

# The Hyperbaric Medical Centre - Plymouth (DDRC)

## Quality Report

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This report describes our judgement of the quality of care at this location. It is based on a combination of what we found when we inspected and a review of all information available to CQC including information given to us from patients, the public and other organisations

## Ratings

### Overall rating for this location

Are services safe?

Are services effective?

Are services caring?

Are services responsive?

Are services well-led?

## Overall summary

The Hyperbaric Medical Centre – Plymouth is operated by DDRC Healthcare. The facility has been operating in its current location since 1996.

The service provides hyperbaric oxygen therapy to patients with a range of conditions, including diving emergencies, complex wounds and those suffering from complications due to radiation treatment. Hyperbaric

Oxygen (HBO) therapy is a means of providing additional oxygen to body tissues. During HBO treatment the patient breathes high levels of oxygen, usually through a hood or mask, whilst inside a pressurised chamber.

There are four hyperbaric chambers and nine clinical assessment, treatment and consulting rooms.

Most patients are from the South West, but some patients are from other regions. All NHS-funded patients have

# Summary of findings

either been referred by a specialist consultant or attend as an emergency patient with decompression illness, a life-threatening condition usually affecting divers during which dissolved gases form gas embolisms inside the body. Emergency patients are assessed by a doctor prior to treatment.

We inspected this service using our comprehensive inspection methodology. We carried out the inspection on 31st October 2017.

To get to the heart of patients' experiences of care and treatment, we ask the same five questions of all services:

- Are they safe?
- Are they effective?
- Are they caring?
- Are they responsive to people's needs?
- Are they well-led?

Throughout the inspection, we took account of what people told us and how the provider understood and complied with the Mental Capacity Act 2005.

We regulate hyperbaric oxygen therapy services but we do not currently have a legal duty to rate them when they are provided as a single specialty service. We highlight good practice and issues that service providers need to improve and take regulatory action as necessary.

We found the following areas of good practice:

- The patients were put at the centre of care and their individual needs were met.
- All areas of the facility were clean and well maintained.
- Health and Safety procedures were robust.
- The consent process was thorough and well-documented.
- Patients received compassionate care and staff were respectful and professional.
- There was a strong focus on audit, research and improvement.
- Children and vulnerable adults were protected from abuse through clear reporting processes.
- The service worked closely with local acute NHS Trusts and specialist services. They also collaborated well with the wider hyperbaric and research communities.
- There was a good working culture and respect between work colleagues and towards managers.

- Staff received ample training opportunities and professional development was encouraged and supported.
- Communication was very effective and staff had the opportunity to contribute thoughts and ideas to the organisation.
- There was a desire to improve and the organisation responded well to incidents and feedback.
- Leadership at the service was strong and their vision and strategy was well-defined.

However, we also found the following issues that the service provider needs to improve:

- There was no framework provided for assessing the level of harm caused by an incident. This was needed to ensure that the service was identifying incidents that met the criteria of a serious incident and managed them appropriately.
- There was lack of clarity around the methodology used for investigation of serious incidents.
- Drug allergies were sometimes not recorded on the patient's drug charts.
- Some employees had not received an annual appraisal.
- The service did not give clear information to service users about where to go if their complaint was not resolved to their satisfaction.
- The service did not actively promote its organisational values to the staff or service users.
- Some non-clinical staff had not received safeguarding training.
- The service did not have an organisational risk register through which senior managers and trustees could gain assurance that appropriate controls were in place to minimise risks to service delivery.

Following this inspection, we told the provider that it must take some actions to comply with the regulations and that it should make other improvements, even though a regulation had not been breached, to help the service improve.

**Amanda Stanford**

**Deputy Chief Inspector of Hospitals, on behalf of the Chief Inspector of Hospitals**

# Summary of findings

## Our judgements about each of the main services

### Service

#### Hyperbaric Therapy Services

### Rating

### Summary of each main service

DDRC Healthcare provide HBO therapy as their main service. We do not have a legal duty to rate this service, but we highlight areas of good practice and areas that the service need to improve.

# Summary of findings

## Contents

### Summary of this inspection

	Page
Background to The Hyperbaric Medical Centre - Plymouth (DDRC)	6
Our inspection team	6
Information about The Hyperbaric Medical Centre - Plymouth (DDRC)	6
The five questions we ask about services and what we found	9

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### Detailed findings from this inspection

Overview of ratings	13
Outstanding practice	29
Areas for improvement	29
Action we have told the provider to take	30

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# DDRC Healthcare

**Services we looked at:**

Hyperbaric Therapy Services

# Summary of this inspection

## Background to The Hyperbaric Medical Centre - Plymouth (DDRC)

The Hyperbaric Medical Centre – Plymouth was operated by DDRC Healthcare. The service opened at its current location in 1996. It was a private facility in Plymouth, Devon, that primarily serves the communities of the South West region however it also accepts patient referrals from outside this area.

The service provides the following regulated activities:

- Diagnostic and screening procedures
- Surgical procedures
- Transport services, triage and medical advice provided remotely
- Treatment of disease, disorder or injury

The service mainly treated patients with hyperbaric oxygen therapy (HBO), where patients spend time in a chamber pressurised with high levels of oxygen. The service treated 75 patients in the last twelve months for a range of conditions including decompression sickness, complex wounds with delayed healing and tissue damage from radiotherapy.

Each patient received a number of treatments depending on their condition, sometimes 30 or 40 sessions. Each treatment can last between two and eight hours. This meant that some patients may have needed to receive treatment for several hours a day over a period of several weeks.

The service did not restrict its care to only HBO, for example patients whose referral for HBO was for complex wounds, the wound itself was also dressed and treated during the therapy period. However, usually the service coordinated its care closely with other specialist services to ensure that patients could transition between care pathways. For example, patients receiving HBO due to tissue damage from radiation would potentially require simultaneous care from radiology, oncology or surgical teams.

## Our inspection team

The team that inspected the service comprised a CQC lead inspector, Catherine Pople, another CQC inspector, and a specialist advisor with expertise in hyperbaric oxygen therapy. The inspection team was overseen by Mary Cridge, Head of Hospital Inspection.

## Information about The Hyperbaric Medical Centre - Plymouth (DDRC)

The Hyperbaric Medical Service – Plymouth was located in premises that were in close proximity to the local acute hospital and adjacent to their helipad. This allowed easy access for patients transported to the service by helicopter.

There were four hyperbaric chambers at the service. Three were category one chambers, used for acutely unwell patients who required a higher acuity of care. One is a category four monoplace chamber, meaning that it

was used for one patient at a time, used for more stable patients. There were also nine treatment and consulting rooms for patients who required either initial clinical assessment or treatment.

Elective NHS patients needed to be referred into the service by their specialist consultant. Treatment was commissioned by NHS England and was only available for specific conditions where there was good evidence that hyperbaric therapy was beneficial. Some patients had

# Summary of this inspection

privately funded care or they may have been participating in clinical trials and for these patients the therapy was used for a wider range of conditions, such as bone fractures and inner-ear disorders.

Emergency patients were referred by a medical professional or they could initiate their own referral. When self-referring or when accessing the service without first having being medically assessed, for example in diving emergencies, patients received a diagnostic assessment before treatment commenced. These were completed by one of the service's doctors. The service provided 24 hour on-call medical cover for emergency patients seven days a week.

The service occasionally treated children in which case they needed to be under the care of a consultant paediatrician.

During the inspection we spoke with eight staff including nursing staff, chamber staff, medical staff, managers and trustees. We spoke with one patient receiving treatment on the day of the inspection. We also received two 'tell us about your care' comment cards which patients had completed prior to our inspection. To get a wider view of patient experiences, we also reviewed the patient satisfaction surveys completed by patients who had used the service.

There were no special reviews or investigations of the service ongoing by the CQC at any time during the 12 months before this inspection. The most recent inspection took place in March 2013, which found that the service was meeting all standards of quality and safety it was inspected against.

In the reporting period September 2016 to August 2017, the service treated 75 patients with a total of 983 episodes of oxygen therapy.

- 45 of these patients were emergency patients requiring treatment for diving disorders, 30 of them required hyperbaric oxygen therapy.
- 29 of these patients were elective patients who required treatment for a range of conditions including problem wounds and the complications associated with radiation treatment.
- Of these patients, one was a child.

The clinical staff included five doctors and five nurses who had all undertaken (or are currently undertaking)

specific hyperbaric training. There were five supervising chamber operators, one chamber attendant and an engineer. The accountable officer for controlled drugs was the registered manager.

The service also sometimes employed junior doctors on short contracts in order to provide hyperbaric training and experience. They also funded academic research programmes in conjunction with two local universities and provided placements for student nurses.

Between September 2016 and August 2017 the service recorded three significant or critical events, one of which resulted in sustained harm to a patient.

The service had recorded no incidents of healthcare-acquired infection.

The service had received no complaints and 17 compliments from service users between September 2016 and August 2017.

The service provided the National Diving Accident Helpline through which assistance and advice was given for people with suspected diving related illness.

The centre also provided a wound care service (for patients not requiring HBO). This service was separately registered and had recently been inspected. Professional medicals, training and research also occurred at the same location. These services were not included in our inspection as they are not regulated activities. DDRC Healthcare also ran two hyperbaric chambers in Wales; this site was not inspected as it falls under the Health Inspectorate Wales.

The service had a Registered Manager, Dr Gary Smerdon, who was also the Chief Executive Officer.

The facility was last inspected in 2013 when it was found to have met regulatory standards. This time we undertook a comprehensive announced inspection which took place on 31st October 2017.

## **Services accredited by a national body:**

- ISO 9001:2015 Quality Management System
- Investors in People
- British Hyperbaric Association

## **Services provided to the hospital under service level agreement:**

- Clinical and non-clinical waste removal

# Summary of this inspection

- Haematology
- Radiological Imaging
- Microbiology
- Pharmacy
- Laundry
- Maintenance of medical equipment
- Pathology and histology
- Infection Prevention and Control Services
- Healthcare and Supporting Services (to look after continuing healthcare needs of critically ill patients)



# Summary of this inspection

## The five questions we ask about services and what we found

We always ask the following five questions of services.

### **Are services safe?**

We do not currently have a legal duty to rate hyperbaric oxygen therapy services where these services are provided as an independent healthcare single speciality service.

We found the following areas of good practice:

- The service had robust quality management systems in place.
- Incident reporting was encouraged which led to a culture of openness and transparency in which the service can continuously improve.
- Improvement logs were widely discussed and actions were taken to improve services following adverse events.
- Protocols were in place and followed to prevent the spread of infection.
- Staff were trained in the safeguarding of adults and children and effective procedures were in place.
- Effective systems were in place for the testing and maintenance of the service's equipment.
- The service kept the risk of fire to a minimum and had effective procedures in place to respond to a fire.
- Staff complied with the systems in place to protect themselves and the public from the risks of the hazardous environment.
- The service was well-staffed and equipped to respond to patient needs.
- Medicines were managed safely and in a way that met the needs of patients.
- Patient records were completed to a high standard.
- The service had provided the necessary training for staff to meet the requirements of their role. This enabled safe and high quality care.
- The medical team ensured that patients received prompt attention if their condition changed.
- The service had put appropriate plans in place to respond to changes in the patient's condition.
- Patients were carefully assessed and monitored when receiving treatment.
- An effective 24 hour service was provided for emergency patients including telephone advice.

However, we also found the following issues that the service provider needs to improve:

# Summary of this inspection

- There was no framework provided for assessing the level of harm caused by an incident. This was needed to ensure that the service was identifying incidents that met the criteria of a notifiable patient safety and managing them appropriately.
- There was lack of clarity over the methodology the service intended to use for the investigation of serious incidents and how it was ensured that Serious incidents received an appropriate level of investigation.
- Drug allergies were sometimes not recorded on the patient's drug charts.
- Some non-clinical staff had not received safeguarding training.

## Are services effective?

We do not currently have a legal duty to rate hyperbaric oxygen therapy services where these services are provided as an independent healthcare single speciality service.

We found the following areas of good practice:

- Relevant and current evidence was used to develop services and care.
- All staff were competent and well-qualified in their role and patients benefited from additional skills and knowledge that staff were continually encouraged to gain.
- Staff worked closely with each other and communicated well to keep patients safe.
- The service worked very closely with the local hospitals and specialist teams to ensure that patients were kept safe and moved between services in a way that ensured continuity of care.
- There were effective systems of record keeping.
- Patient outcomes were monitored and benchmarked against other HBO care providers.
- Patient's rights were protected under the Mental Capacity Act (2005).

However, we also found the following issue that the service provider needs to improve:

- Some staff had not received an appraisal in the last 12 months.

## Are services caring?

We do not currently have a legal duty to rate hyperbaric oxygen therapy services where these services are provided as an independent healthcare single speciality service.

We found the following areas of good practice:

# Summary of this inspection

- Feedback from patients was overwhelmingly positive. They found that staff were helpful, friendly and professional.
- The staff put patients at the centre of their care. Staff took a holistic approach to care and gave the patient their time and attention.
- The service looked after those close to the patient, for example relatives and carers, and recognised that social and cultural circumstances were important to the plan of care.
- Patients were given detailed information about what HBO therapy is, in order that they were prepared.
- Staff were reassuring to patients and provided extra support if needed during their treatment. DDRC Healthcare paid attention to giving the patient a positive experience during their time with the service.

## Are services responsive?

We do not currently have a legal duty to rate hyperbaric oxygen therapy services where these services are provided as an independent healthcare single speciality service.

We found the following areas of good practice:

- The service provided HBO that met the needs of the local population.
- The service provided a prompt and effective 24 hour service, including an out of hour's response for emergency patients needing HBO and a telephone advice-line for diving emergencies.
- The service worked closely with the local acute NHS trusts to ensure that the ongoing medical needs of the patient could be met, even when from other regions.
- The service provided hyperbaric therapy for patients who were privately funded and involved with clinical trials for a broader range of conditions.
- The service individually tailored treatment to meet patient's individual needs and social circumstances.
- The service responded well to the feedback it received from patients, seeking opportunities to improve the service where possible.

However, we also found the following issue that the service provider needs to improve:

- The service was not clear with patients about where to go if their complaint was not resolved to their satisfaction.

# Summary of this inspection

## Are services well-led?

We do not currently have a legal duty to rate hyperbaric oxygen therapy services where these services are provided as an independent healthcare single speciality service.

We found the following areas of good practice:

- Managers were visible and approachable. Staff were well-supported in their roles and spoke highly of the leadership culture.
- We saw a very friendly and respectful working environment. All staff we encountered were happy in their roles and spoke positively about their work and each other. Patient feedback suggested that this improved the care experience for patients.
- There were clear systems of governance in place that focused on quality and safety.
- There was a strong vision and strategy for the service and this was shared by the trustees, senior managers and staff. There were robust plans for the future which is likely to improve its sustainability.
- DDRC Healthcare invested in its staff. They provided a culture where learning and achievement was encouraged and staff were supported to develop in their roles.
- There was a commitment to building strong partnerships within the healthcare, academic and research communities.
- There were effective risk and quality management systems in place which meant that there were opportunities to improve the quality of care.

However, we also found the following issues that the service provider needs to improve:

- DDRC did not actively promote its organisational values to the staff or service users. These can form the culture and principles of an organisation and shape its identity as an employer and care provider.

# Detailed findings from this inspection

## Overview of ratings

Our ratings for this location are:

	Safe	Effective	Caring	Responsive	Well-led	Overall
Hyperbaric Therapy Services	N/A	N/A	N/A	N/A	N/A	N/A
Overall	N/A	N/A	N/A	N/A	N/A	N/A

# Hyperbaric Therapy Services

Safe	
Effective	
Caring	
Responsive	
Well-led	

## Are hyperbaric therapy services safe?

We regulate this service but we do not currently have a legal duty to rate it. We highlight good practice and issues that service providers need to improve and take regulatory action as necessary.

### Incidents

- The service had an effective system for reporting incidents and monitoring actions. Incidents were reported through an 'Improvement log' and referred to the appropriate manager to investigate. The findings were discussed with the senior management team. The procedure for incident reporting was outlined in the Incident and Accident Reporting Policy and the logs were recorded on a register.
- The service nurtured a culture of openness and transparency. Staff understood their responsibility to report incidents and the staff we spoke with said that they would feel comfortable reporting an incident. They had confidence that they would be involved in the investigation and would receive prompt feedback. The service operated within a 'no blame' culture to encourage a learning environment.
- The service said they encouraged a high level of incident reporting. The service had set a key performance indicator to report a minimum of two improvement logs/ incidents each month.
- Improvement logs were widely discussed throughout the management team. We saw evidence of discussions about improvement logs at operational team meetings and clinical governance meetings. Changes had been made in response to incidents that had occurred. An example of this included the creation of a new procedure in response to an incident involving aggressive behaviour towards staff.
- The service obtained external assurance of the effectiveness of their incident reporting systems through

external auditing. The service currently holds the ISO 9001:2015 award for its quality management systems. ISO 9001 is an internationally recognised certifying body that produce a set of standards for measuring and improving quality.

- The service recorded three significant events between September 2016 and August 2017, one of which involved harm to a patient. We reviewed these incidents and saw that they related to different issues and there was no particular theme. The service had investigated the incidents and made improvements to the service in response. There had been no reported incidents of patient death between September 2016 and August 2017.
- Staff we spoke to understood their responsibilities under the duty of candour. The duty of candour is a regulatory duty that relates to openness and transparency and requires providers of health and social care services to notify patients (or other relevant persons) of certain 'notifiable safety incidents' and provide reasonable support to that person. Staff were able to describe the duty of candour and the circumstances of when it applied.
- The organisation had a clear process relating to duty of candour, which included a policy outlining the organisation's response to notifiable safety incidents, including moderate and serious harm incidents. The policy included how the organisation defines a notifiable safety incident and how it would respond to the service user. The policy also included a list of self-identified 'never events', which are those the organisation considered so serious and preventable that they should 'never' happen.
- Although we saw evidence that significant events were investigated, we did not see any evidence of a system or procedure for risk-assessing incidents to decide the level of investigation and which incidents were notifiable patient safety incidents. Notifiable incidents

# Hyperbaric Therapy Services

are those incidents that must be notified to the care quality commission under the conditions of their registration. The significant incident that we reviewed had not been notified to the care quality commission and it was unclear how this decision had been made.

- The service used significant event analysis to investigate Serious Incidents. One member of staff had been trained in root cause analysis, a method often used for the investigation of notifiable safety incidents. However it was unclear when the service intended for this methodology to be applied. The significant event analysis tool did not allow for deeper analysis of contributory factors, as would be expected during root cause analysis, to ensure that all areas of learning had been captured.
- There were effective systems in place to respond to alerts sent through the National Patient Safety Agency. The procedure was documented within the Procedure for Dealing with Medical Alerts. We were told that the alert was sent to the medical secretary who passed the information to a senior nurse to evaluate whether the alert was relevant to the service. If appropriate the alert was discussed at the next multi-disciplinary meeting and the necessary actions were determined.
- A procedure is in place to report whistleblowing concerns. The whistleblowing policy is contained within the employee handbook which all staff can access through the organisations intranet or a paper copy is available from the centre manager. The centre had not received any formal whistleblowing complaints but we saw evidence that staff felt willing to speak up openly if they saw anything that concerned them. The policy refers staff to other appropriate organisations if they require further support to speak up.

## Clinical Quality Dashboard (how does the service monitor safety and use results)

- The service produced data for the NHS England hyperbaric oxygen therapy dashboard 2017/18. This information was reported quarterly and the last four quarters were reviewed as part of the inspection. The service was required to report on performance in key areas of clinical outcome as defined by NHS England, such as wound healing and the patient's return to pre-morbid functionality following treatment. They were

also required to report data relating to service delivery, such as the time lag between referral and treatment and the number of patients who felt they were given adequate information before treatment.

- The service told us that benchmarking against other providers was difficult because DDRC treat a wider range of conditions than most other HBO providers, including a higher proportion of patients that were elderly and acutely unwell. Also, the service provided prophylactic HBO prior to surgery and radiotherapy (aimed at preventing tissue damage, rather than treating damage that has already occurred). This made it difficult to utilise areas of the dashboard that measured patient improvement after HBO.
- The service discussed the clinical quality dashboard at clinical governance and joint management team meetings. The dashboard showed varied results over the last 12 month, with no strong or concerning trends.

## Cleanliness, infection control and hygiene

- Infection prevention and control (IPC) protocols were in place. Protocols were contained within an infection control manual that was available to staff in the nurse's office.
- All clinical and non-clinical areas were clean and tidy. There was a cleaning schedule in place to prevent the spread of infection and the premises were audited by the IPC Nurse to ensure that the cleaning was of the required standard.
- Good hand hygiene practices were observed. Handwashing facilities were available in the clinical areas and alcohol gel was used to clean hands between patient contacts. Staff involved with patient contact observed 'bare-below-the-elbow' principles to reduce the risk of cross contamination.
- Infection prevention and control (IPC) expertise was available if required. DDRC Healthcare had a service level agreement with the local acute NHS trust to provide IPC guidance via a link nurse.
- Annual IPC audits were completed by the link nurse. We saw the results of the last audit completed in March 2017; the need to improve handwashing facilities was highlighted along with other minor issues. Improvements to handwashing facilities were to be scheduled within the building improvement programme, but no specific timescale had been set. An action log was seen following the audit confirming the action taken as a result of the minor concerns identified.

# Hyperbaric Therapy Services

- A good standard of information was provided to staff about infection prevention and control (IPC) practices. All staff completed annual IPC training within their essential training program. IPC instruction was not specifically listed within the staff induction checklist; however we were told that a discussion with the senior nurse about IPC formed part of the role-specific induction for clinicians.
- Information was provided about common infections. An IPC guide was available for staff giving them information about how to prevent the spread of common infections such as methicillin-resistant staphylococcus aureus (MRSA) and clostridium difficile. The service had recorded no incidents of hospital acquired infection between September 2016 and August 2017.

## Environment and equipment

- The design and layout of the building catered to the needs of patients. The main clinical areas were on the ground floor and there was access for wheelchair users including a lowered desk at reception. Toilets and changing areas were also accessible. The service was clean, well-maintained and provided a comfortable and welcoming environment for patients. The hyperbaric chambers met the recommendations of the Cox Report (A Code of Good Working Practice for the Operation and Staffing of Hyperbaric Chambers for Therapeutic Purposes. Published by the Faculty of Occupational Medicine, May 1994).
- The service had a comprehensive system for the testing of equipment. There was a testing and maintenance programme in place that detailed each test that needed to be carried out and on what date. We saw that key equipment such as the chambers and the gas pipes had been tested recently. The maintenance of equipment was compliant with the 'BHA (British Hyperbaric Association) Guide to Electrical Safety Hyperbaric Treatment Services'.
- Systems were in place that ensured that employees and patients were safe when working with hazardous equipment. Daily checks took place on key equipment and a comprehensive set of pre-dive safety checks were completed before patients entered the chambers. A monthly audit was also completed which confirmed that staff were compliant with the daily checks.
- The service ensured that the risks of fire were minimised. Comprehensive fire risk assessments were completed, both in the building and during the patient's

pre-dive checks. Controls were implemented to minimise the risk of fire. Fire drills took place and fire alarm tests and training were completed regularly. Fire safety systems were compliant with the 'BHA Guide to Fire Safety in the Hyperbaric Environment'.

- Safety systems existed in case of power failure. The service had a generator available in case of a failure in power supply. This was checked monthly and serviced annually.
- The service ensured that chamber staff were competent in the use of the specific chambers at the service. A specific programme of training was set out for chamber staff to ensure that they were familiar and competent to use each of the specific chambers at the service.
- For the category 1 chamber suitable equipment was available. A supply of clinical equipment was available for use such as suction, infusion pumps, ventilators and transcutaneous monitors for the measuring of oxygen perfusion to diseased tissue. The service was well-equipped to deal with patients with a full range of clinical conditions including those who were acutely unwell. The clinical equipment was clean and had recently been serviced and was up to date with electrical testing. Risk assessments had been conducted on the use of some pieces of equipment during a dive.
- For both the category 1 and 4 chambers resuscitation equipment was available. Grab bags were provided for use in the chambers, which had been checked and sealed. A defibrillator was available and a risk assessment had been completed and instructions given for its safe use.
- Clinical waste was segregated and disposed of safely. Clinical waste and sharps bins were available in clinical areas, sharps bins were in date and could be secured. Clinical waste bins were replaced daily.

## Medicines

- The service managed their medicines in a way that kept patients safe. Effective arrangements were in place for handling of medicines and these were described in the drugs procedure. Staff we spoke to were aware of the drug procedure and we saw staff handling medicines in a way that was compliant with the procedure.
- The service kept medicines secure so that they did not put patients at risk and to prevent abuse or theft of medication. We saw drugs, including controlled drugs, stored securely in the service. Weekly and monthly stock checks took place to ensure stocks were at the expected



# Hyperbaric Therapy Services

levels. Medicines security also formed part of the monthly chamber supervisor checks. Procedures ensured the secure disposal of medicines. The record needed to be signed by two nurses and the drug placed in a secure bin which was collected and disposed of by the local NHS waste management services. Patients were discouraged from bringing medicines into the service unless they were needed. If they were brought into the service, they were asked to keep them in a secure locker.

- The service had good safety procedures in place to protect patients from the risks associated with medical gasses. A substantial number of gas cylinders were kept on site. Breathing air quality was measured regularly to check for leakage and certificates of analysis were supplied to confirm the contents of cylinders. Regular fire risk assessments took place to ensure that staff could use the gases safely. Oxygen outlets in the clinical areas were checked daily to ensure that they were working.
- The service had ensured that it had secured a good supply of medicines. There was a service level agreement with the local acute NHS trust pharmacy to replace stocks of drugs such as analgesia, nebulisers, antibiotics and intravenous fluids.
- Processes were in place to ensure that medicines were stored at an appropriate temperature. We saw daily checks taking place on the air temperature and the temperature inside the drug storage fridge. Temperatures in the fridge were required to remain between three and eight degrees. The nurse knew to seek advice from the pharmacy advisor in the event of the temperature becoming too high or too low. The pharmacy advisor would advise staff of the necessary disposal procedure.
- The service considered the risk of adverse reactions to administered medication as part of their patient hazard identification checklist. The checklist was completed by a doctor prior to treatment and the risks were individually assessed and managed. Drug allergies were established during initial assessment and documented, although the most recent audit showed that 15% of the records had not recorded this information.
- Staff had received the necessary training to administer the medicines prescribed. DDRC Healthcare's Drug Procedure detailed the arrangements for medication administration by staff who were not health care professionals. Responsibility for the safe administration

of medicines always remained with the nurse or doctor, although the under some circumstances medicines could be administered by appropriately trained chamber staff.

- There was an accountable officer responsible for controlled drugs. The accountable officer was the registered manager, Dr Gary Smerdon. Controlled drugs were checked weekly by both a doctor and a nurse. Random checks were also completed by the accountable officer.
- The service had experienced one significant incident involving medication between September 2016 and August 2017. A patient had not received a prescribed medicine prior to treatment and, even though the patient was not harmed, the communication procedures were improved as a result of the incident.

## Records

- The service used a combination of electronic and paper records. The service used an electronic system on which they documented patient care details. They also scanned additional paper forms, such as risk assessments and consent forms, onto the system. The standard of documentation we observed during the inspection was high and detailed notes were made of the HBO treatment provided to each patient during each session.
- Audits on medical notes were completed on a monthly basis by the medical secretary. Audits on drug charts were completed quarterly by members of the medical team. The most recent quarterly audit on drug charts identified the most common omissions to be patient height, weight and allergies to medication. The expectations for audits on medical records were outlined in the service's procedure for monitoring the quality of medical notes.
- We saw a good standard of general record keeping by staff at the service. A high number of checklists and risk assessment forms were used. Forms were easily available and there were systems in place to ensure that they were being used. The service issued 'House Rules for Good Clinical Record Keeping' to staff, which included detailed instructions on what information to record such as including all patient interactions, consent, pre-dive checks, observations and drug charts. It also outlined how patient records must be stored.
- Arrangements had been made for doctors working remotely. During on-call periods there were occasions

# Hyperbaric Therapy Services

when doctors needed to give clinical advice on the telephone. Remote access to the electronic records system was available to enable staff to keep good clinical records.

- Systems had been established to ensure that doctors at the service had the relevant patient notes available to them prior to treatment. Information was also shared with the patient's specialist and general practitioner after treatment by sending a discharge letter.

## Safeguarding

- The service had updated its safeguarding policy in August 2017. The new policy specified the level of safeguarding training required for each member of staff. The level of training required under the policy was in line with the intercollegiate document: safeguarding children and young people: roles and competencies for healthcare staff. The service's safeguarding lead was the medical director.
- For the training of staff in the safeguarding of adults, an on-line training programme was provided to staff through Health Education England and the content of the training included recently added subjects such as female genital mutilation and modern day slavery.
- Medical and nursing staff had received training in safeguarding in line with the intercollegiate document for the safeguarding of children and young people. At the time of the inspection all clinical staff had completed training to Level 2 and appropriate medical staff had completed training to Level 3.
- Some non-clinical staff had not received safeguarding training. The service's new safeguarding policy had already identified that this was a requirement and the service was working towards completion of this training.
- There was a procedure in place for the reporting of safeguarding concerns involving adults. The safeguarding adults procedure documented the procedure that staff were intended to follow in the event of a concern, this involved reporting the concern to the medical director or senior clinical nurse. The service engaged with the local authority safeguarding team if advice was needed.
- There were robust procedures in place for the referral of children suspected of being abused. The Safeguarding Policy outlined the service's approach to safeguarding and protecting the rights of children. The child

protection procedure gave detailed instructions on the procedure to follow when a concern was to be referred to the local authority safeguarding team and a detailed referral form that required completion.

## Mandatory training

- Staff were provided with comprehensive training to ensure that they were competent in their role. This included role-specific training such as Diver Medic Technician and the breathing apparatus course. Some training courses were completed by all staff such as manual handling, infection control and resuscitation.
- The service had appropriate systems in place to ensure that staff remained up to date with their mandatory training. An essential staff training matrix was maintained by the service manager and used to schedule the training required for each employee. A colour coded system was used to indicate whose training was close to expiring (or already expired).
- Staff were appropriately trained to provide resuscitation to patients. Training included resuscitation training as a minimum for all staff in contact with patients. 12 staff were provided with Intermediate life support training, eight staff were provided with advanced life support training and 16 staff were provided with paediatric intermediate life support training.
- Training was provided to staff at a time that worked with their rota and personal circumstances. Staff were encouraged to book themselves onto courses at a time that suited them. This was a recent change following staff feedback and was hoped to improve the training experience.
- Most staff were up to date with their training. We were told that most of those whose training had expired were casual staff and we were told they had not worked since the expiry date. The training for which the highest number of staff were out of date were conflict resolution (7% out of date) and infection control (10% out of date). The service had set a key performance indicator that no more than 10% of staff would become out of date with training at any time.

## Assessing and responding to patient risk

- The service had effective systems in place to ensure that medical input was available if a patient's condition changed. The service's policy was that a doctor needed to be on site whilst patients were receiving treatment and procedures were in place to ensure that a doctor could access the patient at all times, even when the

# Hyperbaric Therapy Services

chamber was pressurised. We saw that patients were carefully risk-assessed prior to treatment to keep the likelihood of complications arising during treatment as low as reasonably possible. An alarm system was in use to ensure that assistance could be summoned quickly.

- The service ensured that patients were properly monitored during treatment. A member of staff remained outside the chambers at all times. A member of staff stayed with the patients at all times inside the multi-place chamber, the chamber suitable for multiple occupants. Closed circuit television (CCTV) and sound recording was in operation during treatment sessions, known as dives, so that the patients could be seen and heard at all times. Staff inside and outside of the chamber could communicate with each other through a range of methods, including open speaker and through a headset for confidential conversations.
- Patients were physiologically monitored if necessary during treatment. A doctor would risk assess the patient to determine the level of monitoring required during treatment. Appropriate equipment was available to monitor and treat acutely unwell patients in the category 1 chambers, such as ventilators and suction.
- Monitoring for sepsis was part of the pre-treatment assessment. Notices were seen at the service advising staff about the signs of sepsis. Antibiotic regimes to prevent sepsis were considered and followed as part of the overall package of care.
- Protocols had been written to help staff respond to medical emergencies. Written guidance was provided on how to respond to patient deterioration in a monoplace chamber, which carried specific risks because it was too small for staff to enter the chamber. We also saw guidelines in the chamber area that gave specific instructions to help staff respond quickly to clinical complications, such as oxygen toxicity.
- We were reassured that the arrangements for answering the telephone helpline were sufficient to ensure that prompt advice could be given to patients. Medical input was available remotely via telephone at all times for any diving emergencies happening across the country via the national diving helpline. Medical advice was accessed via a helpline that went to a call-answering service. The service would then contact the on-call doctor (alternative numbers were made available to the service in case the on-call doctor did not answer).
- Elective patients were individually assessed using a risk assessment form to determine whether physiological

monitoring was required inside the chamber.

Emergency patients were routinely monitored. A range of monitoring equipment was available, including heart rhythm and rate, blood pressure, oxygen and carbon dioxide levels.

- Tools were available to help identify deteriorating patients. The service used Early Warning Scores within its observation chart, which was consistent with the local acute NHS trust. The tool helped nursing and medical staff to detect any changes in the patient's condition that may prompt medical intervention.

## Medical staffing

- There were effective arrangements in place for patients who required medical attention during treatment. Arrangements ensured that a doctor was immediately available in the building whenever hyperbaric treatment was underway.
- The service had employed sufficient doctors to ensure that patients were safe. The service employed five doctors, two on a full time basis and three who were part time. No agency staff had been used to cover shifts. A further eight hyperbaric-trained doctors worked for the service on a casual basis to assist with rota cover if gaps appeared, these doctors all held substantive NHS contracts elsewhere. There had been no service stoppages in the previous 12 months due to a lack of medical staffing.
- All doctors treating patients with hyperbaric therapy were suitably trained. All medical staff were required to undergo training to Diving Medical Advisory Committee (DMAC) - Medical assessment of divers - level 1 or 2D courses. If they had not yet completed this course, they worked under supervision to ensure that patients remained safe.
- Medical staff have been suitably rostered to provide a safe 24 hour service. During core hours a doctor was rostered to be present at the service. Between 5pm and 8am and at weekends, a 24 hour on-call system was in place.
- A procedure and agreement was in place to ensure that appropriately qualified staff were available to handle the needs of ventilated patients. The needs of patients were overseen by the intensive care and anaesthetic staff from the local acute NHS trust and treatment was provided on the understanding that suitable staff were provided by the acute trust to handle the patients' non-HBO needs.

# Hyperbaric Therapy Services

- The service had ensured that calls on the emergency helpline would be answered by a suitably qualified doctor. All calls on the helpline were initially directed to a call answering service to provide assurance that mobile phone coverage did not prevent a call getting through. The service then contacted the on-call doctor. If the on-call doctor did not answer due to unforeseen circumstances, the medical director or one of the service's senior doctors was contacted instead.
- The medical staffing levels we saw during the inspection met the standard set within the DDRC Healthcare policy.

## Nursing and Chamber/Support staffing

- Chamber staff had been rostered to ensure that the minimum safe number of staff were on-duty. A chamber supervisor and two chamber operators/attendants were on duty at all times. During the week they were required to be in the building, between 5pm and 8am and at weekends, a 24 hour on-call system was in place. Staff to patient ratios were clearly defined.
- The service had employed sufficient staff to ensure that patients were safe. The service employed five supervising chamber operators, one chamber attendant, five nurses and an engineer. These staff were employed on a mix of full and part-time contracts. No agency staff had been used to cover shifts, a further two supervising chamber operators, 15 chamber attendants and four hyperbaric nurses were employed on a casual basis to cover shifts if gaps appeared. There had been no service stoppages in the previous 12 months due to a lack of chamber, nurse or engineer cover.
- Staff communicated with each other effectively to ensure that patients stayed safe. Each Monday a multi-disciplinary meeting was held where patients were discussed and treatment plans amended to ensure that they had responded to the changing needs of the patient. Each day a morning meeting was held to discuss the daily plan and ensure that individual responsibilities were understood and important details about specific patient requirements were discussed.
- The medical staffing levels meet the standard set within the DDRC Healthcare policy.

## Emergency awareness and training

- Appropriate policies were in place to prepare staff and patients of the actions to take in the event of an emergency. Specific instructions were given for both scenarios of when the hyperbaric chamber was under

pressure and when it was not. Further instructions were given for the scenario that the chamber was under pressure and could not be 'surfaced' without causing harm to those inside.

- Appropriate safety equipment was available to respond to emergencies. The service supplied breathing apparatus and all hyperbaric-trained staff had been trained in the use of breathing apparatus. The Safety Procedure outlined the protocol for the emergency use of breathing apparatus. Fire extinguishers were also available.
- Safety Procedures were available to give instructions on what to do in the event of a bio-hazard, bomb threat or fire. Training was provided to staff on the procedure to follow in the event of an emergency. There were nominated fire wardens who received appropriate training.
- The service conducted drills to ensure that staff could respond quickly to an unresponsive patient. Quarterly simulation exercises took place to ensure that staff knew their roles and the actions they needed to take.
- All visitors to the site were given written information about fire procedures. A health and safety leaflet was provided to all visitors which included instructions on what to do if a fire was discovered, and what to do if the fire alarm sounds. It also made all visitors aware of specific hazards in the building, such as compressed gasses, high pressure air and high voltage electricity.

## Are hyperbaric therapy services effective?

(for example, treatment is effective)

## Evidence-based care and treatment

- Hyperbaric therapy was planned for each individual patient using a rigid set of recognised guidelines. The service predominantly used treatment tables (dictating the length and depth of each dive) prepared by the Royal Navy. The doctor planning treatment considered the number of sessions, the time of the session and the depth. Most elective patients had their care plan set by the medical director.
- Latest research informed the care provided by the service. The evidence-base for hyperbaric therapy is still growing but current commissioning was based on funding for those conditions for which the benefits of

# Hyperbaric Therapy Services

treatment were supported by strong evidence. The majority of patients treated fell within the elective and emergency patient categories set down by NHS England.

- The centre was able to treat conditions in addition to those covered by NHS funding, however these treatments needed to be either privately funded or form part of a clinical trial. NHS England recognised that a large number of conditions may be improved by hyperbaric oxygen therapy, but the evidence was too weak to support commissioning and so further robustly designed controlled trials were required. Examples given of such patients treated by the service outside of the NHS commissioning process included bone fractures and inner-ear conditions. During the inspection we were given to understand that treatment was not given to patients for whom hyperbaric therapy would not be of benefit.
- Staff worked to a set of established guidelines, written by the medical director and based on recognised guidance.

## Pain relief

- Patients who were on a pre-established analgesia regime were encouraged to continue self-medicating during their treatment period. Additional pain medication including higher-strength medicines such as opioids was available for patients who required it. These medicines needed to be prescribed by the medical staff and were recorded on the patient drug chart. There were no nurse prescribers at the service and nurses did not provide medication under Patient Group Directives (PGDs). A PGD would allow prescription only medicines to be administered by nurses to certain groups of patients without them first being prescribed by a doctor.
- Pain assessment formed part of the general patient assessment but we did not check compliance levels with pain assessment.

## Nutrition and hydration

- Patient's hydration was given appropriate consideration during treatment. Where reasonably possible, patients were given access to drinks at appropriate times during their treatment.
- Patient's nutritional needs were considered. Patients were advised to eat prior to treatment, especially those

with diabetes. The risk of low blood sugar was included within the hazard identification checklist. An individual assessment was an essential requirement for all patients who may be at risk of low blood sugar.

- Patients were provided with hot meals if required after their treatment. A selection of meals were available in the service, mainly for emergency patients who may be required to spend several hours in the chamber and would not have had the opportunity to eat prior to treatment.
- Patient nutrition and hydration was considered by the medical staff as part of good holistic care. We were told that discussions about nutrition and hydration were included within the patient assessment.

## Patient outcomes

- The service regularly submitted data to the NHS England specialised services quality dashboard. The dashboard was a tool that could be used to benchmark their service against other providers.
- Data for the Specialised Services Quality Dashboard was collected and submitted by the Lead Hyperbaric Nurse and Senior Clinical Nurse. Results of the dashboard are reviewed by the Chief Executive, Medical Director and Senior Clinical Nurse so that any anomalies or unusual results can be addressed. The final report is discussed at the clinical governance and joint management meetings.
- The outcomes for some groups of patients using the service was similar or better than the national average. This included divers and elective patients who had complex wounds treated.
- The service participated in audits and national trials looking at the effectiveness for hyperbaric oxygen therapy. A current trial was in progress with patients previously treated for head and neck cancer using radiotherapy.
- The registered manager advised that there were some unique issues associated with outcome monitoring in HBO. The collection of data was reliant on feedback from other specialist consultants which was not always forthcoming. Also, some patients receive HBO either before radiotherapy commences or in the middle of treatment to reduce the likelihood of tissue damage occurring. For these cases it is difficult to quantify the improvement to quality of life as a result of HBO.



# Hyperbaric Therapy Services

## Competent staff

- The service had a good understanding of the qualifications required for medical, nursing and support staff working in the hyperbaric chambers. The training requirement for staff is set by NHS England and the British Hyperbaric Association (see BHA publication “Health and Safety for Therapeutic Hyperbaric Facilities: A Code of Practice”).
- The medical director met the qualification standards needed to direct a hyperbaric facility. The requirement was that a medical director should be an NHS consultant or principle in general practice and be GMC Registered. They should also have appropriate post-graduate specialist training Management of Diving Accidents – DMAC Level 2D (which is equivalent to the European qualification EMDT level 2D).
- All duty doctors working at the service met the qualification standards needed to treat patients with hyperbaric therapy. All doctors working on the on-call rota were qualified to the standard of DMAC Level 2D. Any medical staff treating patients with hyperbaric therapy at the service without this qualification were working towards it and remained supervised until competent.
- Nursing staff were all required to be registered with the Nursing and Midwifery Council. There are no standards set by the British Hyperbaric Association for this role, however nursing staff were required to complete a basic hyperbaric medicine course and were encouraged to attain EBAss (European Baromedical Association) accreditation and ECHRN (European Certified Hyperbaric Registered Nurse) certification. The requirement to have these qualifications depended on their specific role.
- Nursing staff were encouraged and supported to broaden their skills and competencies. The completion of external professional development courses was encouraged to increase the skills that individuals could bring to their role. Examples were given of compression bandaging and larval therapy for wounds. Nursing staff were also encouraged to work elsewhere in the NHS community in order to maintain their professional competency in other areas of nursing. An example was given of nurses looking after high dependency patients for DDRC Healthcare encouraged to work in a high dependency unit at a local hospital to maintain skills and knowledge.
- Chamber staff were competent to work in the hyperbaric environment. All chamber staff were required to complete a Diver Medic Technician (DMT) and basic hyperbaric medicine course. Progression to Supervising Chamber Operator was based on the completion of additional training EBASs and ECHCO (European Certified Hyperbaric Chamber Operator), having suitable experience and an assessment of skill and knowledge. There are no standards set by the British Hyperbaric Association for this role.
- The service took steps to ensure that all staff were medically fit to work in their role. The personnel files for staff working in the hyperbaric environment contained evidence that an appropriate pre-employment medical assessment had been conducted. A medical assessment was also carried out on an annual basis to assess staff member’s health status.
- The service had a robust induction process. A checklist was used and retained in the employee file to confirm that each employee had completed all elements of the induction. This included key information such as fire evacuation procedure, health and safety policy and standards of conduct and behaviour. One key omission to the induction process was infection control, although we were told it was covered informally through discussion with a senior nurse. We did not see any record of this informal training within the employee files.
- Not all staff had received an appraisal in the last 12 months. The service’s appraisal records were reviewed and suggested that, of the 44 staff requiring an appraisal, 14 had not received an appraisal in the last 12 months. The registered manager explained that some staff were given support through more regular face to face meetings, however these had not been documented.

## Multidisciplinary working

- Staff at DDRC Healthcare worked well together. We saw medical, nursing and chamber staff working and communicating well together as an effective multi-disciplinary team. Each Monday a multidisciplinary team meeting took place in which staff shared information and discussed patient care plans.
- DDRC Healthcare worked in close cooperation with the neighbouring acute NHS trust. Service level agreements existed to use the expertise available, for example infection prevention and control and pharmacy

# Hyperbaric Therapy Services

services. Some of the medical and nursing staff had contracts at the hospital, for example in anaesthetics, emergency department and high dependency unit. Staff were encouraged to complete shifts at the hospital to maintain skills and experience. Other medical staff worked in general practice when not working at the service. This was helped by the fact that most of the medical and nursing staff working for the service on a part-time basis.

- The service worked closely with the medical and nursing staff at the local acute NHS trust to ensure continuity of care. An agreement was in place to ensure that the ongoing medical needs of critically ill patients were met during HBO therapy by providing staff from the relevant hospital team to remain with the patient.
- Written instructions had been prepared to ensure effective pathways for referral into the service, care provision between treatments and to arrange onward care after discharge. Effective relationships had been established with emergency departments, the medical teams, intensive care and high dependency teams from the neighbouring acute NHS trust and further afield. The 'Joint Medical Care of the Adult Patient' contained detailed instructions for most scenarios of referral into and out of the service and considered the need for appropriately trained staff to accompany the patient.
- All arrangements for the transfer and care of children (under 18 years of age) were made under the supervision of a consultant paediatrician. No paediatric patients could be transferred to the unit without the agreement of the local paediatric team from the local acute NHS trust. Any paediatric patients from outside of the immediate area of local acute Trust were expected to be seen at the local by the paediatric team for review prior to transfer to the service.
- Medical staff provided appropriate information to handover the care of the patient to another doctor. A discharge summary letter was sent which included details of the treatment given and any adverse side-effects suffered from the treatment.

## Access to information

- Clinical information was obtained from the patient's General Practitioner prior to elective treatment. Where the patient was already an inpatient, the duty doctor and/or nurse obtained a copy of the relevant sections of

the inpatient records. Staff at the service did not have the ability to directly access all electronic systems at the local acute NHS trust, but were able to access certain systems for example blood results.

- The service had the necessary systems for storing patient information so that it was easily accessible. The service used an electronic patient record system which could be accessed at the service and remotely. The system was used to store information sent about the patient, including referral letters and treatment escalation pathways. It also recorded information collected at the service, for example care plans, risk assessment forms, consent forms, and drug charts. Written forms were scanned onto the electronic system by the medical secretary.
- The systems in place for accessing patient information were effective. There had been no significant incidents between September 2016 and August 2017 involving lack of patient information and the staff we spoke to did not voice concerns about the systems.

## Consent, Mental Capacity Act and Deprivation of Liberty Safeguards

- Patients underwent a rigorous risk assessment and consenting process with the medical staff before treatment which was recorded on a consent form. Patients were given an information booklet prior to treatment which contained information about HBO. We saw that patients also received a leaflet detailing the side-effects of treatment, a DVD, and had two separate conversations with healthcare professionals prior to treatment commencing.
- The service appropriately considered capacity as part of the consenting process. A capacity assessment was completed by a member of the medical staff prior to treatment and documented on the pre-dive checklist. The medical staff were able to describe their actions in the event of a patient who lacked capacity requiring emergency treatment. They described that they would make a decision in the patients best interest.
- The service was unlikely to be able to facilitate patients subject to a deprivation of liberty safeguard (DoLS). We were told that it was unsafe for patients to enter the chamber if they were the subject of a DoLS because their full cooperation to all health and safety instructions was required for the safety of the staff and themselves.

# Hyperbaric Therapy Services

## Are hyperbaric therapy services caring?

### Compassionate care

- The care provided by staff at the service was caring and compassionate. Due to the limited patient numbers attending the patient in a day, we were only able to speak to one patient. However, we received written patient feedback from three further patients. Patients were consistently positive about the care provided. They praised staff for the professional and compassionate approach. One patient described it as a “superb service delivered with the individual at the centre of care”. Another patient described staff as “very kind helpful and friendly”.
- The service received good feedback from its patient experience surveys. We reviewed the feedback given in 61 feedback forms, the feedback was overwhelmingly positive and the comments left were highly complementary about the staff and one patient said that she would never forget their kindness and felt privileged to have been offered treatment there.
- The privacy of patients was maintained. We saw curtains and screens used; there were single sex changing areas. Patients could use the toilet facilities in the hyperbaric chamber in private.
- We observed staff interact with patients in a caring and compassionate manner. All patient interactions showed a professional attitude and a caring and respectful approach. When describing some previous patients treated at the service, it was evident that staff went to great lengths to put patients at ease and understand their individual requirements.
- Because patients received a high number of daily treatments, they had ongoing contact with the medical and nursing staff over prolonged periods of time. This gave staff the opportunity to spend time talking with patients. The patients we heard from during the inspection described how this enhanced their experience of care.

### Understanding and involvement of patients and those close to them

- Patients said that they felt well-informed of their treatment. Patients were provided with a DVD informing them what to expect from their treatment and they were also given a booklet to read. A telephone assessment was conducted prior to treatment to understand their

personal circumstances and individual needs. We noticed that there was limited information about the potential side-effects of treatment in the written information, although this was only one of several sources of information given to the patient prior to treatment.

- Patients stated that they were given sufficient information prior to the start of their treatment. Patients were asked in the patient experience surveys whether the written information and the initial telephone assessment gave them clear information and whether they felt they were given the information they needed. All 61 patients who responded stated that they agreed or strongly agreed with this.
- Staff took steps to understand that patient’s relationships with family and friends and they were considered as a relevant part of the treatment plan. Patients were able to bring family or friends to accompany them. They were not allowed in the chamber area but the service had provided a comfortable lounge and dining area for them to use with access to hot drinks and a dining area.

### Emotional support

- Patients were given the time and opportunity to ask questions about their treatment. All patients were given information about the treatment and given the opportunity to ask questions. One patient described how they were allowed to see the treatment area beforehand and was given plenty of reassurance.
- Patients were well supported during treatment sessions. They were accompanied in the chamber and could speak to staff outside the chamber via a telephone.
- The service created a reassuring environment for patients. During the inspection we saw the interaction of nursing and chamber staff with the patients. The tone was friendly and informal which counteracted the unfamiliar and potentially intimidating chamber environment.
- Patients had access to entertainment throughout their treatment sessions to alleviate boredom. Reading material could be taken into the multi-place chamber and patients were able to bring along DVDs to watch.



# Hyperbaric Therapy Services

**Are hyperbaric therapy services responsive to people's needs?**  
(for example, to feedback?)

## **Service planning and delivery to meet the needs of local people**

- The facilities were sufficient to provide the service required to meet the needs of the population it served. Due to the manageable number of elective patients being referred, issues with chamber availability were rare. We were told of only one occasion where they reached full capacity through a high number (14) of emergency patients requiring treatment in one day.
- The location of the service was well planned. It sits in close proximity to the local acute NHS trust and adjacent to their helipad. These meant patients could be rapidly transferred to the service by air or land.
- Staff were rostered effectively to provide a 24/7 service. Elective treatment was provided during the hours of 8am to 5pm on weekdays, emergency care and telephone advice was given outside of these hours. Staff were rostered to ensure a full complement of staff at the service on a weekday. A core team were on-call during the evening/night and at weekends.
- The contract for service provision was defined and agreed directly with NHS England. Funding was given for the treatment of patients suffering from a specified range of conditions where the evidence is strong that hyperbaric oxygen therapy is of benefit. Patients from all over the country were seen at the service; however the majority came from the south west region.
- The service was also providing a small number of patients with HBO for a broader range of conditions where the evidence is less strong that HBO therapy is of benefit. These patients were funded privately or were receiving treatment through a clinical research programme. The service appeared to be open in their discussions with patients about the likely outcomes from treatment.
- No treatments had been cancelled for non-clinical reasons in the twelve months prior to the inspection.
- Referral to treatment times were low. Between July 2016 – August 2017 patients waited an average of 2.5 weeks

for treatment. Some patients chose to defer their treatment due to the time-commitment involved with hyperbaric oxygen therapy, in order to make suitable arrangements.

- Procedures had been established to allow for the transfer of patients from other areas. Critical care patients outside the immediate area would need to be supported by the high dependency and intensive care teams from the local acute NHS trust when they were not receiving hyperbaric therapy. Therefore collaborative working was essential. The service had produced a 'Joint Medical Care of the Adult Patient' to outline expectations for the provision of transfer staff, transport and treatment in-between hyperbaric sessions.
- The needs of non-English-speakers were accommodated. The service utilised a translation service to facilitate communication with non-English-speaking patients. Leaflets and information booklets could be provided in alternative languages and formats as required.
- The service encouraged a holistic approach to patient care. The staff described how they used this opportunity to review broader aspects of the patient's health, such as nutrition, exercise, hydration and emotional support.

## **Access and flow**

- The service was easy to locate, well sign posted and had ample parking. The reception staff were friendly and had a lowered desk to accommodate wheelchair users. The majority of the facilities were on a single story so could be accessed without difficulty.
- Treatment sessions, also known as 'dives', were pre-planned and scheduled throughout the day. The chamber category used depended on the individual needs of the patient and we saw evidence of the patient's social and psychological needs also being considered. This assessment was conducted by a doctor with specialist training and the daily plan was reviewed each morning to accommodate any changes to treatment plans.
- Patients were scheduled to arrive in advance of their treatment time. They were shown through to a waiting lounge. From here they were collected by staff and escorted to a changing area and then to a treatment

# Hyperbaric Therapy Services

room where they would be assessed prior to the treatment. Due to the careful planning and the low numbers of patients visiting the service on any day, waiting times at all stages of patient care were minimal.

- There were sufficient assessment rooms to be able to see all patients. The assessment rooms were spacious and could accommodate wheelchairs.
- The staff were happy to flex the dives to suit the individual needs of the patient. Some patients travelled some distance to reach the service and the staff described how they sometimes planned for earlier treatment times on the final day to allow them time to travel home.

## Learning from complaints and concerns

- DDRC had a clear complaints process outlined in their complaint procedure available to all staff. All staff were able to talk to patients about their complaints but any that required escalation were handled by a senior manager.
- The process that patients should follow if the service was unable to resolve their concerns was not clear within the complaint procedure. Patients receiving treatment funded through by NHS can ask the Parliamentary and Health Service Ombudsman to look at their complaint. This was not made clear within the procedure.
- The service had received no complaints from service users between September 2016 and August 2017.
- The service routinely sought feedback from patients. In addition to the complaints procedure, patients had the opportunity to provide feedback via the patient experience survey. The return of forms was reported monthly and a key performance indicator (KPI) was set to monitor the return rates and improve them. Return rates were usually between 90-100% most months.

## Are hyperbaric therapy services well-led?

### Leadership and culture of service

- There was a clear organisational structure in place so that all staff were clear of their own and each other's responsibilities. They knew who they reported to and what they were accountable for.
- Leaders were approachable and visible and very supportive of the staff. During the inspection we noticed

an overwhelmingly respectful culture within the organisation. This applied both internally between the trustees, managers and staff and also towards their patients.

- There was a strong drive for continuous professional development and growth. Staff told us they felt supported both personally and professionally. A member of staff described very high levels of commitment at the service.
- Staff were very open and friendly with each other, regardless of their role. We saw senior managers, medical and nursing staff and chamber staff working comfortably with each other. There were open channels of communication and an 'open-door' approach by the leaders of the service.
- The organisation ensured that all staff were given the opportunity to form a relationship with senior managers early into their employment. The chief executive officer told us that they talked with every new employee as part of their induction process to ensure that they understand the vision and culture of the organisation.

### Vision and strategy for this core service

- The facility had a very clear vision for the service. DDRC Healthcare's overall objectives were to provide hyperbaric research, treatment and education to the health community.
- DDRC were clear about the potential commissioning challenges ahead and had robust and ambitious plans in place for handling those challenges, as well as plans for how they would improve and grow the service in the future. This was documented in their business plan 2014-2019.
- The Trustees and senior managers had discussed and agreed their vision and were working together to achieve them. When we spoke with trustees and senior managers, they were each positive about how they worked together. Even when established systems of working were challenged, they appeared to value and respect each other's ideas and opinions.
- DDRC had described its organisational values in the employee job description. Values are intended to say what inspires the organisation and its employees and sits at the heart of what they do. Although the organisation's values had been determined, they did not seem to be embedded within the organisation. They were not displayed for patients to see and were not actively promoted to staff, although DDRC told us

# Hyperbaric Therapy Services

this was planned with the launch of a new strategy. All staff we spoke with displayed very positive personal values and it was clear that the organisation nurtured a culture of respect and compassion.

## Governance, risk management and quality measurement

- The service was a member of the British Hyperbaric Association (BHA), which was a requirement of the commissioning body, NHS England. The service was last appraised in 2013 and it confirmed that the service was working in conjunction with the BHA codes of practice. Re-appraisal is at the discretion of the BHA.
- A clinical governance framework was in place to ensure that the quality of care was maintained and risks could be managed. There was a clinical governance policy and six-weekly meetings, the clinical governance lead was the medical director. Regular senior management operational meetings also took place in which discussions about recent incidents were held and actions agreed.
- DDRC Healthcare held the ISO 9001:2015 Quality Management System. The ISO9001 system is intended to set a wide range of robust international quality standards against which DDRC Healthcare can be audited. The last audit took place in May 2017 and was found to be compliant with the 2015 standards.
- The clinical governance policy did not clearly outline the individual roles and responsibilities of staff in order to ensure good governance at all levels, however a discussion about governance was included within the staff induction and posters were displayed giving staff information about good governance procedures.
- The organisation supplied information quarterly to its commissioner, NHS England via a specialised services quality dashboard. Collating this data provided assurance on the quality of care to the organisation and the commissioner.
- There was good communication between the members of the clinical team over governance issues. Clinical governance meetings were held to which all medical and nursing staff were invited. Incidents were openly discussed so that actions could be agreed and improvements made. A 'no blame' culture was encouraged.
- The organisation internally audited itself to look at the effectiveness of specific areas of service provision. This included subjects such as handwashing, infection control, eye examinations and VTE (venous thromboembolism) assessment. The results were discussed at clinical governance meetings and improvements were made as a result of the audits. The expectation for involvement in clinical audit formed part of the clinical governance policy, and there was a clinical audit program in place.
- The organisation made good use of patient feedback when measuring the quality of service provision. Feedback questionnaires were given to patients and the results were collated quarterly and discussed at clinical governance meetings.
- The organisation had taken clear steps manage the departmental risks throughout the technical and clinical aspects of service provision. We saw numerous examples of a risk matrix being used to assess the likelihood and severity of harm. Appropriate policies, procedures and guidelines were in place to mitigate these risks and these were regularly reviewed. We also saw staff within the organisation conduct additional checks to gather assurance that these processes were being followed.
- The organisation had effectively identified and assessed the major risks to service provision at DDRC Healthcare and put control measures in place where possible. These risks were described in the serious incident policy and were discussed at a twice-yearly strategy group. Organisational risks were considered to be static within the organisation, rather than changeable. The organisation did not, however, hold a specific risk register in which they had recorded any risks, the risk-rating (likelihood and severity) and actions taken to offset the risk. As such senior managers could not ensure that they had good oversight over the risks within the organisation.
- The organisation worked effectively with wider hyperbaric community. We saw examples of collaborative working with professionals from other service providers. There was a sharing of ideas and best practice and the opportunity for peer review.
- The service employed eight doctors under contract on a full and part time basis, but stated that no doctors are engaged through the rules of practising privilege. Those that worked on a part time basis for the service received their appraisals from their main employer. The service had a clear policy that specifies the checks, induction and training that must be in place before a doctor may provide medical cover on site.

# Hyperbaric Therapy Services

## Public and staff engagement

- DDRC actively sought the opinions of patients about their experience of care. Patient experience surveys were given to patients and the results analysed on a quarterly basis. The results were discussed at clinical governance meetings. There was also a complaints process in place so that patients could raise concerns about their care.
- The service asked staff about their experience of working at DDRC Healthcare. Staff satisfaction surveys were used to gather feedback from staff. In the latest survey most staff said that they were satisfied with their job and they would encourage others to work there. In general the responses were strongly positive about how the staff felt about their management and support, how they felt about the organisation and how they felt overall. However, a small number felt that they were not informed about matters that affected them and they were not encouraged to come up with better ways of working.
- All staff that we spoke with described feeling very engaged with the service. The chief executive officer described having an open door policy. Staff told us that they felt they could approach a senior member of staff at any time and they would be listened to.
- There was a staff intranet through which information could be shared with staff.

## Innovation, improvement and sustainability

- The service actively sought opportunities to be involved in research. We found that they were strongly motivated to increase the evidence around the use of hyperbaric oxygen therapy for a wider range of conditions. They actively engaged in clinical research programmes and collaborated well with the wider hyperbaric research community. They shared their findings through journals and conferences.
- The service strongly encouraged academic development. They collaborated with local universities in providing PhD research programmes and encouraged their own staff to be involved in research.
- DDRC Healthcare had plans for improving the sustainability of the business as described in their business plan 2014-2019. This included scrutiny of their current business model, possible expansion into new services and ways of improving the local and national profile of hyperbaric therapy to increase utilisation.
- The service was an environment where learning and improvement was expected. Incidents were recorded in the form of 'improvement logs' and they had set themselves targets to ensure that at least three logs were submitted per month. This was to ensure that opportunities for improvement were not missed. The organisation did not meet this target on all occasions and we did not see an action plan to address this.

# Outstanding practice and areas for improvement

## Areas for improvement

### Action the provider **MUST** take to improve

- The provider must implement an effective process for determining the level of harm caused by an incident, including whether it should be considered a notifiable patient safety incident, and ensure that this is implemented and monitored.

### Action the provider **SHOULD** take to improve

- The service should review its policies and procedures to be clearer about the methodology it will use to investigate serious incidents.
- The service should ensure that drug allergies are recorded on the patient's drug charts.
- The service should include infection prevention and control in its induction checklist or have an alternative record that shows that new employees are appropriately trained at the commencement of their employment.

- The service should ensure that its employees receive an annual appraisal.
- The service should review the information it gives to people who complained to ensure that they knew where to go if their complaint was not resolved to their satisfaction.
- The service should promote its organisational values to staff and service users.
- The service should ensure that non-clinical staff receive safeguarding training.
- The service should establish an organisational risk register through which senior managers and trustees could gain assurance that appropriate controls were in place to minimise risks to service delivery.

## Requirement notices

### Action we have told the provider to take

The table below shows the legal requirements that were not being met. The provider must send CQC a report that says what action they are going to take to meet these requirements.

Regulated activity	Regulation
Diagnostic and screening procedures Surgical procedures Transport services, triage and medical advice provided remotely Treatment of disease, disorder or injury	<p>Regulation 12 HSCA (RA) Regulations 2014 Safe care and treatment</p> <p><b>12(1) Care and treatment must be provided in a safe way for service users.</b></p> <p><b>12(2): Without limiting paragraph (1), the things which a registered person must do to comply with that paragraph include –</b></p> <p><b>12(2)(a) assessing the risks to the health and safety of service users of receiving the care or treatment;</b></p> <p><b>12(2)(b): doing all that is reasonably practicable to mitigate any such risks;</b></p> <p>When things went wrong, there were no effective systems or processes in place to ensure that the service risk- assessed or graded incidents to determine the harm caused and whether the incident met the criteria of a notifiable patient safety incident. The policies and procedures were not clear and we were not assured that notifiable patient safety incidents were being reported or managed effectively.</p>