

Cyclone Yasi: dialysis mission impossible

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Abstract

Arranging dialysis around northern tropical wet season events is a regular occurrence for the staff of the Townsville Hospital Renal Unit. The 2010–2011 wet season offered a bumper crop of severe weather events including the ultimate challenge: two cyclones in three days. One of these cyclones was the category 5 Cyclone Yasi, which was one of the largest, most severe systems seen in Australian history. Preparing for this cyclone required some creative rostering of staff and patients to ensure minimal disruption to renal services. Planning for this was impeded by issues such as lack of power and water. However, each barrier erected was overcome by excellent teamwork and team spirit. Upon reflection of the events that transpired there were some lessons that were learnt that could prepare the unit more effectively for future severe cyclones.

Background

Townsville Hospital Renal Unit is a busy regional unit located in the heart of the northern tropics providing renal services that are spread over campuses in differing locations. These services include: one 17-chair in-centre unit, an 11-chair satellite unit and home therapies service at North Ward (Townsville), three chairs on Palm Island and eight chairs in Home Hill and Mount Isa.

Planning dialysis around the fickle nature of the wet season is an integral part of the Townsville renal management job description. This year, however, we were faced with an extreme wet season with numerous flooding weather events and nature's ultimate fury: two cyclones in rapid succession. Planning of dialysis around these events presented a significant challenge. The following is my recount of the preparation and aftermath of the cyclones that threatened the provision of renal services that fall under the Townsville Health Service District banner.

Practice run: Cyclone Anthony

Saturday 29 January dawned with clear blue sunny skies; however, thoughts of a lazy Saturday quickly evaporated as the weather reports indicated that Cyclone Anthony, a category 2 storm, was hovering off the coast and expected to hit Townsville early on Monday morning. This, of course, would mean the possible closure of the unit and the postponement of dialysis. The Townsville dialysis unit is currently operating at almost 50% over-capacity; hence, there is very little room to move when scheduled dialysis sessions do not occur as planned.

I texted our nurse unit manager (NUM) who had reached the same conclusion, that we would have to head into work and reschedule as many of the Monday morning patients to Sunday. Our unit is open on Sunday mornings due to our capacity issues. We organised the patients, staff and all necessary support services to keep the unit open for an afternoon shift. After three and a half hours glued to the

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phones, it was organised, so we headed home to play the waiting game and see what damage the cyclone would inflict upon the North.

By Monday morning Cyclone Anthony had skirted by Townsville and headed south passing over Bowen so we had escaped unscathed. We shrugged our shoulders at our wasted efforts; however, as North Queenslanders we are used to the fickle nature of cyclone season and it is best to be prepared!

Cyclone Yasi: Serious trouble on the way!

There was little time to relax from our previous cyclone preparation as later that morning the news about the monster storm Cyclone Yasi had been broadcast throughout the hospital. All wards were urged to commence preparation as the colossal, category 5 super storm was bearing down on the coast, expected to slam into Cairns sometime late on Wednesday.

Our NUM, RE and I began to brainstorm a plan of how best to deal with the situation. This cyclone could have a massive impact on the provision of renal services. We had less than two days to dialyse approximately 95 in-centre patients, 44 North Ward dialysis patients and sort out where to dialyse the Palm Island and local home haemodialysis

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Cyclone Yasi: dialysis mission impossible

patients. We also had to ensure that dialysis patients who commuted from Ingham, Charters Towers and Bowen were all evacuated to Townsville in the event of road closures. Our self-care haemodialysis patients in Doomadgee were evacuated to Mount Isa. Our Mount Isa unit also ended up with some unexpected visitors as Kowanyama (not under the Townsville Health Service District) evacuated three home haemodialysis patients without our prior knowledge. This created a capacity issue at Mount Isa as this unit is open for a morning shift Monday to Saturday with only enough staff to cover this. The Mount Isa staff, without question, worked double shifts until the patients were returned home.

It became apparent very quickly that our only option was to dialyse the entire in-centre population of the renal unit plus and as many of the North Ward patients as we could on our 17 dialysis chairs by running a night shift. Like many dialysis units, our reverse osmosis unit commences its disinfect cycle at midnight and completes it at approximately 5 am; therefore no dialysis is undertaken in the unit between these hours. We contacted the biomedical technicians to ascertain the feasibility of overriding this system to allow us to dialyse. It was confirmed this was possible so this plan was put into action.

Over the next few hours the staff tea-room became the 'control centre' as I undertook the challenging task of rearranging the entire patient roster and the NUM began the process of requesting change of staff shifts to ensure adequate coverage for the night shift and the next couple of days. To ensure we

successfully completed the mission of dialysing over 150 dialysis patients in 48 hours my nicely typed weekly patient roster was discarded and a blank roster with patients' names pencilled in was used. It became apparent that our efforts in rescheduling patients for Cyclone Anthony had actually assisted somewhat in rostering the patients in preparation for Yasi.

The day flew by in a blur of frantic preparation, only interrupted by the frequent updates by our executive director of medical services over the PA system. All activity would grind to a halt and a reverent silence would fall over the unit while we all listened attentively. All non-essential clinics were cancelled, including chronic kidney disease and vascular access clinics. The staff that would have run these clinics kindly assisted with preparation for the cyclone.

By the end of the day, the night shift for Tuesday and four shifts of patients had been arranged. Copious amounts of coffee had been consumed to stave off fatigue and eyes were blurring as plans were checked and rechecked to ensure nothing had been missed. Once we were satisfied that we could no longer physically and mentally prepare any further for the day we left the unit. One of us would go in to lead the night shift and two of us would return early the following morning.

Countdown to Yasi

On Tuesday morning, at 7 am, the first 17 patients were off and running. I stood in the middle of the room and announced to them all that they would only be receiving three hours' dialysis as we had to fit in another three shifts of

17 patients that day. All of the patients were very understanding (in fact I am sure I heard a few whoops of joy from some at not having to complete their usual five hours). I received the same reception from each shift of patients for the rest of the day. There were, of course, a few minor challenges as some patients could not be contacted and turned up for their usual dialysis time. I had attempted to accommodate for this and scheduled these patients as close to possible to their normal time on one of the four shifts.

The renal unit staff were fantastic and the work involved in such a quick turnover was phenomenal. They changed their shift times without hesitation to cover, practically ran all day and followed Amy and my changing plans and direction without question.

Home Hill also did a fantastic job changing the patients' dialysis times to work around the cyclone. They also dialysed extra patients who could not get through to Townsville due to flooding.

Wednesday morning we arrived at 7 am and took over from our nurse educator (who looked more refreshed from the night shift than what she usually does arriving at 8.30 am!). This morning we had rostered a short morning shift as we had to get all staff and patients home by midday. After this time the weather was expected to deteriorate as the cyclone was expected to cross late that night.

The plan was to recommence dialysis in-centre from approximately 3 pm on Thursday. The NUM and I then headed home with a list of all staff numbers and we had both pulled our old-style Telstra wall phones out of our kids' toy boxes in anticipation of power failure.

Cyclone Yasi: dialysis mission impossible

Post-Yasi

Following a wild and sleepless night, we contacted each other early. Our NUM had no power and power lines were down over her driveway so she was unable to make it into work. (However, she made over 100 work-related phone calls from home that day!) Our nurse educator had no power and was flooded in, so she too was unavailable. I felt relatively blessed as I was one of the 15% of Townsville who had not lost power and had no issues trekking across town to work early in the afternoon, although the debris, gale force winds and lack of working traffic lights made for an interesting drive.

The wonderful renal team had the majority of the patients on by the time I had arrived. I spent the next six hours on the phone chasing patients and attempting to get our North Ward unit up and running. This unit is one block back from the beach and was without power. To add to the headache, there was also a question about the supply of water to the entire suburb of North Ward. This was a major concern as we had managed to dialyse some of the North Ward patients in centre; however, we could not cope with dialysing approximately 150 patients in-centre! Technicians were sent urgently out to North Ward at daybreak Thursday morning and thankfully they were able to get the unit up and running.

The most pressing problem that arose after the first 24 hours was that Townsville's water supplies were dropping to low levels as there was no power to the Townsville water treatment plant. The army and council worked around

the clock to get this up and running. At one point we were a mere six hours away from depleting our entire water stores. If this had not been fixed we would've had to turn our thoughts to evacuating our haemodialysis patients, hence it was a very anxious waiting game.

Over the next three days we were still rearranging patients to ensure they all received their required number of dialysis sessions for the week. I left a couple of spaces on each shift so that those patients who were not contacted and who would inevitably present for dialysis could be offered treatment.

Four patients self-evacuated to Charters Towers and Hughenden (without our prior knowledge). These patients had to be air evacuated as the roads were cut by floods as Yasi moved inland. One patient was also found in Brisbane.

What did we learn?

We were proud to work with others in the renal team who did an outstanding job in providing an essential life-saving service to their patients. They coped remarkably well with the ever-changing plans and challenges of ensuring no patient was denied treatment. The administration officers also did a fantastic job printing out lists of patients' numbers, assisting with transport and changing their shifts to provide us with as much support as possible.

Our district disaster plan for cyclone preparation provides a general map for how to plan for a cyclone and the aftermath; however, there are no set specific guidelines for the Townsville Renal Services. Construction of a unit-

specific cyclone preparation may be of assistance in the future as some problems did arise during these weather events which may have been avoidable.

The major issue was not being able to contact a number of patients. Some of these were due to the lack of power, mobile phone services dropping out, no phone number listed or no up-to-date information. There were some suggestions by staff to assess the possibility of using a radio broadcast next time to reduce time contacting patients (the RSI in my thumb from making approximately 200 phone calls can attest to that!), and to provide information to the patients who could not be contacted regarding the dialysis service. We also need to ensure that patient contact details are kept current.

Very importantly, it was important to maintain a good sense of humour (although do not joke about not having lost power five days after the event to those who are still without; you may receive death threats!). Seriously, this major weather event was extremely challenging, but in some ways an enjoyable challenge due to the members of the renal team. We await with great anticipation the next challenge that is thrown our way!