



GIG
CYMRU
NHS
WALES

Pwyllgor Gwasanaethau
Ambiwlans Brys
Emergency Ambulance
Services Committee

Ambulance Services Quality Indicators July to September 2021

Narrative and Overview

Author: NCCU Corporate Services
Published date: October 2021

Table of Contents

Narrative and Overview	2
Clinical Response Model	3
Five Step Ambulance Care Pathway	4
Step 1 – Help Me Choose	4
Step 2 – Answer My Call	5
Health Care Professional Calls.....	5
999 Calls	5
Hear and Treat	5
See and Treat	6
Step 3 – Come To See Me	7
RED Response Category	7
AMBER Response Category	7
GREEN Response Category.....	8
Resource Arrival.....	8
Community Response.....	8
Step 4 – Give Me Treatment	9
Cardiac arrest (no pulse and not breathing)	9
Stroke	9
Fractured hips (known as neck of femur injuries)	9
ST-Segment Elevation Myocardial Infarction (known as STEMI)	9
Sepsis.....	10
Febrile convulsion.....	10
Hypoglycaemia	10
Step 5 – Take Me To Hospital	11
Ambulance Quality Indicator Descriptions	12

Narrative and Overview

The Welsh Ambulance Services NHS Trust (WAST) delivers emergency ambulance services for the population of Wales and anyone visiting Wales.

The seven Local Health Boards through the Emergency Ambulance Service Committee (EASC) commission these services. To monitor these services EASC developed with WAST a set of Ambulance Quality Indicators (AQI) which are reported quarterly on the last Wednesday of April, August and December across the Five Step Ambulance Care Pathway (5-step model):

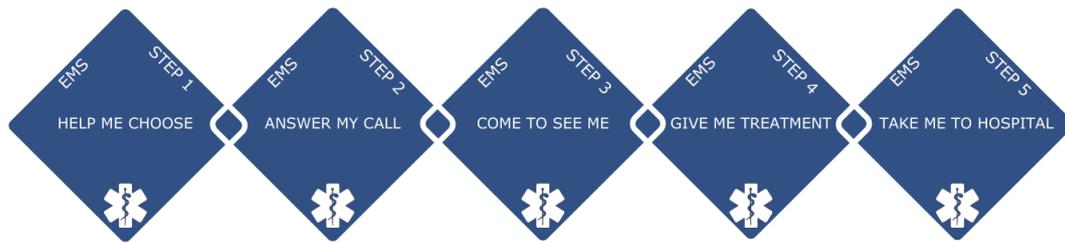


Figure 1 – Five Step Ambulance Care Pathway

The 5-step model is designed to ensure that ambulance service resources are dispatched to calls where there is an immediate need to save life or provide treatment. For other less serious cases, alternative treatments such as referrals to other parts of the NHS or telephone advice will be provided.

The 5-step model is intended to ensure the ambulance service is providing the right response for a patient dependent on their clinical need.

This AQI release focus on the period: July to September 2021, previous quarters AQI's and next release date are available on the [EASC website](#).

WAST also provides the NHS 111 Wales / NHS Direct Wales service across wales with a website providing patients with access to health information including symptom checkers, service and defibrillator locations.

NHS 111 Wales / NHS Direct Wales also provides a 24/7 telephone advice service (111 and 0845 46 47) which patients can ring if they are unsure as to their healthcare need.

WAST provides a range of services which are co-ordinated through the Clinical Contact Centres which receive calls for help from the public and health care professionals who need to access emergency assistance for a patient.

Clinical Response Model

Category	Description
RED	Immediately life threatening calls such as cardiac arrest or choking. These calls will be subject to both clinical indicators such as Return of Spontaneous Circulation (ROSC) rates and a time based standard requiring a minimum attendance at 65% of these calls within 8 minutes.
AMBER	Serious but not immediately life threatening. These calls will include most medical and trauma cases such as chest pain and fractures. Amber calls will receive an emergency response. A response profile has been created to ensure that the most suitable clinical resource is dispatched to each amber call. This will include management via "hear & treat" services over the telephone. Patient experience and clinical indicator data will be used to evaluate the effectiveness of the ambulance response to amber calls.
GREEN	999 calls received and categorised as green are neither serious or life threatening. Conditions such as earache or minor injuries are coded as green calls. Green calls are ideally suited to management via secondary telephone triage.
GREEN HCP	Health Care Professionals (HCP) such as doctors, midwives or community hospitals often require an urgent transfer of a patient from low acuity care to a higher acuity facility. These transfers are coded as green calls and undertaken within a timeframe agreed with the requesting HCP

Table 1 – Clinical Response Model

The aim of the clinical response model is to ensure that patients receive the right clinical care at the right time and allows WAST to quickly identify the clinical need of a 999 caller.

This allows the correct response to be provided, this may be an ambulance or a paramedic in a rapid response car for RED or serious AMBER calls. For many lower priority AMBER and GREEN incidents, advice may be provided for the caller over the telephone by a nurse or paramedic.

Five Step Ambulance Care Pathway

Step 1 – Help Me Choose

In this reporting period, January to March 2021, there were **984,998** visits to the NHS 111 Wales website ^(AQI4i).

Note: *Measuring the number of visits to the NHS 111 Wales website helps identify periods of high demand and examine links to call volumes to both NHS 111 Wales / NHS Direct Wales and the Emergency Clinical Contact Centres.*

Dental problems are the top reason for the public calling NHS 111 Wales / NHS Direct Wales totalling **9,248** calls ^(AQI4ii).

Note: *Identifying the top 10 reasons for calling NHS Direct Wales helps identify the topics for advice that NHS Direct Wales needs to be able to provide. It also allows Local Health Boards to develop services where there is an unmet need.*

Frequent callers are defined as people who call WAST via the 999 system five times or more in a month. **813** frequent callers generated **7,499** incidents over the reporting period, this equated to **5.9%** of the total WAST incidents **(127,938)** ^(AQI5).

Note: *Identifying frequent callers helps WAST manage the needs of this group of callers, many of whom are vulnerable adults who have an unmet need. Simply sending ambulances to these patients does not necessarily mean they get the help they need. Frequent caller patient needs are managed via multi-disciplinary teams including primary, secondary care and clinical managers in the Local Health Boards and WAST. This may involve WAST referring a patient to a GP service or a specialist team such as a mental health service.*

Step 2 – Answer My Call

Health Care Professional Calls

There were **16,110** calls for an urgent (1-4 hour) admission from health care professionals over the reporting period ^(AQI6).

Note: A health care professional is defined as a Doctor usually a General Practitioner, Paramedic, Nurse, Midwife, Dentist or Approved Social Worker. Measuring the number of calls from healthcare professionals helps WAST plan and develop strategies to manage the needs of these patients.

999 Calls

156,975 - 999 calls were answered ^(AQI7i) with **127,938** calls taken through the Medical Priority Dispatch System (MPDS) ^(AQI8). The top 10 calls are shown below:

Protocol	Description	Number of calls
17	Falls	14,406
10	Chest Pain	14,097
06	Breathing Problems	15,050
28	Sick Person (Specific Diagnosis)	9,918
31	Unconscious / Fainting (Near)	8,160
35	HCP Admissions	5,228
21	Haemorrhage / Lacerations	4,901
*U	Unknown – User Left Call	4,861
UGA1	Upgrade to AMBER1	4,834
28	Stroke (CVA/TIA)	4,740

Table 2 – Top 10 calls through MPDS system

Note: MPDS is a system that WAST use to assess the severity of 999 calls.

Hear and Treat

12,869 (16.1%) calls were ended following WAST telephone assessment; 'Hear and Treat' ^(AQI9i).

Note: 'Hear and Treat' is the telephone clinical advice that callers who do not have serious or life threatening conditions receive from WAST. This may mean an ambulance response will not necessarily be sent immediately. Instead, patients may be given more appropriate healthcare advice based on what they tell the clinician over the phone. They may receive advice on how to care for themselves or where they might go to receive appropriate assistance, for example a GP or a Pharmacy. They may also be advised to make their own way to hospital where this is safe or be provided with alternative transport rather than an ambulance.

Note: Re-contact rates measure the number of patients who dial 999 after receiving telephone advice ('hear and treat') services or after being treated at the scene ('see and treat'); this may be for an unexpected or new problem within the following 24 hours. To ensure WAST is providing safe and effective care, first time, this indicator measures how many patients call WAST back within 24 hours of the initial call being made.

Of the **12,869** calls ended following 'hear and treat' ^(AQI9i) there were **941** re-contacts within 24 hours ^(AQI10i).

See and Treat

Of the **7,908** treated at scene ('see and treat') ^(AQI10ii), there were **53** ^(AQI10ii) re-contacts within 24 hours.

Step 3 – Come To See Me

RED Response Category

There were **5,997** RED calls over the reporting period ^(AQI11).

The Wales national target for a response arriving to RED calls in 8 minutes is 65%. At an all Wales level, this target was not met for any month this quarter. Overall for the quarter it was **55.7%**.

Jul 2021	Aug 2021	Sept 2021
57.8%	57.6%	52.3%

Table 3 – Monthly National RED Percentage Response Target

The target for each Health Board area is 60% and this was partially met across each month this quarter.

Local Health Board	Jul 2021	Aug 2021	Sept 2021
Aneurin Bevan ULHB	58.4%	64.4%	55.2%
Betsi Cadwaladr ULHB	50.9%	49.4%	45.2%
Cardiff and Vale ULHB	71.4%	71.8%	65.9%
Cwm Taf Morgannwg ULHB	53.5%	55.0%	46.4%
Hywel Dda ULHB	50.0%	48.9%	49.0%
Powys TLHB	52.6%	47.5%	56.5%
Swansea Bay ULHB	63.3%	59.3%	50.3%

Table 4 – Monthly Local Health Board Percentage Response Target

RED calls are immediately life threatening so it is important to measure not just how WAST performs against the Wales national target, but the distribution of performance.

National Emergency Response	Jul 2021	Aug 2021	Sept 2021
RED Median	00:07:00	00:07:03	00:07:39
RED 65 th Percentile	00:09:10	00:09:16	00:10:12
RED 95 th Percentile	00:21:10	00:22:06	00:23:42

Table 5 – Monthly RED Response Time (HH:MM:SS)

AMBER Response Category

There were **55,807** AMBER over the reporting period. AMBER calls are serious, but not immediately life threatening and are measured by the standard of care provided by WAST ^(AQI12).

National Emergency Response	Jul 2021	Aug 2021	Sept 2021
AMBER Median	01:15:30	01:17:04	01:48:46
AMBER 65 th Percentile	01:53:13	01:56:33	02:44:39
AMBER 95 th Percentile	05:57:53	06:17:43	07:48:18

Table 6 – Monthly AMBER Response Time (HH:MM:SS)

GREEN Response Category

There were **4,809** GREEN calls over the reporting period. GREEN calls are 999 calls received that are considered neither serious or life threatening ^(AQI13).

National Emergency Response	Jul 2021	Aug 2021	Sept 2021
GREEN Median	00:52:55	00:57:10	01:00:12
GREEN 65 th Percentile	01:24:55	01:12:41	01:29:45
GREEN 95 th Percentile	07:00:57	04:06:53	05:04:47

Table 7 - Monthly GREEN Response Time (HH:MM:SS)

Resource Arrival

Note: It is important to make the best use of available ambulance resources and to measure the number of resources that are allocated to an incident. There are occasions when it is appropriate for more than one ambulance to be allocated, for example, a multiple response to a very serious call where there is an immediate threat to life (categorised as RED) or multi-casualty incidents such as road traffic collisions.

Over the reporting period, one resource arrived on scene to **76.7%** of incidents, two resources to **19.9%** of incidents, 3 resources to **2.9%** of incidents and 4 or more resources to **0.6%** of incidents ^(AQI14).

Community Response

Community First Responders are volunteers trained by WAST who are sent to certain incidents to provide immediate care before the arrival of an ambulance. These volunteers are vital to saving lives across Wales.

Community First Responders attended **2,674** incidents over the reporting period and were first on scene in **2,414 (90.3%)** of these incidents ^(AQI15).

Step 4 – Give Me Treatment

Treatment given by ambulance clinicians before a patient reaches hospital is a major factor in their chances of survival and recovery. Ambulance clinicians use packages of care, assessment and treatment known as care bundles. Care bundles are a series of assessments, treatments and actions that are clinically recognised to improve a patient's outcome and experience.

This information is gained from clinical patient records completed by staff using their digital pens. In this release, we have highlighted the performance against seven key clinical indicators for Cardiac Arrests, Strokes, Heart Attacks (called STEMI), fractured hips (known as neck of femur injuries), febrile convulsion, sepsis and hypoglycaemia.

Cardiac arrest (no pulse and not breathing): this indicator measures how many patients who are in cardiac arrest, but are successfully resuscitated at the scene by WAST and have a pulse/ heartbeat on arrival at hospital. It is recognised that providing resuscitation as early as possible to those in cardiac arrest is key to improving the chances of recovery. **12.3%** of patients were documented as having a return of spontaneous circulation (ROSC) at hospital door ^(AQI16i).

Stroke: a stroke happens when the supply of blood to the brain is suddenly interrupted. This indicator measures the number and percentage of suspected stroke patients assessed face to face who received all of the elements of the stroke care bundle. The measures include a F.A.S.T (Face Arm Speech Test) assessment, the recording of blood glucose and blood pressure readings. **97.3%** of patients were documented as receiving the appropriate stroke care bundle ^(AQI16ii).

Fractured hips (known as neck of femur injuries): fractured hips cause significant pain, which can be exacerbated by movement. Pain control for patients with a fractured neck of femur in the immediate post-trauma period is paramount to promoting recovery and patient experience. This reduces suffering and the detrimental effects uncontrolled pain may have. This indicator measures the recording of initial and subsequent verbal pain scores and administration of appropriate pain medicines before arrival at hospital. **88.8%** of patients were documented as receiving the appropriate STEMI care bundle and **95.0%** were documented as receiving analgesia ^(AQI16iii).

ST-Segment Elevation Myocardial Infarction (known as STEMI): is a type of heart attack caused by a blood clot in the heart, which is diagnosed by an electrocardiogram taken by the ambulance crew. The care bundle includes taking verbal pain scores from the patient, administering aspirin to reduce blood clotting, Glyceryl Trinitrate to relax and widen blood vessels and the provision of pain relief. **73.5%** of patients were documented as receiving the appropriate STEMI care bundle ^(AQI16iv).

Sepsis: Sepsis, also referred to as blood poisoning or septicaemia, is a potentially life-threatening condition, triggered by an infection. This indicator records patients with a suspected diagnosis of sepsis or septic shock who have been reviewed using a screening tool (NEWS) and have a documented score. This promotes early recognition of suspected sepsis and enhances handover in hospital. **98.7%** of patients were documented as receiving the appropriate sepsis care bundle ^(AQI16v).

Febrile convulsion: is a seizure that can happen when a child has a fever. This indicator measures patients under 5 with suspected febrile convulsion who are documented as receiving the appropriate care bundle comprising of the measurement of heart rate, respiratory rate, oxygen saturation, temperature and blood glucose. **100%** of patients were documented as receiving the appropriate febrile convulsion care bundle ^(AQI16vi).

Hypoglycaemia: is an abnormally low level of glucose (sugar) in the blood. This indicator measures patients who are documented as receiving the appropriate care bundle, which comprises of blood glucose measurement before treatment, treatment and blood glucose measurement after treatment. **87.9%** of patients were documented as receiving the appropriate hypoglycaemia care bundle ^(AQI16vii).

Over the reporting period, **13,832** incidents did not result in a conveyance to a hospital or another destination. The reasons for non-conveyance is that **7,843** of these incidents were treated at scene and **5,980** were referred to an alternative provider ^(AQI17).

Step 5 – Take Me To Hospital

44,762 patients who called 999 were conveyed to a hospital or another destination over the reporting period ^(AQI19i).

NHS Wales guidance is that the handover of care of patients from an ambulance crew to hospital staff should be within 15 minutes. Across Wales, this occurred in **28.6%** of cases ^(AQI20i).

NOTE: *The handover of care is important as taking more than 15 minutes means the patient remains in the ambulance, which means the ambulance is not available to respond to other calls in the community.*

Over the reporting period, **39,834** hours were lost to delayed handovers of care ^(AQI21).

Note: *Once an ambulance crew has handed over the care of a patient to a hospital or other destination NHS Wales guidance is that ambulances clear and be ready for the next call within 15 minutes or less.*

Over the reporting period, **87.6%** of ambulances cleared within 15 minutes or less ^(AQI22i).

The handover to clear is an important efficiency measure, this quarters data shows **1,190** hours were lost to delayed handovers to clear ^(AQI24).

Ambulance Quality Indicator Descriptions

No.	AQI Ref.	AQI Description	AQI Detailed Description
1	AQI1	Number of Welsh Ambulance Services NHS Trust community engagement events	How often are the Welsh Ambulance Services NHS Trust engaging with the communities it serves and spreading health messages about self-care, choice and appropriate use of ambulance/health services?
2	AQI3	Number of attendances at key stakeholder events	How often is the Welsh Ambulance Services NHS Trust meeting with stakeholders to discuss, agree and design services to meet clinical and service user expectation needs?
3	AQI4i	Number of NHS 111 Wales unique website visits	How often is the NHS 111 Wales website being used? This allows us to examine links between website use and 999 and 0845 call volumes. It also allows for the identification of high demand periods.
4	AQI4ii	NHS Direct Wales number of calls by reason (top 10)	What are people calling NHS Direct Wales about? How does this demand compare to website visits? What are the gaps in service that NHS Direct Wales are identifying?
5	AQI5	Number and Percentage of frequent callers	How many frequent callers are there and how often are they calling? What is the number of calls from frequent callers in the overall call volume?
6	AQI6	Number of Healthcare Professional Calls Answered	How many Healthcare professional calls for assistance does the Welsh Ambulance Services NHS Trust receive?
7	AQI7i	Number of 999 Calls Answered	How many 999 calls do the Welsh Ambulance Services NHS Trust receive?
8	AQI7ii	Median, 65th and 95th percentile of Time Taken To Answer 999 Calls	This AQI looks at how quickly 999 calls received by the Welsh Ambulance Services NHS Trust are answered.
9	AQI8	Number of 999 calls taken through the Medical Priority Dispatch System (MPDS)	How many 999 calls are assessed using the MPDS system? MPDS is the system that WAST call takers use to assess the severity of 999 calls.
10	AQI9i	Number of calls ended following WAST telephone assessment (Hear & Treat)	Number of NHSDW & Clinical Desk telephone assessments that were resolved with an ambulance not required as the outcome (Hear & Treat)



No.	AQI Ref.	AQI Description	AQI Detailed Description
11	AQI9ii	Number and Percentage of calls transferred to NHS Direct Wales	How many 999 calls are, after assessment, being transferred to NHS Direct Wales?
12	AQI9iii	Number of calls returned from NHS Direct Wales	How often does NHS Direct Wales then return a call to the Welsh Ambulance Services NHS Trust?
13	AQI9iv	Number of calls ended through transfer to alternative care advice	How often does NHS Direct Wales and the Welsh Ambulance Services NHS Trust pass a call to another part of the NHS rather than sending an ambulance?
14	AQI10i	Number and Percentage of incidents received within 24 hours following WAST telephone assessment (Hear and Treat)	Unplanned re-contact with the Welsh Ambulance Services NHS Trust within 24 hours of discharge of care (by clinical telephone advice).
15	AQI10ii	Number and Percentage of incidents within 24 hours following an attendance at scene that were not transported to hospital (See and Treat)	Unplanned re-contact with the Welsh Ambulance Services NHS Trust within 24 hours of discharge of care (following treatment at the scene).
16	AQI11	Number of RED coded calls including median, 65th and 95th percentile	How many 999 calls received are coded as a RED verified incident resulting in an emergency response within 8 minutes.
17	AQI12	Number of AMBER coded calls including median, 65th and 95th percentile	How many 999 calls received are coded as an AMBER verified incident resulting in an emergency response?
18	AQI13	Number of GREEN coded calls including median, 65th and 95th percentile	How many 999 calls received are coded as a GREEN verified incident resulting in a response?
19	AQI14	Number of responded Incidents where at least 1 resource arrived at scene	How effective is the Welsh Ambulance Services NHS Trust at sending the right resource first time to an incident.
20	AQI15	Number of Community First Responders attendances at scene, including by call category and percentage	How often is a Community First Responder sent to a 999 call?
21	AQI16i	Number and percentage of patients with attempted resuscitation following cardiac arrest, documented as having a return of spontaneous circulation (ROSC) at hospital door	Outcome from out-of-hospital cardiac arrest with attempted resuscitation, measured by documented return of spontaneous circulation (ROSC) at time of arrival of the patient to hospital. Recording of ROSC at hospital is the international Utstein standard and indicates the outcome of the pre-hospital response and intervention.

No.	AQI Ref.	AQI Description	AQI Detailed Description
22	AQI16ii	Number and percentage of suspected stroke patients who are documented as receiving appropriate stroke care bundle	Patients with suspected stroke (including unresolved transient ischaemic attack) who are documented as receiving the appropriate care bundle. The stroke care bundle comprises measurement of blood pressure, consciousness level, blood glucose and FAST test.
23	AQI16iii	Number and percentage of older patients with suspected hip fracture who are documented as receiving analgesia and appropriate care bundle	Fractured hips (known as neck of femur injuries): fractured hips cause significant pain, which can be exacerbated by movement. Pain control for patients with a fractured neck of femur in the immediate post-trauma period is paramount to promoting recovery and patient experience. This reduces suffering and the detrimental effects uncontrolled pain may have. The care bundle measures the recording of initial and subsequent verbal pain scores and administration of appropriate pain medicines before arrival at hospital, also included is the total number of patients with a suspected fractured hip who received analgesia.
24	AQI16iv	Number and percentage of ST segment elevation myocardial infarction (STEMI) patients who are documented as receiving appropriate STEMI care bundle	Patients with STEMI diagnosis (ST-elevation myocardial infarction) who are documented as receiving the appropriate care bundle. The STEMI care bundle comprises of four elements including pain assessment and administration of three medicines including analgesia.
25	AQI16v	Number and percentage of suspected sepsis patients who have had a documented NEWS score.	Patients with a suspected diagnosis of sepsis or septic shock who have a documented NEWS score. This promotes early recognition of suspected sepsis and enhances handover in hospital.
26	AQI16vi	Number and percentage of patients with a suspected febrile convulsion aged 5 years and under who are documented as receiving the appropriate care bundle.	Patients aged 5 years and under with suspected febrile convulsion who are documented as receiving the appropriate care bundle. The febrile convulsion care bundle comprises measurement of heart rate, respiratory rate, oxygen saturation, and temperature and blood glucose.

No.	AQI Ref.	AQI Description	AQI Detailed Description
27	AQI16vii	Number and percentage of hypoglycaemic patients who are documented as receiving the appropriate care bundle.	Patients with low blood sugar (hypoglycaemia) who are documented as receiving the appropriate care bundle, which comprises blood glucose measurement before treatment, treatment and blood glucose measurement after treatment.
28	AQI17	Number of incidents that resulted in a non-conveyance to hospital	How effective are the Welsh Ambulance Services NHS Trust in closing incidents at scene?
29	AQI18	Number and percentage of incidents where a resource was the ideal response as per the clinical response model	How often are Welsh Ambulance Services NHS Trust sending the ideal resource to scene?
30	AQI19i	Percentage of patients conveyed to hospital following a face-to-face assessment.	What percentage of patients from 999 calls are conveyed to hospital.
31	AQI19ii	Number of patients conveyed to hospital by type	Where do Welsh Ambulance Services NHS Trust convey patients? What are opportunities to convey elsewhere?
32	AQI20i	Number and percentage of notification to handover within 15 minutes of arrival at hospital	This AQI measures handover performance at hospital.
33	AQI20ii	Number and percentage of notification to handover within 15 minutes of arrival at hospital-by-hospital type.	This AQI looks at handover performance by site. This allows good practice to be identified and spread.
34	AQI21	Number of lost hours following notification to handover over 15 minutes	This AQI measures the amount of lost hours following notification to handover over 15 minutes.
35	AQI22i	Number and percentage of handover to clear within 15 minutes of transfer of patient care to hospital staff	This AQI measures the number of times where a WAST crew are available again within 15 minutes of handing over their patient.
36	AQI22ii	Number and percentage of handover to clear within 15 minutes of transfer of patient care to hospital staff by hospital type	This AQI looks at handover to clear performance by site. This allows good practice to be identified and spread.
37	AQI23	Conveyance to other LHB locations	This AQI records the number of occasions where a patient is taken to a destination in a different Health Board area than the location of the call.

No.	AQI Ref.	AQI Description	AQI Detailed Description
38	AQI24	Number of lost hours following handover to clear over 15 minutes	This AQI shows the amount of time lost where ambulance crews are not available within 15 minutes of handing over their patient.

Table 8 – Ambulance Quality Indicators