

**Specialist Medical and Surgical
Services**

**Hyperbaric Medical
Services**

Tier 2 Service Specification

November 2024

Contents

1. Status	2
2. Review History	2
3. Introduction	3
3.1 Background	3
4. Service Definition	3
5. Service users	4
6. Service objectives	4
7. Access	4
8. Service Components.....	5
8.1 Referral Pathways	5
8.2 Processes.....	5
8.3 Workforce	6
9. Service Linkages.....	6
10. Exclusions	7
11. Quality Requirements, Health and Safety Standards	7
12. Purchase Units	8
13. Reporting Requirements.....	10
14. Glossary	11
15. Appendices	11
15.1 Appendix 1 - Service planning documents/website links	11

1. Status

Approved to be used for mandatory nationwide description of services to be provided.

MANDATORY ☒ RECOMMENDED ☐

Mandatory- it is compulsory to use this Specification when purchasing services. No Districts should use a local service specification instead of this mandatory specification.

2. Review History

Review History	Date
Published on NSFL	July 2018
Moved to Health NZ template. Updated links for PUDD and NSFL only. Amended DHB to become District/Region where appropriate. No other changes to content made.	November 2024
Consideration for next Service Specification Review	Within five years

Note: In 2024 a small programme of work moved all Service Specifications to Health New Zealand branded templates. No amendments were made to the body text or content of the Service Specification, so references to DHB, Ministry of Health or other pre-2022 reforms vocabulary will still exist. A larger programme of work to review and revise all Service Specifications is planned for late 2024 to early 2025.

Note: Contact the NSF Team, Te Whatu Ora | Health New Zealand to discuss proposed amendments to the service specifications and guidance in developing new or updating and revising existing service specifications. NSF@tewhatuora.govt.nz

Nationwide Service Framework Library web site [here](#)

3. Introduction

This Tier Two service specification for Hyperbaric Medical Services must be used in conjunction with the Tier One Specialist Medical and Surgical Services service specification. Refer to the Tier One service specification headings for generic details on:

- Service Objectives, including Māori health objectives
- Service Users
- Access
- General Service Components
- Service Linkages
- Exclusions
- Quality Requirements.

3.1 Background

Hyperbaric Medical Services, with an emphasis on treating 'bubble injuries', was endorsed as a National Service in 2012. This decision followed a Ministry of Health review that recognised the very low volumes of acute patients, the specialised nature of the work and high cost of the services.

A joint Ministry/DHB project that followed in 2015 and 2016 made recommendations to improve the sustainability and national consistency of Hyperbaric Medical Services (acute and elective). This has resulted in agreement that Hyperbaric Medical Services are:

- funded by a 'Top Slice' arrangement agreed with the 20 DHBs from 2017/18
- guided by this service specification to support the consistency and quality of service provision, information collection, and standard reporting to national collections by providers from 2018/19.

4. Service Definition

Hyperbaric Medical Services (the Services) provide Hyperbaric Oxygen Therapy (HBOT), which is the medical treatment of injury or illness through the use of 100% oxygen, or combinations of oxygen and other gases, breathed at a pressure greater than atmospheric pressure. For a therapeutic effect, a treatment pressure of greater than two atmospheres absolute (ATA) is required.

The Services are provided by Canterbury District and Waitemata District.

Each District operates a 24/7 acute service, which provides HBOT as:

- the principal treatment for diving-related decompression illness (DCI) and other acute cases of air or gas embolism
- a treatment for carbon monoxide poisoning.

The Services also provides HBOT electively as an adjunct treatment or secondary intervention following treatment of acute and elective conditions, mostly involving hypoxic or ischaemic wounds. Examples are: necrotising fasciitis, acute traumatic ischemia, arterial insufficiencies, crush injuries, radiation tissue damage and diabetic and other complex non-healing wounds.

5. Service users

Service Users are eligible people¹ who meet the HBOT treatment indications recommended by the Australian New Zealand Hyperbaric Medical Group and Undersea and Hyperbaric Medical Society², and who are assessed by the Services as likely to benefit from HBOT.

Service Users exit the Services when they are discharged to the referrer on completion of their course of HBOT treatment, or wound management services, or at the Service User's request.

6. Service objectives

The Services will deliver quality, safe and consistent HBOT services that manage clinical risks to patients and staff, and optimise clinical outcomes for Service Users.

7. Access

Refer to the Tier 1 Specialist Medical and Surgical Services service specification.

¹ www.health.govt.nz/new-zealand-health-system/eligibility-publicly-funded-health-services/guide-eligibility-publicly-funded-health-services-0

² www.uhms.org/

8. Service Components

8.1 Referral Pathways

District referral boundaries for patients are not fixed. In general, however, referrals to the Services follow the pathways in the table below.

Referring Districts to Waitemata District's Hyperbaric Medical Service	Referring Districts to Canterbury District's Hyperbaric Medical Service
Northland	Hawke's Bay
Auckland	Capital & Coast
Counties Manukau	Hutt Valley
Waitemata	Wairarapa
Waikato	Nelson Marlborough
Bay of Plenty	West Coast
Tairāwhiti	Canterbury West Coast
Lakes	South Canterbury
Taranaki	Southern
MidCentral	
Whanganui	

8.2 Processes

Service Component	Description
Emergency service responding	After hours responding to emergency phone calls, including via the Emergency Dive Line (0800 433 711).
Clinical advice on transport of acute patients	Clinical advice to ambulance and District medical staff on the management and transport of patients with DCI.
Assessment and treatment	<p>The hyperbaric treatment regimen will be the most appropriate treatment appropriate to the patient's presenting condition and acuity based on recommendations of the Australian and New Zealand Hyperbaric Medical Group and Undersea and Hyperbaric Medical Society³, and will vary according to the conditions being treated.</p> <p>For example:</p> <ul style="list-style-type: none">acute patients with DCI, air or gas embolism and carbon monoxide poisoning generally receive one to five sessions of HBOT as the principal treatment, with each chamber treatment likely to be more than three hours in duration

³ <https://www.uhms.org/>

Service Component	Description
	<ul style="list-style-type: none"> inpatients with non-healing wounds admitted to one of the Hyperbaric provider Districts, Auckland District or Counties Manukau District may be referred for a course of HBOT as an ancillary elective treatment, with each chamber treatment of about 2.25 hours duration and wound care services provided by Hyperbaric nursing staff if required by the referring service outpatient elective patients attend for HBOT daily during the working week for a period of 6 – 8 weeks (ie. 30 – 40 treatments), with each chamber treatment of about 2.25 hours in duration, and wound care services provided by the Services as required during the course of HBOT or for a limited time pending discharge to the referring District secondary service or primary care provider following the completion of a course of HBOT.
Consultation, liaison and referral	Consultation and effective liaison and referral that supports a continuum of care between primary and secondary health services for follow-up and discharge.
Awareness raising and education	Raising awareness and educating clinical staff about the Services and its referral pathways and processes.
Support access to the National Travel Assistance	Facilitate Service Users access to the National Travel Assistance, if needed.

8.3 Workforce

The following workforces provide the Services:

- Hyperbaric medical staff
- Hyperbaric nurses and paramedics
- Multiplace chamber supervisors and operators.

Staff are required to meet the standards of experience and qualification specified in the Australia and New Zealand Occupational and Diving Health and Safety Standard 4774.2 “Work in compressed air and hyperbaric oxygen facilities”⁴

9. Service Linkages

The Services will establish and maintain effective working arrangements with, but not limited to, the following service providers:

- Emergency Department/Intensive Care/specialist medical and surgical services
- Specialist Community/District Nurses (including specialists in wound care)
- Primary health care providers
- Podiatry services.

⁴ www.standards.govt.nz/our-services/

10. Exclusions

Refer to the Tier 1 Specialist Medical and Surgical Services service specification.

11. Quality Requirements, Health and Safety Standards

The Services will optimise their existing capacity to provide treatment within clinically appropriate timeframes.

The Services provide HBOT in specialised hyperbaric chambers that comply with Australian and New Zealand health and safety standards.

The Services must meet health and safety standards for their workforces and Service Users, and comply with sections relevant to the operation and maintenance of hyperbaric oxygen chambers contained in the following documents:

- Australia New Zealand Occupational and Diving Health and Safety Standards AS/NZS 4774, 3788 and 2299 series
<https://shop.standards.govt.nz/>
- Recommendations of the National Fire Protection Association 2012
www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=99
- Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999
www.legislation.govt.nz/regulation/public/1999/0128/latest/DLM284452.html
- Approved Code of Practice for Pressure equipment (excluding boilers) 2001.
www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/acop-pressure-equipment-excluding-boilers/multipagedocument_all_pages

12. Purchase Units

Purchase Units are defined in Health New Zealand's Nationwide Service Framework Purchase Unit Data Dictionary⁵. The following Purchase Units apply to this service:

The Services must comply with the requirements of national data collections. The following National Non Admitted Patents Collection (NNPAC) PU codes apply to the Service and will be used with the Hyperbaric Services Health Speciality code H01 from 1 July 2018:

PU Code	PU Description	PU Definition	Unit of Measure
H010001	Hyperbaric Oxygen Chamber Therapy-outpatient	Hyperbaric oxygen chamber therapy provided to outpatients. Includes medical first specialist assessment or subsequent assessment and/or nurse-led clinic provided by hyperbaric clinical staff, if provided on the same day as hyperbaric oxygen therapy.	Attendance
H010002	Hyperbaric Oxygen Medicine - 1st attendance	First attendance to Hyperbaric physician, medical officer at registrar level or above, or nurse practitioner for specialist assessment. Count as H010001 if Hyperbaric Oxygen Chamber Therapy is also provided on same day.	Attendance
H010003	Hyperbaric Oxygen Medicine - Subsequent attendance	Follow up attendance to Hyperbaric physician, medical officer at registrar level or above, or nurse practitioner for specialist assessment. Count as H010001 if Hyperbaric Oxygen Chamber Therapy is also provided on same day.	Attendance
M00010	Medical non contact First Specialist Assessment - Any health specialty	A review is undertaken by a Registered Medical Practitioner of Registrar level or above, or a Registered Nurse Practitioner, of patient records and any diagnostic test results from Primary to Secondary or Secondary to Tertiary. GP referral can come from tertiary and secondary referrals. The original referral should only be generated after a face to face contact by the referrer. A written plan of care is developed for the patient and provision of that plan and other necessary advice is sent to the referring clinician and the patient. The non-contact FSA does not include the triaging of referral letters. The patient should not be present during the assessment.	Written plan of care

⁵ www.nsfl.health.govt.nz

PU Code	PU Description	PU Definition	Unit of Measure
M00011	Medical non contact Follow Up - Any health specialty	A review is undertaken by a Registered Medical Practitioner of Registrar level or above, or a Registered Nurse Practitioner, of patient records and any relevant diagnostic test results. The patient is not present during this follow up that should only be undertaken after a face to face contact by the same service. A written plan of care is developed for the patient and that plan and other necessary advice is sent to patient and if applicable to referrer. Diagnostics are only to be included if ordered by the District providing the non-contact follow up.	Written plan of care
MS01001	Nurse Led Outpatient Clinics	Assessment, treatment, or education and/or management outpatient clinics led by a nurse specialist not covered under other education management PUCs. This excludes clinics led by a nurse practitioner.	Attendance

Unit of Measure Name	Unit of Measure Definition
Attendance	Number of attendances to a clinic/department/acute assessment unit or domiciliary
Written plan of care	Written plan of care provided by the specialist to the referring GP

13. Reporting Requirements

The Service provider will report the following information (annually) to National Services by 30 September, for the previous financial year ending 30 June.

Number of Hyperbaric Service Users by referral reason/diagnosis ⁶ by Referring District						
Referral reason/diagnosis	ADHB	CMDHB	WDHB	CDHB	Other District (identify)	Total number referred by reason
Air or gas embolism						
Carbon monoxide poisoning						
Clostridial Myositis and Myonecrosis (gas gangrene)						
Decompression sickness						
Vascular insufficiencies						
Severe anaemia						
Intracranial abscess						
Necrotising soft tissue infections						
Osteomyelitis (refractory)						
Delayed radiation injury (soft tissue and bony necrosis)						
Compromised grafts and flaps						
Acute thermal burn injury'						
Idiopathic sudden sensorineural hearing loss						
Other, please specify condition						
Sum of Service Users by District referral from 1 July to 30 June						

⁶ www.uhms.org/resources/hbo-indications.html

14. Glossary

Not Required

15. Appendices

15.1 Appendix 1 - Service planning documents/website links

Undersea and Hyperbaric Medical Society website (www.uhms.org/)

South Pacific Underwater Medicine (www.spums.org.au/)

www.healthpoint.co.nz/public/respiratory/waitemata-dhb-slark-hyperbaric-unit/

www.cdhb.health.nz/Hospitals-Services/Specialist-Care/Hyperbaric-Medicine/Pages/default.aspx

www.healthpathways.org.nz

Definitions of acute (including arranged) and waiting list (elective) admissions are the National Minimum Dataset (NMDs) national collections definitions. See National Minimum Dataset (Hospital Event) Data Dictionary, Admission Type code in this link:

www.health.govt.nz/system/files/documents/publications/nmds_data_dictionary_v7.8.pdf