

Breathlessness Pathway Design Workshop Output Report

Compiled for: NHS Wales & AstraZeneca Pathways Team

Date and Location of Workshops:

Tuesday 1st July 2025, Venue Cymru, Promenade, Llandudno LL30 1BB

Wednesday 2nd July 2025, Village Hotel Swansea, Langdon Road, SA1 Waterfront,
Swansea SA1 8QY

Thursday 3rd July 2025, University of South Wales, Conference & Events, Llantwit Road,
Treforest, Pontypridd, Cardiff, CF37 1DL

**This report has been developed by AstraZeneca to outline the outcomes and next steps
from the Breathlessness Pathway Programme Workshop**

**Long Term Conditions and Multi-Morbidity Pathways - supporting service redesign is
offered to the NHS by AstraZeneca as donated goods and services (DOGS). AstraZeneca
has funded this programme.**

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1. Introduction: Background and Purpose

Chronic breathlessness presents a significant and complex challenge across Welsh Health Boards, encompassing patients with respiratory, cardiac, and overlapping multi-morbid conditions. Existing service fragmentation, late diagnosis, and inconsistent referral and management pathways drive avoidable admissions and suboptimal outcomes. To address this, the NHS Wales Respiratory and Cardiovascular Clinical Networks, supported by AstraZeneca and aligned with national “Once for Wales” ambitions, convened a multi-site pathway design workshop in July 2025.

The workshop brought together a diverse array of stakeholders to co-create an improved, patient-centred community breathlessness pathway. The aim was to translate policy ambitions and best practice outlined in the Community Breathlessness Pathway Redesign Project Initiation Document (PID) into a practical and adaptable national pathway blueprint to assist and ready Health Boards for implementation, while carefully recognising nuances and variations between Welsh Health Boards. The

contents of this report has been developed using the feedback and insights from stakeholders across NHS Wales.

2. Workshop Approach: Attendees, Structure & Methodology

The pathway design workshop involved representatives from the 7 Welsh Health Boards, each with distinct population demographics, estate and workforce configurations, and current pathway challenges. Key participants included:

- Respiratory, cardiac, and primary care clinical leads
- Allied Health Professionals
- Community diagnostics team members
- Service managers
- Strategic Clinical Networks leads
- Finance, digital and transformation leads
- AstraZeneca pathway and medical facilitation team

The session structure combined interactive mapping in small breakout groups tasked to answer a set of pre-defined questions to understand the ambition of the future state, through close facilitation. Key questions and insights recorded emerging consensus and areas of divergence, later refined through transcript analysis.

Key principles set for the workshop:

- All perspectives - clinical and operational - were welcomed
- Encouragement of both bold visioning and practical realism tied to local constraint
- Full transparency in surfacing challenges, process gaps, and resource needs

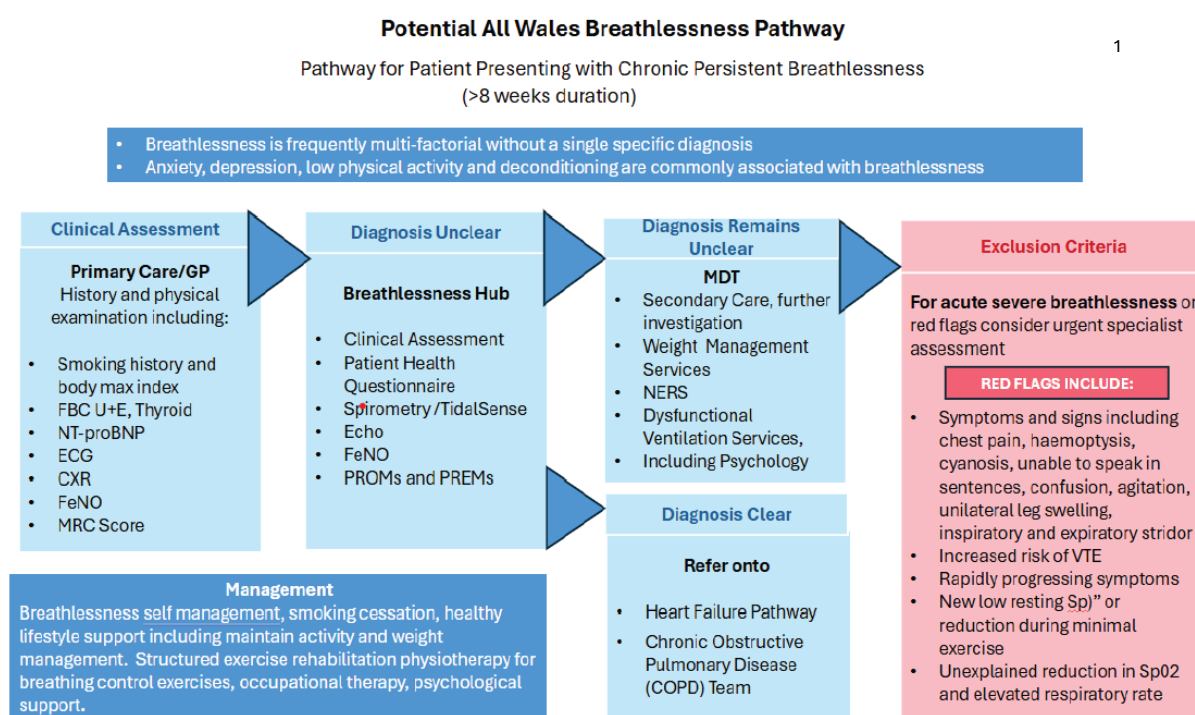
Following the workshops, three short-life working groups were established, bringing together selected participants from all health boards and relevant professional disciplines. The primary objective of these groups was to validate the proposed pathway and gathered insights, address any gaps, and finalise the high-level pathway prior to seeking approval for sign-off. A list of group members is provided in Appendix I.

3. Context: Vision, Objectives & Case for Change

Drawing directly from the PID, the vision of the Community Breathlessness Pathway is:

“To deliver a co-produced, multi-disciplinary, community-based breathlessness pathway – integrating early diagnosis, holistic assessment, and seamless management of breathlessness associated with a pathological or non-pathological cause. The objective is to decrease time to diagnosis, improve patient outcomes, reduce hospital

burden, enhance cost-effectiveness, and provide equitable, accessible care across Wales, tailored for both urban and rural populations.”



1. Pathway illustration taken from The Project Initiation Document produced by the NHS Wales Respiratory Network

The diagram above was presented to the workshop attendees as a starting point for designing a comprehensive pathway for patients experiencing breathlessness. Several key components were highlighted to illustrate the high level suggested flow, with each step being crucial in ensuring that patients receive comprehensive and coordinated care for their breathlessness.

3.1 Objectives

- Early, accurate diagnosis of breathlessness
- Rapid, streamlined referral and triage, moving away from disease-specific silos
- Personalised management via multi-disciplinary input
- Integrated community diagnostics
- Empowered self-management
- Health system sustainability via admission avoidance, reduced acute presentation and cost efficiency

3.2 Case for Change

Chronic breathlessness is under-diagnosed and sub-optimally managed within fragmented, disease-focused community services. The majority of COPD and heart failure patients have multi-morbidity; delays in diagnosis and intervention worsen outcomes and drive unplanned hospital activity. Robust, integrated pathways are urgently required, with standardised metrics to demonstrate value, outcomes, and readiness for an All-Wales roll-out.

4. Referral & Triage

4.1 Workshop Insights

It was acknowledged that Primary Care will serve as the main referral route into the Breathlessness Service. Additionally, there was a clear consensus supporting direct referral access for Cardiologists, Respiratory Physicians within Secondary Care, and Community Specialist Nurses operating in relevant therapy areas.

The pathway begins when a patient presents with breathlessness to primary care (GP, ANP, paramedic etc). Primary care is responsible for a *minimum clinical assessment*, including patient history, a range of diagnostic tests, and documentation of key health parameters. As participants represented a range of Welsh Health Boards, differences in clinical practice, resources, and pathways were identified within the group. This section describes the standard agreed steps and processes in the pathway for all patients relating to pre-referral, referral and triage, regardless of Health Board.

The ability of secondary care and community services to make direct referrals into the breathlessness pathway also is dependent on an integrated IT system and supporting infrastructure. The referral form and criteria will be consistent with those used in Primary Care. Referrals that do not include the required minimum data set will be declined by the Breathlessness Service.

4.1.1 Pre-referral

The initial tests to be conducted prior to considering referral of a patient to the breathlessness pathway are listed below. Consensus was reached among participants that these investigations represent the expected standard of assessment for patients first presenting with breathlessness. Establishing this agreement helps ensure that all patients referred to the pathway have received an appropriate baseline evaluation, supporting clinical decision-making and optimising the subsequent management process

- Full clinical history (with chronic disease and previous management strategies)
- Physical examination
- Baseline bloods: FBC, renal/liver function, thyroid, bone profile, NTproBNP, $\pm$ HbA1c, CRP
- ECG
- Chest X-ray
- SpO2 measurement
- Smoking history
- BMI (height and weight)

Exclusion of any red flags:

- Rapid onset or acute presentation of breathlessness
- Acute heart failure
- Myocardial infarction (MI)
- Sepsis
- Severe hypoxia
- Unexplained weight loss
- Haemoptysis

If red flag(s) are identified, patients are managed through pre-existing appropriate pathways, not through the breathlessness pathway.

Patients are sent home pending test results, preventing unnecessary delays or additional visits.

Health board specific variation:

- Some health boards raised access challenges and delays for bloods and Chest Xray but remained in agreement that these are required and appropriate tests as a first step.

Clinician Feedback:

- Managing patient expectations upfront is vital for minimising frustration and disengagement. Both younger and older cohorts present, with an increasing number of deconditioned, younger patients being identified.

4.1.2 Primary Care baseline test results reviewed

Primary care receives and reviews all baseline diagnostic tests to decide the next steps.

- If the cause of breathlessness is identified, the patient follows disease-specific management, exiting the breathlessness pathway.

- If the cause of breathlessness is unidentified, consider referral to the Breathlessness Service for further investigation.

Additionally, red flag symptoms are systematically identified to exclude inappropriate referrals and guide urgent escalation.

Clinician Feedback:

- It was highlighted as essential that when the underlying cause of breathlessness is identified and managed by the clinician within Primary Care, a robust follow-up process is implemented to verify symptom resolution. Should symptoms persist, consideration must be given to referring the patient to the breathlessness pathway.

4.1.3 Referral

If unexplained breathlessness persists and no exclusion criteria apply, an electronic referral form is completed into the breathlessness pathway.

Referral Form Key Features:

- Red flags and exclusion criteria prominent on referral form to prevent inappropriate referrals
- Prepopulated fields (where possible)
- Mandatory fields (minimum data set) enforced to ensure completeness
- Form functionality blocks submission without required data (if possible)

The ambition is for a single, digital referral route (preferably via Welsh Clinical Gateway), with mandatory fields, automatic admin triage, and digital notifications to patients and referrers.

Inclusion Criteria:

Adult (aged 18+) with persistent, chronic breathlessness (≥ 8 weeks), of unknown cause.

The recommended and achievable minimum dataset for referral into any Breathlessness service was agreed to include the following:

Minimum Data Set:

- Full clinical history (with chronic disease and previous management strategies)
- Physical examination
- Medication list
- Comorbidities

- Baseline bloods: FBC, renal/liver function, thyroid, bone profile, NTproBNP, $\pm$ HbA1c, CRP
- ECG
- SpO2 measurement
- Smoking history
- BMI (height and weight)
- Chest X-ray

Timing of tests:

Test results obtained within the timeframe of symptom onset was accepted as appropriate and achievable

Exclusion Criteria:

- Any person under the age of 18
- Pregnancy
- End of Life
- Active acute exacerbation of existing condition
- Any red flag previously listed
- *NTproBNP above 2000 (refer directly to Rapid Access HF Clinic)

Health board specific variation:

- Access to Spirometry and FeNO testing differs significantly across Health Boards. It was agreed that Spirometry should not be part of the minimum national data set, but it may be included as an optional measure where resources allow. Health Boards with good access to Spirometry and/or FeNO may choose to incorporate these tests into their minimum data set.
- NT-proBNP thresholds and cutoff practices vary across health boards due to existing service set-ups. For patients with NT-proBNP levels between 400 and 2000, differences will occur regarding their acceptance into the pathway. Where a six-week heart failure (HF) pathway exists, patients will not be referred into the breathlessness pathway; where such a pathway does not exist, referral may proceed. Clinicians also highlighted scenarios where patients with established HF may still have elevated NT-proBNP for alternative reasons and should not be excluded from this pathway.
- Digital platform integration remains variable; fallback to paper/PDF persists in areas with poor IT infrastructure. Community/self-referral debated—some welcome shared decision checklists, others worry about inappropriate access.

- There were differing views regarding the inclusion of Accident & Emergency (A&E) as a referral route; however, consensus was not reached for inclusion in national guidance. This option may be considered by individual health boards during implementation discussions.

Clinician Feedback:

- Delays in baseline tests create diagnostic bottlenecks
- Direct notification to patients about referral status is highly valued; “step up or bounce-back” of incomplete referrals recommended.

4.1.4 Administrative Triage

Admin triage should be performed daily by non-clinical staff (band 2-4), checking solely for form completeness. If the form is complete, it proceeds to clinical triage. If incomplete, it is rejected and returned with feedback, prompting remediation and resubmission by referrer.

Health board specific variation:

- Extent of admin triage depends on local digital maturity—fully automated in some, manual fallback elsewhere.

Clinician Feedback:

- Systems must reject incomplete submissions and provide explicit correction guidance.

4.1.5 Clinical Triage

Qualified clinicians (with suitable skillset, regardless of exact role type) conduct daily clinical triage during protected time. This stage involves both standardised protocols and judicious clinical decision-making.

Clinical Triage Focus:

- Verify absence of acute/red flag cases
- Reject misrouted or inappropriate referrals
- Reject any pre-existing conditions which are not optimised in line with guideline directed therapy
- For those appropriate referrals, determine further assessment tests required

If the referral is rejected, the referring clinician receives feedback and recommendations for further assessment or alternative management.

Process for Redirection:

- If at any point acute causes are identified, the patient is routed to appropriate emergency or disease-specific services (A&E, Cardiology/Respiratory outpatient, etc.).

If the patient meets the criteria, they enter the breathlessness service for further assessment. The selection of tests is based on initial clinical judgement, considering patient history, symptoms, and potential comorbidities. Strong agreement that not all patients require all tests.

Health board specific variation:

- Some areas voiced the desire to use digital/AI tools to aid triage as they do in pre-existing services; others feel it should depend solely on experienced clinicians.
- Upfront MDT triage for complex patients proposed to support decision making on next steps/choice of diagnostic tests; others felt this is not required.

Clinician Feedback:

- IT system interoperability is critical for timely, thorough triage. AI/decision support tools discussed as future step.
- Barriers for treating in turn: may risk missing high-need patients; flexibility to incorporate clinical judgement and functional impact is critical.
- Not every patient requires every test or every specialist; stratification and allocation enable efficiency and personalisation.

4.1.6 Referral Outcomes and Next Steps

Patients accepted into the pathway receive continued assessment, with communication systems (such as automated text updates) proposed to keep them informed about next steps and waiting times.

4.2 Summary of Findings and Key Recommendations: Referral & Triage

The referral and triage pathway is designed to improve efficiency, standardisation, and safety in the assessment and management of unexplained chronic breathlessness. The process features sequential steps with clear *decision checkpoints*, mandatory data collection, and exclusion logic to ensure appropriate patient flow.

Key Positive Features Identified:

- Comprehensive minimum data set at initial referral
- Systematic exclusion criteria reinforced throughout both referral and triage
- Technological supports (prepopulated fields, mandatory checks) minimise incomplete referrals
- Feedback mechanisms drive continual improvement of referrals
- Triage stratified by admin and clinical expertise ensures efficiency and patient safety

Practical Considerations for Implementation

- Digitally enable secondary care referrals directly into the pathway, ensuring information transfer and compliance with minimum data requirements
- Standardise timing for key investigations across the region.
- Develop automated, patient-facing communication on referral status and next steps.
- Define requirements for skillset in clinical triage, ensuring consistent standards.
- Review necessity of admin triage if digital systems automatically validate completeness.

Summary Table: Referral & Triage – Consistency versus Variation Across NHS Wales Health Boards

Pathway Aspect	Consistent & Agreed Across Wales	Likely Points of Variation by Health Board
Referral Entry Points	Primary Care is always the main route; direct referrals from Cardiologists, Respiratory Physicians, and Community Respiratory and Cardiac Specialist Nurses permitted.	A&E referrals not nationally agreed; may be locally approved. Self-referral debated; some Boards may develop this further.
Pre-referral Assessment	Minimum dataset required: full clinical history, physical exam, baseline bloods, ECG, Chest X-ray, SpO ₂ , smoking history, BMI, exclusion of red flags before referral.	Access to tests (Spirometry, FeNO, NT-proBNP) and follow-up processes may differ; urban/rural settings influence delays and workflows.
Exclusion Criteria	Any acute/red flag findings (acute HF/MI/sepsis/hypoxia/haemoptysis, unexplained weight loss), age <18, pregnancy, end-of-life, acute exacerbation.	NT-proBNP thresholds for pathway eligibility (400-2000) and onward referral may vary due to local HF pathway

		provision and Board practice.
Referral Form Structure	Digital/electronic form preferred, with mandatory fields and minimum dataset; referrals returned if incomplete; systematic exclusion logic.	Actual platform used (Welsh Clinical Gateway, other systems, or paper forms) varies with digital maturity/infrastructure.
Admin Triage Protocol	Initial admin triage checks form completeness daily by staff (band 2–4); incomplete referrals returned with feedback.	Extent of automation/manual process depends on digital maturity; “hard stops” may be digital or manual.
Clinical Triage	Daily clinical triage by qualified clinicians using standard criteria to exclude red flags, allocate next steps, and select appropriate further tests.	Local use of AI/digital tools in triage (e.g., Cardiff) varies; MDT involvement for complex cases may differ (upfront MDT in some Boards).
Decision Points & Patient Flow	Patients with identified cause exit to disease-specific management; unexplained breathlessness proceeds in pathway; redirection to appropriate services as needed.	Some Boards may vary in criteria for further investigation based on resources, interpretation, or clinical judgement regarding inclusion/exclusion.
Data & Communication	Referrers receive feedback upon incomplete or rejected referrals. All accepted patients receive notification about pathway status and next steps.	Mode of patient/referrer notification (digital, phone, letter) not standardised due to IT infrastructure differences.
Timing for Tests	Test results should be available within timeframe of symptom onset; considered appropriate and achievable across Boards.	Actual speed of obtaining results varies by local diagnostic resource availability and urban/rural setting.

Additional nuanced points:

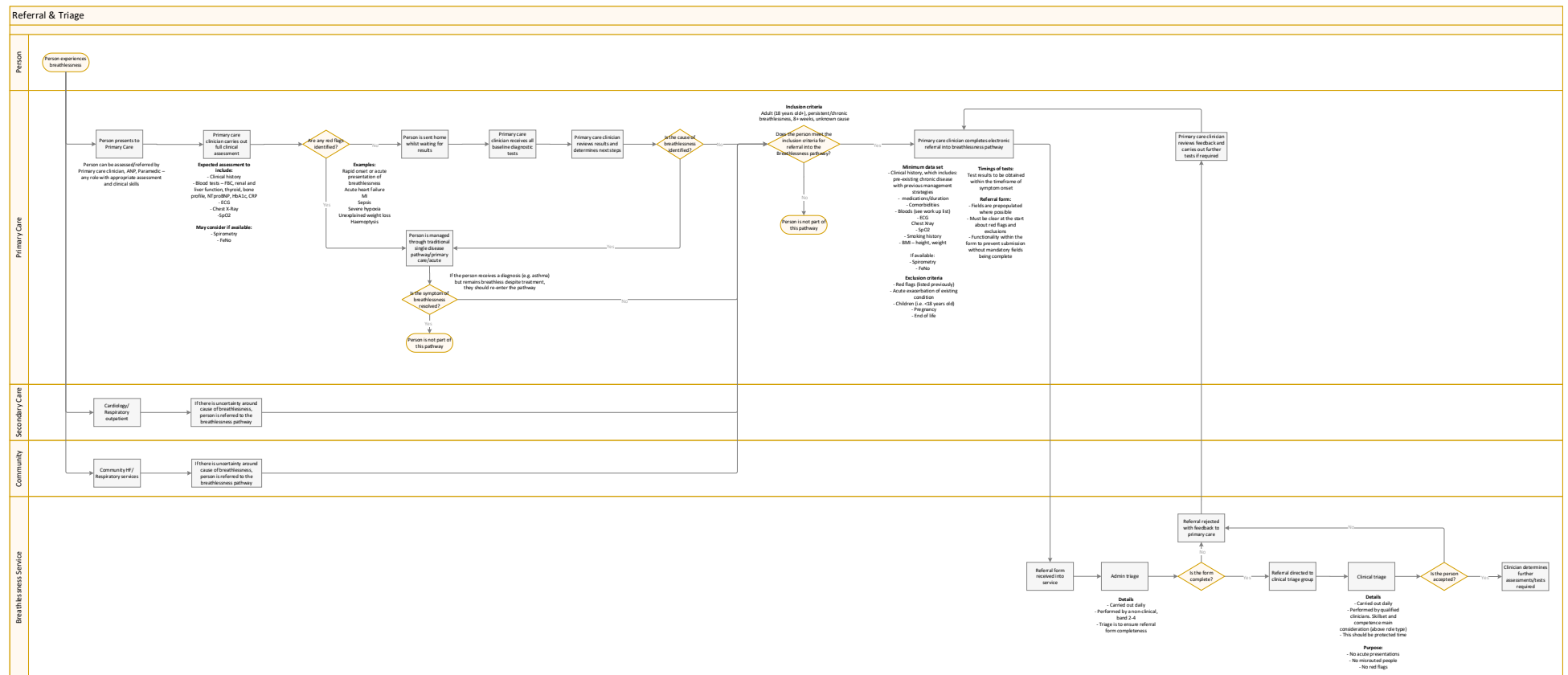
- **Spirometry/FeNO** are not mandatory but welcomed if available; access differs regionally, so they’re not part of the compulsory referral dataset.
- **NT-proBNP**: Above 2000 – exclusion is consistent; between 400–2000 is variable depending on whether local Rapid Access HF Clinic exists; also, Boards differ on requirements for strict versus clinically guided inclusion.
- **Digital Platform Integration** is an ambition, but fallback to paper/PDF common in some areas.

- The **role of community/self-referral** and use of shared decision checklists is contentious; some Boards encourage, others cite risk of inappropriate access.
- **Upfront MDT triage** may be standard in some sites, optional in others depending on Board practices and resource.

Final agreed upon future state of Referral & Triage section of the pathway:

NB: This pathway was agreed by the NHS Wales Respiratory Network using feedback from the workshop

Please note, this diagram is best viewed at 400% zoom



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5. Assessment, Diagnostics & Diagnosis

5.1 Workshop insights

After initial referral and triage, patients progress to assessment and diagnostics.

Clinicians in triage have determined the most appropriate diagnostic tests next required based on the clinical history, and early test results reported in the referral. As workshop participants represented diverse Welsh Health Boards, variations in existing diagnostic resources, pathways, and delivery models were frequently observed. This section describes the standard agreed steps and processes in the pathway for all patients relating to assessment, diagnostics and discharge, regardless of Health Board. Local variation and differing perspectives were once again evident in this phase of the pathway, and will be integral to shaping practical, flexible service models during implementation which is highlighted in a subsection below.

5.1.1 Diagnostic Test Selection and Booking

A comprehensive range of diagnostic tests that should be available were identified and are as follows:

- N-Tidal diagnose
- Novair
- Spirometry
- Full Lung Function testing
- Hand-held/AI ECHO
- Full ECHO (echocardiogram)
- 6MWT (six-minute walk test)
- CBGs (capillary blood gases)
- CPET
- CT Scan

There was a strong consensus that the *ideal* would be for there to be a central location for the patient to have all necessary tests performed in a one-stop-shop model approach as part of the Breathlessness service. Considering the landscape that this ideal could not be fully fulfilled, test location will depend on health board arrangements and the availability of Community Diagnostic Centres (CDCs).

The clinician books patient appointment/s for all identified tests. Admin staff may coordinate the bookings, with attention to local processes and IT infrastructure. Timelines and the rationale for each test should be clearly communicated to the

patient, ideally supported by standardized communication (auto-text, phone call, letter or discussion).

Health board specific variation:

- Given current resources and existing structures, the one-stop-shop model will not be feasible for most health boards. As a result, the utilisation of local pathways for diagnostic access will continue to form part of the implementation modelling at the health board level. Emphasis should be placed on streamlining processes and maximising efficiency wherever possible.
- Flexible scheduling/venue allocation (mobile vans, home visits) is more prevalent in rural and underserved populations.

5.1.3 Diagnostic Testing

Patients attend the scheduled appointments for diagnostics, which may occur at one or multiple sites, and sometimes span several days.

Health board specific variation:

- Menu of tests varies—urban hubs generally have wider access (FeNO, Echo, AI-enabled X-ray); rural/mobile clinics often have a basic suite only. Portable/mobile diagnostics (e.g. chest X-ray bus, wearable tech) piloted in some localities.
- Tests may be led by physiologists, healthcare assistants, or advanced clinicians, with variation in expertise and resource allocation.

Clinician feedback:

- There is a strong appetite for all-in-one assessment (one-stop diagnostics), but practical implementation is limited by resource, geography, and staffing. Portable/mobile diagnostics are expanding options.

5.1.4 Diagnostic Test Result Collection and Review

Test results may be consolidated or returned from various locations and times. The results are collated by the breathlessness service for clinician review.

System-level IT solutions are essential to ensure:

- All results are readily available and transparent to involved clinicians.
- Efficient transfer and coding of information, facilitated by structured templates/proformas.

5.1.5 Clinical Assessment (face-to-face or virtual)

Once all required diagnostic tests are completed, an administrator schedules the patient for a clinical assessment. The initial decision regarding the assessment format (whether face-to-face or virtual) will be made by the clinician. When the patient is contacted, their preference will be considered and may influence the final format. During the assessment, the clinician reviews all test results and conducts a holistic evaluation of the patient.

Health board specific variation:

- The clinical assessment will be delivered by a clinician with the appropriate skill set - not defined by profession/role.

5.1.6 PROMs & PREMs

Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) are identified as a vital assessment and objective measure for patients entering the service.

To avoid complexity and risk of non-completion, agreement was reached for all PROMS and PREMS to be completed during their face-to-face or virtual assessment and not prior.

Health board specific variation:

- Delivery modes may vary at implementation – digital, paper or assisted completion in rural/older populations may be considered.

Clinician feedback

- Standardisation of “core” PROMs is advocated to reduce duplication; digital exclusion and literacy remain major barriers, necessitating robust paper/assisted fallback systems if digital is the preferred delivery mode.

5.1.7 Diagnostic Determination

The clinician seeks to identify a clear, singular cause of breathlessness:

- If a clear aetiology is found: a management plan and therapy are initiated aligned with national/local treatment guidelines and protocols (see section 6 for more detail).
- If uncertainty, and complexity persists: the patient is prepared for a Multidisciplinary Team (MDT) review, with structured case notes.

5.1.8 MDT Referral (when indicated)

Criteria for MDT referral include:

- Severe unexplained symptoms, multiple comorbidities, discordant test results, rare diseases, complex psychological factors, or ongoing uncertainty.
- The decision to implement a standardised proforma for the multidisciplinary team (MDT) was made to ensure that all necessary information is captured. This approach also removes the need for the responsible clinician to present the patient directly.
- Professions representing the necessary specialist areas are recognised below as being vital to formulate the MDT:
 - Respiratory
 - Cardiology
 - Physiotherapy
 - Occupational Therapy
 - Dietetics
 - Psychology
 - Pharmacy
 - Social Prescribing
 - Health Science (Physiology)

Health board specific variation

- It is acknowledged that there will be variation in the implementation of the above recommendations across different health boards. These differences will be influenced by factors such as local availability of service capacity and workforce roles. Health boards will need to tailor their approaches to ensure that recommendations are adapted appropriately to fit the unique context and operational realities of each locality.

5.1.9 MDT Process

The patient is discussed using the completed proforma as guidance; further investigations (e.g., CPET, CT scan, full lung function, ECHO) may be requested if needed. The team discuss, document, and share recommendations.

If a consensus diagnosis/cause is achieved, next steps are agreed and management proceeds. If uncertainty persists, further data acquisition or specialist involvement may be required.

Health board specific variation:

- Breadth of MDT and format may differ
- Daily/frequent MDT huddles preferred by some clinicians.

5.2 Summary

The future state pathway for assessment, diagnostics, and diagnosis of unexplained chronic breathlessness emphasises systematic patient evaluation, judicious and patient-centred test selection, efficient process coordination, and multidisciplinary collaboration. Effective communication, robust IT infrastructure, and ongoing quality assurance are fundamental to delivering high-quality, transparent, and integrated patient care in this complex clinical area.

Practical Considerations for Implementation

- Address digital exclusion: Maintain paper/assisted PROMs, clear translation/support pathways
- Ensure flexibility in diagnostics menu: Invest in mobile/portable tech, enable remote/rural access
- Prioritise integrated digital documentation: Audit local platforms, support harmonisation, reduce loss to follow-up
- Use of structured proformas/templates is vital for completeness, coding, and transfer of information throughout the pathway. Robust integrated digital documentation is needed everywhere; paper-based gaps drive inefficiency and lost follow-up.
- Patients must be informed and engaged at all steps.

Summary Table: Assessment, Diagnostics & Diagnosis – Consistency versus Variation Across NHS Wales Health Boards

Pathway Aspect	Consistent & Agreed Across Wales	Likely Variation by Health Board
Test Selection Principles	Diagnostic tests are clinically selected based on history and earlier results; menu	Actual test access varies; availability of Novair, FeNO, and advanced imaging

	includes N-Tidal diagnose, Novair, spirometry, ECHO, 6MWT, CBGs, CPET, CT Scan.	greater in urban areas; rural/mobile clinics may offer a more basic suite and portable diagnostics.
Ideal Test Delivery Model	The “one-stop-shop” single-site model for all necessary diagnostics is the preferred vision, aiming for patient convenience and efficiency.	Most Health Boards cannot deliver all diagnostics in one sitting; local models rely on multi-site, CDC, or mobile units. Flexible scheduling, venue allocation (home visits, vans) more common in rural/underserved areas.
Test Booking Process	Clinicians identify and book appropriate diagnostics; admin staff may coordinate according to defined processes; timelines communicated to patients.	IT integration and coordination methods vary: booking may be supported by digital systems or manual processes, with variable use of auto-text, letters, calls.
Test Result Collection & Review	All diagnostic results are collated and reviewed by the breathlessness service; results are ideally available to all involved clinicians.	Quality and speed of information transfer depend on IT maturity. Some Boards use structured digital templates/proformas; paper-based processes persist in areas with poor IT infrastructure.
Clinical Assessment Format	Assessment occurs after all diagnostics are completed. Format (face-to-face or virtual) chosen by clinician, considering patient preference.	The profession/role of the assessor is defined by local skillset availability; some sites may offer more virtual options if rural, digital, or resource-driven.
PROMs & PREMs Capture	Completion of Patient Reported Outcome and Experience Measures (PROMs, PREMs) is mandatory during the main clinical assessment, not before.	Delivery mode is tailored: digital preferred where possible, but assisted/paper fallback is standard in rural/elderly cohorts to address digital exclusion.
Diagnostic Determination	The clinician seeks to diagnose the cause; clear cause results in direct management; complexity/uncertainty leads to MDT referral.	Access to advanced diagnostics and nuanced MDT review criteria can differ; Board-level practices determine which patients receive further investigation and MDT input.
MDT Referral Process	Standardised MDT proforma required; all relevant	Breadth of MDT varies—some Boards can convene

	information documented for review; direct presentation by clinician not needed.	wider specialties (psychology, OT, pharmacy, social prescribing); local workforce capacity and structure determine participation.
MDT Team Composition	Professions represented should, at minimum, include respiratory, cardiology, physiotherapy, occupational therapy, dietetics, psychology, pharmacy, social prescribing, and physiology.	Health board capacity, staff availability, and operational realities influence exact MDT makeup and meeting frequency (e.g., daily huddles vs weekly rounds).
MDT Review & Decision	MDT reviews patient with use of structured proforma; outcomes and further recommendations are documented and shared.	Patient involvement in MDT review is piloted only in some areas. Escalation protocols for advanced/specialist review are locally defined.
IT Documentation & Communication	Use of integrated digital documentation and communication systems promoted; structured templates/proformas throughout the pathway.	Digital system harmonisation not yet universal; audit, feedback, and support processes for documentation vary, with continued need for paper-based fallback in some settings.
Patient Engagement	Patients must be informed and engaged at every step, including rationale for tests, timelines, results, and next steps.	Mode of engagement varies: digital, phone, letter, or assisted conversation; resource and IT differences shape practices.

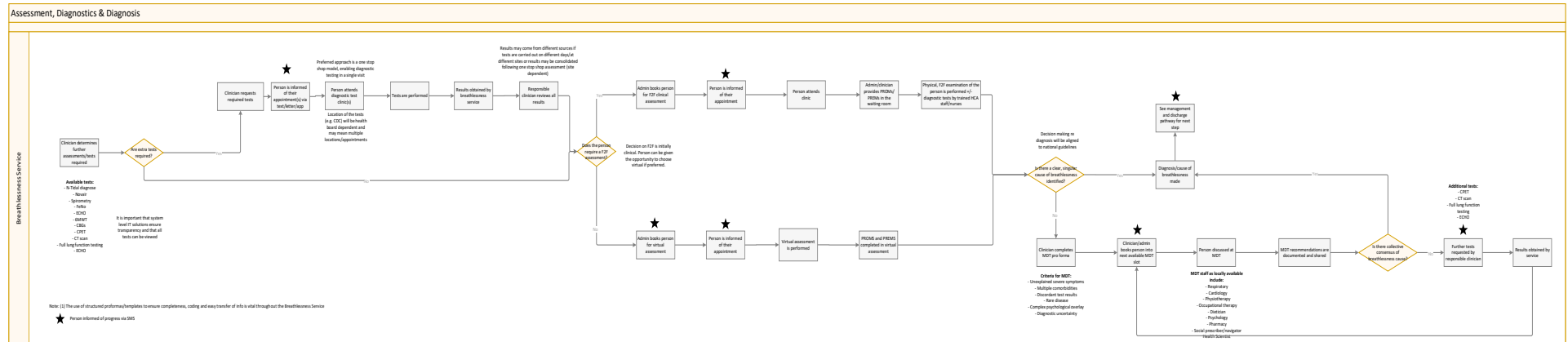
Additional nuanced points:

- Standardisation of “core” PROMs is the national principle; delivery and support for digitally excluded populations varies.
- Structured proformas/templates for documentation are recognised as crucial everywhere – but use/adoption depends on local digital capability.

Final agreed upon future state of Assessment, Diagnostics & Diagnosis section of the pathway:

NB: This pathway was agreed by the NHS Wales Respiratory Network using feedback from the workshop

Please note, this diagram is best viewed at 400% zoom



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6. Management and Discharge

6.1 Workshop insights

Following diagnosis, management and discharge planning are tailored to the individual patient's needs, incorporating both medical and non-pharmacological interventions as appropriate in line with local and national guidelines. The design of management strategies and discharge processes is influenced by local service arrangements, workforce capabilities, and available community resources. With input from stakeholders across multiple Welsh Health Boards, this section describes the standard agreed steps and processes in the pathway for all patients relating to management and discharge, regardless of Health Board. Local variation and differing perspectives were once again evident in this phase of the pathway which are highlighted below, and will be integral to shaping practical, flexible service models during implementation.

6.1.1 Diagnosis / cause understood

The pathway begins with establishing the cause of breathlessness, which may be due to a pathophysiological condition (e.g. COPD, heart failure) or a non-pathophysiological factor/s (e.g. anxiety, obesity, dysfunctional breathing).

6.1.2 Discussion with Patient

Once the cause is identified, the clinician discusses it with the patient, providing clarity on symptoms and addressing concerns. All patients receive a holistic management plan, prioritising non-pharmacological interventions. Medical treatment for pathophysiological causes is initiated according to national or local guidelines, supplementing the holistic approach. Promoting patient agency is recognised as essential for the success of management strategies; rehabilitation teams and health coaches are experienced in supporting this and should be included when planning workforce needs.

6.1.3 Non-pharmacological Intervention offerings

Three main management offerings have been identified. Alongside the Default Offer, patients may access a range of additional interventions known as the Universal Offer, agreed upon with the clinician. Onward referrals to specialist services are reserved for patients requiring higher-level support and who meet service criteria. It is important to recognise these offerings can be made in parallel rather than be sequential for the patient journey.

Default Offer: Developed collaboratively by clinical experts across Wales, 'Living with Breathlessness' will be offered routinely to all patients as a minimum standard focusing on low intensity management strategies.

Universal Offer: Options are discussed and agreed at assessment, providing a broad menu including:

- Healthy eating
- Smoking cessation
- Social prescribing/community navigator
- Sleep hygiene
- Anxiety management
- Pain management
- Physical activity (NERS)
- Adferiad services
- Breathing technique

Specialist Offer: For patients exceeding Universal Offer support and meeting criteria, referrals may be made to services such as:

- Pulmonary/cardiac rehabilitation
- Breathing Pattern Disorder Service
- Outpatient Cardiology
- Outpatient Respiratory

Health board specific variation:

- The structure, availability, and criteria for these offers differ across Health Boards, with delivery modes spanning digital messaging, group sessions, virtual rehab, and home-based interventions to improve equity for rural, deprived, or mobility-limited populations.

Clinician feedback:

- Level 1/2 psychological input to be embedded, escalating to specialist as needed; upskilling of all staff for core breathlessness skills is key.
- Referral to generic rehab models for multimorbidity; capacity for exercise, psychological support, weight management, and behavioural change in single or integrated clinics. Social prescribing, third-sector linkages, and peer/buddy schemes are core enablers.

- Community engagement (football clubs, rural shows, supermarkets) as intervention and follow-up sites, addressing equity and hard-to-reach populations.

6.1.4 PROMs and PREMs Collection

Prior to discharge, Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs) are collected, either electronically or in-clinic, to monitor service effectiveness and patient experience.

6.1.5 Safety-netting and Follow-up

Management plans include safety-netting, with escalation protocols in place for primary care to refer back to the hub if new issues arise

6.1.6 Discharge Criteria

Once the clinician and person have established the appropriate management, discharge from the service is the next step:

Clear discharge criteria are established, focusing on:

- Secure diagnosis
- Completion of treatment from the Breathlessness Service (Default offering)
- Referral to supportive interventions (Universal Offer and/or Specialist Services) complete

Discharge steps:

- The management plan and a discharge proforma is addressed and sent to the person, Primary care and referring clinician (if different)
- Primary Care will action any tasks outlined in the DC proforma
- The patient returns to primary care responsibility for ongoing management.

Clinician feedback:

- Action plans and patient/family education (including access points for worsening symptoms) are endorsed as anxiety-reducing, outcome-improving tools.
- Integration with local authority, well-being, and palliative care teams needed for social, environmental, and end-of-life needs.

- Discharge documentation should be template-driven summaries, ideally via interoperable platforms, are essential to avoid duplication and missed follow-up

6.2 Summary

The management and discharge pathway provides a standardised yet flexible protocol, supporting individualised care and ensuring handover between community, specialist and primary care settings is robust. Noteworthy strengths include the multi-disciplinary approach, emphasis on holistic management, and clear communication channels between community services and primary care. Discharge planning is thorough, with PROMs/PREMs embedded as routine practice and explicit criteria for transition back to primary care. Safety-netting and clear escalation routes are highlighted as necessary features for continuity of care.

Practical Considerations for Implementation

- **Rehabilitation delivery:** Invest in generic, multimorbid-friendly models; embrace digital/group/peer formats for rural or deprived populations
- **Handover and records:** Prioritise digital integration, ensure everyone gets a summary with key contacts and follow-up or escalation instructions
- **Patient empowerment:** Ensure discharge includes education, access to community/peer/virtual support
- **Monitoring and improvement:** Collect PROMs/PREMs, track re-attendance, map social and psychological engagement to guide future iteration

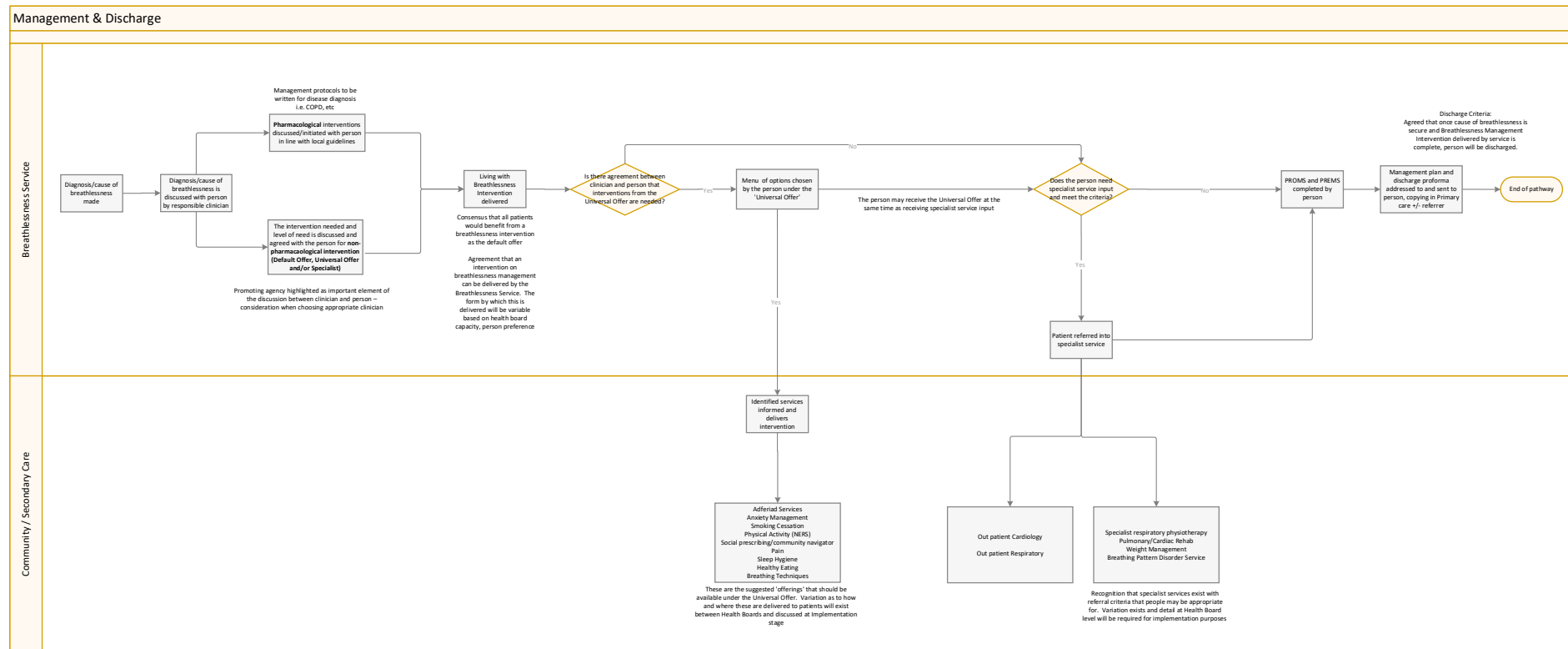
Pathway Aspect	Consistent Across Wales	Likely Points of Variation Between Health Boards
Holistic Management Planning	Clinicians have a discussion with the patient, providing a holistic management plan.	Format and delivery of discussions (in-person, virtual), and the extent of workforce involvement differ.
Medical Treatment Initiation	Medical therapy for pathophysiological causes follows national/local guidelines, supplementing holistic management.	Specific protocols, medication formularies, and initiation location may differ locally.
Default Offer ('Living with Breathlessness')	All patients are offered the Default Offer as a minimum standard, co-created by experts across Wales.	None - this is standard.

Universal Offer Options	Patients have access to a broad set of interventions (healthy eating, smoking cessation, activity, social support, etc.)	Menu options, availability, and access routes may differ based on local resources and partnerships.
Specialist Referral Criteria	Referral to specialist services uses agreed principles and eligibility criteria.	Types of specialist services available, inclusion criteria, and waiting times may vary.
PROMs/PREMs Collection	Outcome and experience data (PROMs/PREMs) is collected prior to discharge, either electronically or in-clinic.	Data capture methods, IT integration, and timing of collection may differ.
Safety-netting & Escalation	Safety-net protocols are embedded in management plans, with clear escalation processes in primary care and return pathways to the hub.	Specific escalation criteria, communication routes, and responsiveness may be locally determined.
Discharge Criteria	Discharge occurs after secure diagnosis, completion of treatment, and appropriate referrals/interventions.	Definition and thresholds of “completion,” required documentation, and sign-off processes may be variable.
Discharge Communication	Management plan and discharge proforma are sent to patient, primary care, and referring clinician.	Document formats, electronic systems, and process for information transfer vary across Health Boards.
Practical Implementation	Commitment to robust handovers, digital integration, patient empowerment, and systematic monitoring (PROMs/PREMs, re-attendance, etc.).	Pace and scale of digital adoption, integration with local authority, implementation methods.

Final agreed upon future state of Management & Discharge section of the pathway:

NB: This pathway was agreed by the NHS Wales Respiratory Network using feedback from the workshop

Please note, this diagram is best viewed at 400% zoom



This report has been developed by AstraZeneca to outline the outcomes and next steps from the Breathlessness Pathway Programme Workshop Long Term Conditions and Multi-Morbidity Pathways - supporting service redesign is offered to the NHS by AstraZeneca as donated goods and services (DOGS). AstraZeneca has funded this programme.

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7. Next steps

Following the completion of the workshops and the outputs report, the immediate next step will be to identify the health boards that will serve as pilot sites for implementation of the breathlessness pathway. This outputs report will act as a guide and supplement, providing key recommendations and supporting materials for health boards as they begin this process. However, it is acknowledged that flexibility will be essential, as the practical implementation of the pathway will require adaptation to the unique structures, resources, and contexts of each individual health board. By supporting pilot sites with clear guidance while recognising the need for local tailoring, this approach aims to ensure effective, practical adoption and inform future wider rollout.

This report is a summary of the feedback obtained from attendees at the non-promotional workshop. AstraZeneca is not responsible for the delivery of any outputs/ recommendations within this report.

Appendix 1

Acronym Table

Acronym	Meaning
ANP	Advanced Nurse Practitioner
BMI	Body Mass Index
CPET	Cardiopulmonary Exercise Test
CRP	C-reactive protein
CT Scan	Computed Tomography Scan
ECG	Electrocardiogram
ECHO	Echocardiogram
FBC	Full Blood Count
FeNO	Fractional Exhaled Nitric Oxide
HBA1c	Haemoglobin A1c
NTproBNP	N-terminal pro b-type natriuretic peptide
SpO2	Peripheral oxygen saturation

Appendix 2

I. List of attendees

Name	Health Board
Aaron Wong	Cwm Taf Morgannwg UHB
Alan Lawrie	Strategic Programme for Primary Care
Alex Ewins	Cardiff and Vale UHB
Alison Kemp	Betsi Cadwaladr UHB
Alison Lewis	Swansea Bay UHB
Alun Edwards	Aneurin Bevan UHB
Alun Walters	Aneurin Bevan UHB
Amanda Cullen	Cardiff and Vale UHB
Amanda Head	Aneurin Bevan UHB
Amit Benjamin	Cwm Taf Morgannwg UHB
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Andrew Barrett	Cwm Taf Morgannwg UHB
Angharad Ladd	Swansea Bay UHB
Ann Parkes	Cardiff and Vale UHB
Anne Simpson	Swansea Bay UHB
Anthony Gibson	National Strategic Clinical Network for Respiratory Conditions
Arthur Duncan-Jones	Health Intelligence - NHS Wales Performance & Improvement
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Carina Waldock	Betsi Cadwaladr UHB
Catrin Williams	Betsi Cadwaladr UHB
Ceri Todd	Swansea Bay UHB
Chiquita Cusens	Strategic Programme for Primary Care
Christian Newman	Value Based Health Care
Christine Couchman	Betsi Cadwaladr UHB
Claire Elliot	Swansea Bay UHB
Claire Hurlin	Swansea Bay UHB
Claire Jones	Betsi Cadwaladr UHB
Claire Lewis	National Cardiovascular Strategic Network
Claire Reilly	Aneurin Bevan UHB
Daniel Menzies	Betsi Cadwaladr UHB
Dave Tyler	Cardiff and Vale UHB
David Clough	Betsi Cadwaladr UHB

David Heyburn	DDTIV
David Vardill	Swansea Bay UHB
Delyth Rucarean	Swansea Bay UHB
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Eleri Jenkins	Cwm Taf Morgannwg UHB
Elin Lloyd	Betsi Cadwaladr UHB
Ellen Williams	Betsi Cadwaladr UHB
Emily Young	Betsi Cadwaladr UHB
Emma Davies	Swansea Bay UHB
Emma Lewis	Cwm Taf Morgannwg UHB
Emma Mistry	Cardiff and Vale UHB
Fiona Cox	Cwm Taf Morgannwg UHB
Fiona Schreuder	Swansea Bay UHB
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Gwyn Jones	Swansea Bay UHB
Hannah Brothers	Aneurin Bevan UHB
Hannah Hunt	National Strategic Clinical Network for Respiratory Conditions
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Joanne Oliver	National Strategic Clinical Network for Respiratory Conditions
Joe Annandale	Swansea Bay UHB
Jonathan Goodfellow	National Cardiovascular Strategic Network
Jonne Oliver	National Strategic Clinical Network for Respiratory Conditions
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Julia Roberts	Betsi Cadwaladr UHB

Julia Rogers	Betsi Cadwaladr UHB
Julie Hocking	Cardiff and Vale UHB
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Marie Evans	Cwm Taf Morgannwg UHB
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Martha Scott	Aneurin Bevan UHB
Meinir Jones	NHS Wales Performance & Improvement
Michael Pynn	Aneurin Bevan UHB
Michelle Price	NHS Wales Performance & Improvement
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Nia Evans	Swansea Bay UHB
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Rebecca Lewis	Cardiff and Vale UHB
Rhian Barlow	Cardiff and Vale UHB
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Rhiannon Bill	Aneurin Bevan UHB
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Samantha Victor	Swansea Bay UHB
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William Mackintosh	Swansea Bay UHB