements allowed for the upstream and downstream flow of information between the hospital and provincial structures.

Adapting clinical services at the hospital

The hospital rapidly de-escalated elective procedures such as surgery, imaging and investigations. The surgical teams conducted an informal rapid appraisal to ascertain how many patients were awaiting surgery as existing inpatients, as well as looking to urgent surgery that needed to be performed within a month. Procedures deemed to be urgent were allowed to go ahead, while other less urgent procedures were postponed.

All non-urgent outpatient appointments were rescheduled. This was done by developing guidelines to manage the outpatient services differently, using telephonic discussions to triage patients for remote management v. hands-on assessments.

Early de-escalation gave the hospital time to plan and prepare staff and services for the pandemic. As a consequence, crowding in clinical areas, including the pharmacy, was eliminated. As could be predicted, the de-escalation has now resulted in significant backlogs in many services, and delayed admissions of children with chronic illnesses, who have not had easy access to health facilities.

Paediatric-friendly services

Having a supportive carer at the bedside is an essential component of paediatric care. The hospital allowed one parent or carer at the bedside, which was very different from many other institutions, including private children's facilities. Allowing a caregiver at the

bedside was important to allay anxiety in both patient and carers, and to reduce potential staff exposure to COVID. All staff, carers and older patients were provided with and wore masks from early on in the pandemic. These masks were either received through public donations or manufactured/purchased by the institution. When there was a need to test patients for the coronavirus, caregivers were tested simultaneously. Caregivers had to be regarded as a potential source or victim of COVID infection, and they required substantial input to educate, alleviate anxiety and develop self-isolation skills. In cases of critically ill patients, carers were allowed to swop over, and two carers were in attendance in terminally ill cases.

Physical changes to the hospital environment

Existing clinical areas of the hospital were repurposed, and the number of entrances to the hospital was reduced. Repositioning of entrances, clinics and clinical services resulted in substantial changes to patient and staff flows. Additional physical spaces were created to ensure social distancing between patients. Tented structures were erected on site in key areas. The Cape weather was a significant issue in terms of providing safe spaces for waiting families. The tented structures allowed physical separation of non-COVID from suspected COVID patients coming to the hospital. Child-friendly wall panels were inserted into the main COVID testing tent to make it a less frightening space for children. Queue marshals were deployed to help screen and direct patients appropriately.

Physical enablers such as red duct tape were used to demarcate spaces on the ground where patients had to wait, and chairs were limited in number and spaced out. Numbers were limited in staff tea rooms by physically removing additional chairs and reinforcement of social distancing guidelines. It appeared that staff readily complied with infection control practices in clinical areas, but dropped their guard in social areas, especially during 'mask down' time. This was the first area of 'relaxation' once the COVID pandemic was perceived as being resolved, prior to the second wave.

Staff engagement and support

Allaying staff anxiety

Staff had to be continuously reminded about correct mask wearing, social distancing and hand hygiene, especially when they were out of clinical areas. Anxiety seemed to affect people's ability to take in information. High-risk staff were redeployed to low-risk activities, and low-risk staff were made available for specific COVID areas. We had to be cognisant of where staff were at psychologically, and guide them through their anxiety, and later on their fatigue.

Staff COVID-19 screening programme

The hospital realised that a COVID screening and management process needed to be implemented for staff at the hospital. A staff screening programme was instituted at entrances at peak times. This project was a multidisciplinary effort for the greater good of the hospital.

Personal protective equipment

One of the main factors leading to staff anxiety was concern about the availability and use of PPE. The hospital endeavoured to ensure adequate supplies of different and appropriate PPE. Visualisation of Hazmat suits in international centres caused anxiety, as these were not available at RCWMCH. Frequent practical training on PPE use in small groups helped to allay anxiety about contracting COVID at the hospital. Interactive and focused staff education and training programmes were held using simulation to ensure that *all* staff were (and felt) included. These regular 'pop-up' training sessions were conducted by a senior clinician and her team, ensuring that English, Afrikaans and isiXhosa explanations were always available. Correct use of PPE, COVID testing, and safety in conducting procedures on COVID-positive patients were addressed. Simulation training was carried out during the early phases of lockdown to enable teams to adopt the requirements of working in COVID-19 theatre and related patient care. This training programme empowered staff across the hospital, including non-clinical support services.

Staff transport

At the beginning of the hard lockdown, many staff who usually used public transport experienced difficulties in getting to work and back home after their shifts because of the restrictions on transport during certain hours. The Western Cape Government implemented the Red Dot Taxi system, which provided point-to-point transfers between home and certain facilities for healthcare workers. This system was an enabler in ensuring that staff were on duty to provide patient care. Once the province shifted into lesser restrictions this service continued to be useful, as public taxis were overcrowded and posed a COVID exposure risk for staff. Some staff perceived this service as a goodwill gesture towards their wellbeing.

Staff wellness

Staff from various departments got involved in supporting other staff. Many innovative ideas came up for different staff morale-boosting initiatives in the hospital, i.e. buddy support groups, daily telephonic support to COVID-positive staff, the Jerusalema Dance. It was important to allow staff support structures to develop organically, if aligned with the hospital's goals and cultures. Staff reported being appreciative of a focused system for their support and care. There were many in-kind donations for staff from the public, which helped to boost staff morale.

Visible management and leadership

The CEO and senior management structure purposefully engaged on a programme of visible leadership across the hospital. The CEO did several walkabouts across the hospital during the day and night shifts. This allowed him to hear first-hand of the experiences of staff and the ideas that they had. Staff enjoyed the opportunity to engage directly with the CEO and have a socially distant photo taken with him. Senior clinicians made a point of going through the entire hospital on a nearly daily basis. At a time of crisis, it is essential for the CEO and senior managers and clinicians to engage directly with the staff and not just have information filtered through supervisors.

Conclusions

Flexibility and adaptability are required to manage clinical services in different contexts. It is important to utilise staff in different roles during a crisis and to consider the different perspectives of people involved in the services.

The key to success, that included very early adoption of the above measures, has been the hospital staff taking initiative, searching for answers, and identifying and implementing solutions, together with effective communication and leadership support.

Some of these measures are relevant even after the first wave of the pandemic, and as we move into the second wave. On reflection after the first COVID peak in the Western Cape, RCWMCH is continuing certain strategies to improve services going forward and boost staff morale. Repetition of the same messages, e.g. mask wearing and

avoiding crowding in tea rooms, is required, as behaviour does not change until individuals feel that the pandemic is relevant to them and their families.

RCWMCH is grateful to many individuals, communities and companies for support for both staff and patients, financially and in kind, since the beginning of the pandemic.

Declaration. None.

Acknowledgements. The authors would like to acknowledge all hospital staff who contributed to patient care during this challenging time. Specific acknowledgement goes to the following team members for the pivotal role that they played: Christal Bastian, Nellis Beyers, Marc Blockman, Carla Brown, Heloise Buys, Sharon Cox, Willem de Jager, Brian Eley, Dwayne Evans, Kimesh Chauhan, Galiema Haroun, Elizabeth Hendricks, Shamiela January, Tamara Kerbelker, Louise Lahner, Nosipho Lingani, Michael Levin, Annelie Ludick, Barryan Ludick, Nomaxabiso Mali, Selina Manho, Rudzani Muloiwa, Shirani Naidoo, James Nuttall, Ntombozuko Ponono, Mereille Pursad, Gertrude Ramplin, Cindy Stephen, Hafsah Tootla, Rene Usdin, Helena Van Graan, Wendy Vogel and Liesl Zuhlke.

Author contributions. MIMcC conceived the idea of this article. MIMcC and ANP produced the primary draft and co-ordinated the manuscript, with inputs from the other authors. All authors approved the final manuscript for submission.

Funding. None.

Conflicts of interest. None.

1. Western Cape Government: Health. Maternal and child health services: Response plan to the COVID-19 pandemic. June 2020. https://www.westerncape.gov.za/assets/h1072020_covid19_maternal_child_health_response_plan_for_covid-19.pdf (accessed 18 January 2021).

Accepted 13 January 2021.