Government of **Western Australia**
Department of **Health**

Home ventilation guideline for WA Health

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Contents

Foreword

This guideline supports access to public services for home ventilation within WA by providing guidance on public providers, referral processes and funding sources for home ventilation equipment.

It supplements the *WA care pathway for adult home-ventilated patients*[1] and *WA care pathway for paediatric home-ventilated patients*,[2] and was developed in consultation with clinicians and informed by a 2022 external expert review of home ventilation services in WA.

These pathways were developed to map the journey for people requiring home ventilation in WA with the aim of improving patient outcomes by facilitating optimal care across the state utilising evidence-based, best practice pathways of care.

This guideline is intended for use by clinicians providing services to home ventilated patients within in the WA public health system.

Ventilator dependent patient definition

Clinical consensus by WA health system respiratory clinicians define ventilator dependent patients as patients who require ventilation for a minimum of 16 hours per day.

For activity based funding (ABF) purposes, ventilator-dependent patients are defined as those who:

- cannot maintain spontaneous ventilation for four or more consecutive hours
- require non-invasive ventilation for a minimum of 18 hours per day
- require more than 16 hours ventilator support and live where a replacement ventilator cannot be provided within 4 hours
- require ventilation during mobility as prescribed in their care plan
- are ventilated via tracheostomy for a minimum of 8 hours per day
- are with central hypoventilation syndrome
- require long-term overnight non-invasive ventilation every night for chest wall deformity-related or neuromuscular-related chronic respiratory failure.

1 Western Australia Department of Health. (March 2021). *WA care pathway for adult home-ventilated patients*. Care pathways for home-ventilated patients (health.wa.gov.au)

2 Western Australia Department of Health. (March 2021). *WA care pathway for paediatric home-ventilated patients*. Care pathways for home-ventilated patients (health.wa.gov.au)

Overview

Patient identified, referred and triaged

- patient identified as requiring specialist assessment for consideration of home ventilation
- referral sent to respiratory or sleep service
- referral triaged appropriate to urgency and speciality – patients are usually seen within 2 weeks and within 24 hours if required, with potential for future respiratory failure (such as a new diagnosis of muscular dystrophy) seen within 3 months.

Assessment and investigations

- referrer completes clinical evaluation, other investigations prior to referral are not expected
- patients are usually seen by respiratory or sleep medicine services for review, initiation on long term ventilation and ongoing management, or seen in respiratory or sleep outpatient clinics for sleep study referral and review
- ventilation can be initiated as an inpatient, in the outpatient clinic, sleep unit or patient's home.

Treatment planning

- consultation with the patient and/or family
- MDCC (20.56) for all new patients to determine treatment intent, plan, equipment needs, clinical support and exacerbation plan
- care and equipment funding sources identified and process to access initiated
- appropriate referral commenced to initiate home care services.

Treatment

- treatment intent, clinical support, exacerbation and deterioration plan communicated and confirmed with MDT, patient and family
- training completed and patient, family or carers demonstrates the necessary skills in equipment setup, use and understanding of patient's physical condition
- equipment trial hire, loan or purchase commenced and life support registration completed.

Treatment over page...

Funding

Trial of equipment

- equipment and consumables trialled from respiratory or sleep service loan pools
- hire of trial equipment is not commonly due to timing and practicability.

Short term hire or loan of equipment

- suitable equipment is hired or loaned whilst awaiting long term funding
- hire may be through an external supplier (limitations in type of stock available exist) or loan may be through the treating health service provider equipment pool.

Long term equipment

- equipment purchased through identified funding source
- servicing, maintenance and emergency repairs plan provided to patient and cost is included in the funding allocation from the respective funding body – consumables costs may be passed on to the patient depending on the funding source
- routine and urgent medical review plan determined, including plans in event of deterioration and change of equipment needs.

Ongoing management

- assessment of symptoms, technical problems, ventilator settings, compliance and success
- treatment summary and follow-up care plan including roles and responsibilities of the MDT provided to patient
- patient review 6 to 8 weeks following commencement of ventilation based on the service provider and patient needs
- further clinical reviews every 6 to 12 months by the sleep or respiratory physician (children may require greater frequency).

Transition from paediatric to adult services

- requires a staged process requiring close collaboration between paediatric and adult services
- transition planning should commence 24 months prior to transition.

Palliative care

- palliative care referral should be made if not already involved
- advanced care plan should be in place and reviewed regularly
- withdrawing ventilation must be discussed with the patient or EPG, guardian for children, specialist and MDT.

Patient identified, referred and triaged

Patients may be identified to require specialist assessment for consideration of home ventilation by a general practitioner (GP) or specialist.

Patients may also be identified during an interaction with a Health Service Provider (HSP), including:

- outpatient clinic appointments
- unplanned hospital admissions via emergency department
- recognition of respiratory failure during an inpatient stay
- intra- or inter-hospital referral from a consultant
- planned transition from paediatric to adult services.

Referrals are sent to respiratory or sleep services at:

- Fiona Stanley Hospital (FSH)
- St John of God (SJOG) Midland (MND only)
- Sir Charles Gardiner Hospital (SCGH)
- Perth Children's Hospital (PCH)

Referral distribution

GP referrals to the Central Referral Service (CRS) are allocated by catchment, with specialist to specialist referral undertaken via e-referrals.

- For continuity, referrals remain with the service that commences care, meaning patients may not be seen by their residential catchment service.
- Referral distribution may be influenced by cohort (e.g. motor neurone disease, cerebral palsy) and distributed based on available physician expertise
- Limited specialist respiratory services exist outside of the Perth metropolitan area, so individuals located in rural and remote areas in general will travel to Perth for assessment and initiation of therapy.
- Referrals are triaged by a sleep physician according to urgency and speciality, with patients generally seen within 2 weeks, or within 24 hours if required:acute respiratory failure – within 24 hours (immediate)
- chronic respiratory failure – within 4 weeks
- evolving respiratory failure – within 2 weeks
- potential for future respiratory failure (such as a new diagnosis of muscular dystrophy) – within 3 months.

Assessment and investigations

- The referrer is expected to complete clinical evaluation. Other investigations prior to referral are not expected.
- Patients are usually seen by a service for:
  - review, initiation of long-term ventilation and ongoing management

    or
  - In the respiratory or sleep outpatient clinic, for sleep study referral and review.
- Ventilation can be initiated in the outpatient clinic, in the sleep unit, as an inpatient or in the patient's home.

Treatment planning

- Multidisciplinary case conference (MDCC) – for all new patients to determine treatment intent, plan, equipment needs, clinical support and exacerbation plan. Patients are not present during the MDCC
- Consultation with the patient and/or family.
- Care and equipment funding sources identified and the process to access initiated.
- Appropriate referral commenced to initiate home care needs and services.

Treatment

- Treatment intent, plan, clinical support and exacerbation and deterioration plan communicated/confirmed with multidisciplinary team (MDT), patient and family.
- Treatment intent includes:
  - improve quality of life without expectation of cure
  - increase survival and/or prolong life expectancy
  - reduce hospital admissions
  - deliver care in the community and not in a hospital setting, with the least burden of care on primary carers
  - promote the patient's independence and freedom of movement, including but not limited to wheelchair mounted ventilator
  - manage disease progression in the community
  - for children, optimise growth and development
  - for children, promote participation in schooling and community activities.
- Training completed and patient, family and carers deemed competent in equipment setup and use.
- Education of patient, family and carers to increase understanding of patient's physical condition.
- Equipment trial hire, loan or purchase commenced (see Funding).
- Life support registration completed.
- Communication with the GP.

Funding

Trial of equipment

Equipment and consumables are trialled via the treating services loan pool. Loan equipment ensures the type of ventilator is suitable for the patient in their home and establishes that the patient is willing and able to use therapy as prescribed. HSP clinic loan pools have varying capacity and exist at the following sites:

- FSH
- HTMU (VDQ)
- SCGH
- PCH

Short term hire or loan of equipment

- Trial equipment is usually from HSP loan pools, including ongoing short-term use following trial, whilst awaiting long term funding.
- Loan pool equipment may be temporarily loaned between HSPs by negotiation, on a case-by-case basis.
- Equipment hire whilst awaiting long term funding is not common due to timing and practicability:
  - hire may be through a supplier external to WA Health, though limitations in type of stock available may exist
  - Other funding sources for hire of equipment:
    - National Disability Insurance Scheme (NDIS)[3] – unless already included in plan, it is usually accessed through a change in circumstances request, not at initial commencement of home ventilation trial
    - Insurance Commission of Western Australia (ICWA)[4] Catastrophic Injury Support Scheme (CISS)[5], Workers' Compensation[6] – hire may be commenced by HSP, and recoup of cost received from insurer
    - Department of Veteran Affairs (DVA)[7]
    - Community Aids and Equipment Program (CAEP)[8] – where patient is already known to CAEP, refer to CAEP guidelines for eligibility details
    - self-funded by patient.

3 National Disability Insurance Scheme (NDIS), www.ndis.gov.au

4 Insurance Commission of Western Australia (icwa.wa.gov.au).

5 Catastrophic Injuries Support – Insurance Commission of Western Australia (icwa.wa.gov.au)

6 WorkCover WA, www.workcover.wa.gov.au

7 Department of Veterans' Affairs (dva.gov.au)

8 Community Aids and Equipment Program (CAEP) – Western Australian Government (www.wa.gov.au)

Repairs and maintenance

- Loan pool equipment remains the property of the HSP which is responsible for the ongoing maintenance and repairs of this equipment.

Long term equipment

- Long term equipment is accessed through identified funding source, depending on eligibility. Funding sources include:
  - DVA
  - ICWA, CISS, Workers' Compensation
  - CAEP
  - NDIS
  - HTMU pool for eligible VDQ-CCP patients
  - NMHS Public Fund
  - Telethon and PCH loan pool for children
  - donated equipment
  - self-funded by patient.
- Maintenance and emergency repairs plan provided to patient with contact details:
  - cost of the machine, maintenance and consumables is included in the funding allocation for DVA, ICA, CISS, Workers' Compensation, CAEP, EMTS, Telethon and PCH
  - NMHS Public Fund – patients pay for consumables, NMHS funds machine and maintenance package
  - donated equipment – patients pay for consumables and equipment repairs and maintenance funded by HSP (equipment owner)
  - discrepancies exist around inclusion of servicing and repairs in NDIS plans, due to suppliers offering 5 to 8 year maintenance packages, however NDIS will not fund a package for greater than a 12 to 24 month period.
- Routine and urgent medical review plan determined, including plans in event of deterioration and change of equipment needs.

Replacement

- Home ventilation loan pool equipment is owned by the HSP (including equipment donated to the pool).
- Home ventilators generally require replacement every 7 to 10 years depending on the type of ventilator.
- Replacement of home ventilation loan pool equipment may be accessed via the Medical Equipment and Imaging Replacement Program (MEIRP).
- MEIRP is a capital equipment replacement program that funds the replacement of medical equipment over $5000 with a useful life of over 2 years that has exceeded its useful life or is not fit for purpose.

- The *MP 0179/23 – Medical Equipment and Imaging Replacement Program (MEIRP) Policy*[9] and *Guidelines*[10] outline the requirements for a consistent approach to the replacement of medical and imaging equipment, and the process for escalation if funding via MEIRP is unsuccessful.
- HSPs are required to develop an inventory of home ventilation equipment that will require future replacement. The Guide of Measurement of Assets and Depreciation in the *WA Health Finance Management Manual* (FMM)[11] outlines the useful life of medical and imaging equipment and will assist with planning.
- Replacement should be in line with useful life, condition assessment and prioritisation as outlined in MP 0179/23.
- HSPs are required to establish a medical equipment working group (MEWG) with executive sponsorship to discuss planning and procurement for medical equipment replacement via MEIRP, and to provide advice and guidance regarding MEIRP applications within the HSP.
- The HSP executive sponsor sits on the Management of Medical Equipment Working Group (MEMWP) which priorities MEIRP funding applications.
- HSP's are required to submit a MEIRP replacement plan outlining a 4-year plan for replacement of assets via the HSP MEWG and MEMWP to the Department of Health annually. Items that are due for replacement over the next 4 years costing $5,000 and above are included on the replacement plan. Items that are not due for replacement over the next 4 years are excluded until they require replacement within the 4-year period.
- Home ventilation equipment previously funded via MEIRP is required to be included in future MEIRP replacement plans.
- Inclusion of equipment in the MEIRP plan is essential for escalation of replacement issues and will provide evidence for funding business cases, if MEIRP application is unsuccessful.
- Accurate recording, reporting and costing of service events under ABF code 10.19 Ventilation – home delivered, is essential to provide evidence for business cases seeking funding for home ventilation equipment outside the MEIRP process.

Ongoing management

- Patients are reviewed 6 to 8 weeks following commencement of ventilation depending on the service provider and patient need.
- Assessment includes symptoms, technical problems, ventilator settings, compliance and success.
- Further clinical reviews every 6 to 12 months by the sleep or respiratory physician.
- As appropriate follow-up care can safely and effectively be provided:
  - on hospital, routine clinics, ad hoc clinics etc.
  - by suitably trained staff (nurse led follow-up, respiratory sleep paediatrician, allied health professionals etc.)

9 Western Australian Department of Health. (August2023). MP 0179/23 - Medical Equipment and Imaging Replacement Program (MEIRP) Policy. Policy Framework Mandatory (health.wa.gov.au)

10 Western Australian Department of Health. (August 2023). Medical Equipment and Imaging Replacement Program Guideline (health.wa.gov.au)

11 Western Australia Department of Health. Version (July 2021). 1.03 *WA Health Finance Management Manual* (FMM).

- in a non-face-to-face setting via telehealth.

- As an inpatient, the medical governance is shared with the primary inpatient team.
- As an outpatient, the governance for home ventilation of the patient remains with the specialist.

Transition from paediatric to adult services

- A patient can attend adult services from 16 years of age and/or continue with paediatric services until 18 years of age the age of transition and planning period is dependent on individual patient circumstances.
- Transition is a staged process requiring close collaboration between paediatric and adult services.
- Transition planning should commence 24 months prior to transition via Perth Children's Hospital Complex Transition Clinic.

Palliative care

- If appropriate, referral to palliative care or consultative paediatric palliative care (PPC) should be made if not already involved. Advanced care plan should be in place and reviewed regularly.
- Withdrawing ventilation must be discussed with the patient, parent or guardian or EPG, specialist and MDT.

Activity based funding

- Only service events for ventilator dependent patients are classified as in scope under the National Health Reform Agreement (NHRA).
- Service events should be recorded against the appropriate ABF codes – see appendix.
- Ventilator dependent patients are defined as having met at least one of the criteria below:
  - patients who cannot maintain spontaneous ventilation for four or more consecutive hours
  - patients who require non-invasive ventilation for a minimum of 18 hours per day
  - patients who are geographically isolated where more than 16 hours ventilator support is required and where a replacement ventilator cannot be provided within 4 hours
  - patients who require ventilation during mobility as prescribed in their care plan
  - patients ventilated via tracheostomy for a minimum of 8 hours per day
  - patients with central hypoventilation syndrome.
- Inclusions for patients who meet the criteria are:
  - BiPAP
  - CPAP
  - diaphragm pacing
  - negative pressure ventilation
  - ventilation via tracheostomy.

Appendix: ABF non-admitted service codes

Respiratory and sleep clinics commonly utilised codes and their definitions from Tier 2 non-admitted services definitions manual[12]

10.19 Ventilation – home delivered

Identifying attributes	
Number	10.19
Name	Ventilation – home delivered
Category	Procedures
Affected body part	Multiple MDCs
Usual provider	No health professional present
Definition of service	Ventilation self-administered by the patient or the patient's carer. **Ventilatory support:** a process by which gases are moved into the lungs by a device that assists respiration by augmenting or replacing the patient's own respiratory effort.
Guide for use	
Activity	Only service events for ventilator dependent patients are classified as in scope public hospital services eligible for Commonwealth funding under the National Health Reform Agreement. Ventilator dependent patients are those who would otherwise require hospitalisation and include: • patients who cannot maintain spontaneous ventilation for 4 or more consecutive hours • patients who require non-invasive ventilation for a minimum of 18 hours per day • patients who are geographically isolated where more than 16 hours ventilator support is required and where a replacement ventilator cannot be provided within 4 hours • patients who require ventilation during mobility as prescribed in their care plan • patients ventilated via tracheostomy for a minimum of 8 hours per day • patients with central hypoventilation syndrome • patients who require long term overnight non-invasive ventilation every night for a chest wall deformity related or neuromuscular related chronic respiratory failure.

12 Independent Health and Aged Care Pricing Authority. (5 March 21). *Tier 2 non-admitted services definitions manual* Tier 2 Non-Admitted Services 2021–22 IHACPA

Guide for use (continued)	
Activity (continued)	**Inclusions:** Ventilator dependent patients that meet the above criteria. Procedures performed for these patients may include: • bi-level positive airway pressure (BiPAP) • continuous positive airway pressure (CPAP) • diaphragm pacing • negative pressure ventilation (iron lung) • ventilation via tracheostomy. **Exclusions:** • Consultation or education in medical respiratory clinic where no ventilation was undertaken (20.19). • Consultation or education in allied health/clinical nurse specialist respiratory clinic where no ventilation was undertaken (40.40).

20.51 Sleep disorders

Identifying attributes	
Number	20.51
Name	Sleep disorders
Category	Medical consultation
Affected body part	Multiple MDCs
Usual provider	Sleep medicine physician, sleep technologist
Definition of service	Medical specialist and allied health services for initial assessment and overall management of broad range of primary and secondary sleep disorders.
Guide for use	
Activity	**Inclusions:** Consultation on the following services: • investigation of symptoms • initiation of treatment including continuous positive airway pressure (CPAP) and other forms of non-invasive ventilation • oral appliances • behavioural therapy • pharmacotherapy • long term support of patients on medical devices. Assessment and management of: • snoring • sleep apnoea • sleep hypoventilation • chronic or recurrent respiratory failure • narcolepsy and related conditions. **Exclusions:** • sleep studies in measurement clinic (30.08) • management of sleep disorders in respiratory clinic (20.19) • management of sleep disorders in ENT clinic (20.18).

20.56 Multidisciplinary case conference – patient not present

Identifying attributes	
Number	20.56
Name	Multidisciplinary case conference – patient not present
Category	Medical consultation
Affected body part	Multiple MDCs
Usual provider	Medical officer or nurse practitioner
Definition of service	A multidisciplinary case conference (MDCC) where the patient is not present is a meeting or a discussion held concurrently between health care providers from different professions or specialisations, arranged in advance, to discuss a patient in detail, and to coordinate care. The meeting may involve discussion of an individual patient or multiple patients. A multidisciplinary case conference ensures that a patient's multidisciplinary care needs are met through a planned and coordinated approach.
Guide for use	
Activity	A non-admitted MDCC must involve 3 or more health care providers who have direct care responsibilities for the patient discussed: - they may be of the same profession (medical, nursing, midwifery or allied health). - each must each have a different speciality so that the care provided by each provider is unique or - they may be of different professions (medical, nursing, midwifery or allied health) but of the same specialty (e.g. oncologist, oncology registered nurse, physiotherapist). • For each non-admitted patient discussed, a multidisciplinary management plan must be in place or developed at the MDCC, and one participating health care provider must record the following items in each patient's clinical record: i. the name of the MDCC event, the date of the event, and the start and end times (or duration) at which each patient was discussed during the case conference ii. the names of the participants involved in the discussion relating to the patient and their designations and clinical backgrounds iii. a description of the non-admitted patient's problems, goals and strategies relevant to that MDCC iv. a summary of the outcomes of the MDCC. Items (iii) and (iv) may be completed through documentation (or revision) of a multidisciplinary care plan completed after each non-admitted MDCC (where the patient is not present).

Guide for use (continued)	
Activity (continued)	Inclusions: • MDCCs where the majority of the health care providers participating in the MDCC are medical officers or nurse practitioners. Exclusions: • MDCCs where the majority of health care providers participating are allied health or nurse professionals (40.62).

40.40 Respiratory

Identifying attributes	
Number	40.40
Name	Respiratory
Category	Allied health and/or clinical nurse specialist interventions
Affected body part	MDC 04 Diseases and disorders of the respiratory system
Usual provider	Allied health and/or clinical nurse specialist
Definition of service	Assessment, investigation, treatment and management of patients with diseases of the lung, pleural cavity, bronchial tubes, trachea, upper respiratory tract and of the nerves and muscles of breathing.
Guide for use	
Activity	Inclusions: Management of the following conditions: • sleep apnoea • sleep disorders • asthma • lung function testing • education regarding medications and equipment • development of an asthma action plan • chronic obstructive pulmonary disease • tuberculosis • oncology related respiratory deficiencies • lung dysfunction.

Guide for use (continued)	
Activity (continued)	Exclusions: • respiratory endoscopy procedures (10.09) • home delivered invasive ventilation (10.19) • management of tuberculosis in specialised medical infectious diseases clinic (20.44) • management of COVID-19 in specialised medical consultation clinic (20.57) • management of tuberculosis in specialised allied health and/or clinical nurse specialist infectious diseases clinic (40.38) • management of cystic fibrosis in specialised medical consultation clinic (20.20) • management of sleep disorders in specialised medical consultation clinic (20.51) • management of respiratory conditions by respiratory physician (20.19) • management of respiratory conditions in allied health and/or clinical nurse specialist physiotherapy clinic (40.09) • management of respiratory conditions in pulmonary rehabilitation clinic (40.60) • management of COVID-19 in allied health and/or clinical nurse specialist COVID-19 response clinic (40.63).

This document can be made available in alternative formats on request.

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