Ymddiriedolaeth GIG
Gwasanaethau Ambiwlans Cymru
Welsh Ambulance Services
NHS Trust

Welsh Ambulance Service NHS Trust

Remote Clinical Support Systems - 999 Secondary triage – A Strategic Outline Investment Case

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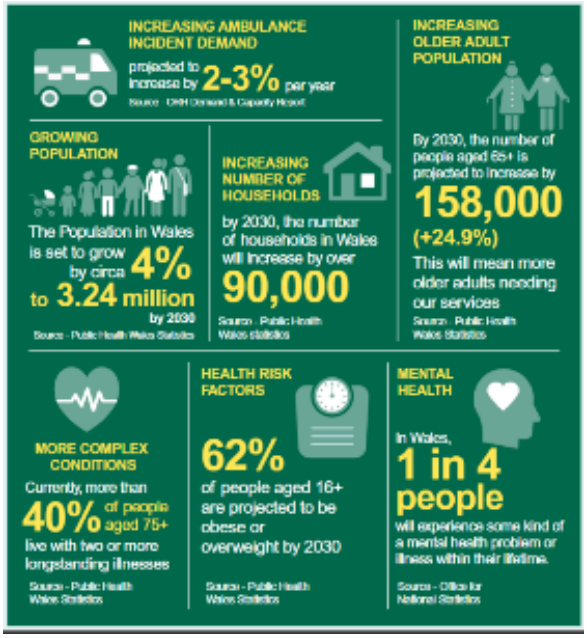
Introduction

Context

It is now more than 20 years since the Welsh Ambulance Service was established in 1998. In the two decades since, the organisation has developed hugely to become a central part of the NHS family in Wales.

It is now the provider of a range of services, including Emergency and non-emergency ambulance services, the NHS Direct Wales (NHSDW) telephone and online service and now the 111 service, which will replace NHSDW across Wales within the next two years.



The organisation continues on its journey to be so much more than a transport service. Excellent clinical care, with a focus on treating and keeping patients safely at home wherever possible, is now our main focus. While we are, of course, always there for those who face a life-threatening emergency, thankfully, these cases represent a relatively small percentage of our work.

Serving a population of some three million spread across urban, coastal and rural landscapes throughout Wales, our ability to be innovative is important and is something for which we have a growing reputation, both across the UK and internationally.

We employ more than 3,000 people with a mix of skills, ranging from advanced clinicians through to a variety of clinical and non-clinical and support staff. We operate from in excess of 100 different bases across Wales, including traditional ambulance stations, shared facilities with other services, clinical contact centres, maintenance, repair and cleaning facilities, administrative and training centres.

Our services are focused on three main areas – unscheduled care, non-emergency transport and remote telephone and online clinical advice.

Our unscheduled care services (Emergency and urgent care) provide support to patients with illnesses that are immediately life-threatening through to very minor injuries and illnesses. WAST has developed and grown to ensure that our response is not the same to both ends of the clinical spectrum; but that it fits the needs of the patient, is economically viable, and is clinically safe. This

development and growth, however, cannot be allowed to stagnate and needs to keep pace with the wider digital health agenda.

Increasingly, we are working with partners to provide pathways to divert patients away from hospitals in order to optimise appropriate conveyance and treat people closer to home, where it is clinically appropriate to do so and using the higher-level skills of our clinicians to avoid a hospital visit.

Our Non-Emergency Patient Transport Service (NEPTS) helps thousands of patients each year to get to their hospital and medical appointments if there are clinical reasons why they cannot do so under their own steam, including patients travelling for cancer treatments or renal dialysis, for example, 111 and NHS Direct Wales provide telephone and online advice to patients who feel unwell, helping to signpost patients to, or arrange, the most appropriate care for them. The 111 service will replace the NHS Direct Wales service within the next two years and is already available in five of seven health board areas.

Our people have one focus – to care for our patients or support our colleagues who do. From the staff in our clinical contact, NHSDW and 111 centres, who deal with more than a million calls between them every year, making sure patients get the right advice and help 24/7/365, to our frontline clinical staff, our non-emergency teams, support services and volunteers, we all have the same goal – to deliver excellence for the people of Wales.

Of course, the final months of 2019-20 brought with them unprecedented challenges in the form of the COVID-19 pandemic. As with most other organisations, our experiences of the pandemic will shape our future development. Remote clinical support, however, flourished during the COVID-19 pandemic and sped up a great deal of work that was already in train. This success was still limited somewhat and remains limited in a key area of 999 remote clinical support; chiefly the clinical decision support software – as we continue to explore.

Here are a few facts and figures to give you a flavour of the Welsh Ambulance Service and our work (all figures relate to the financial year 1 April 2019 – 31 March 2020)

- Total number of 999 calls answered by our staff at our Clinical Contact Centres (CCCs): 515,751 (which is down on the 2018-19 figure of 534,970). These translated into 477,971 verified incidents (we often receive more than one call about the same incident) compared with 465,552 verified incidents in 2018-19

- We conveyed fewer than half of our patients to major emergency departments (45.3%) of patients as opposed to 48.6% in 2018-19), which reflects our work to signpost patients to other, more appropriate services and/or treat more patients safely at home. For example, our hear and treat service, which provides clinical advice to callers who do not have a serious or life-threatening condition, managed to prevent almost 41,000 (40,851) ambulances from being dispatched, up from 35,934 last year.

- Our Non-Emergency Patient Transport Service (NEPTS) made 670,353 NEPTS journeys, compared to 670,343 in 2018-19.

- 221,314 calls were made to NHS Direct Wales (NHSDW), down from 243,840 the previous year, while website visits to NHSDW (recently rebranded to NHS Wales 111) sky-rocketed from 3,696,770 visits in 2018-19 to 6,025,100 in 2019-20.

- Similarly, 503,473 calls were made to 111 service, which brings together the services of NHS Direct Wales and the GP out-of-hours service in the Swansea Bay, Aneurin Bevan, Hywel Dda University Health Board areas, in the Bridgend locality of the Cwm Taf Morgannwg University Health Board area and in Powys The significant rise in 111 calls and in the use of the NHSDW/111 website were clearly linked not just to 111 being available in more areas, but also to increased demand as a result of the COVID-19 pandemic.

- The free 111 number has been made available across Wales for Covid-19 queries, including in areas where the main 111 service is not yet available. The NHSDW/111 website also hosts the rapidly developed NHS Wales Covid-19 symptom checker, which was widely publicised as a first point of advice for those concerned that they had coronavirus symptoms.

In terms of our estate and our assets, in 2019-20, we operated from 113 buildings and had 778 vehicles in our fleet. We employed 3,260

Our vision, purpose and behaviours, which were developed in 2016 with our colleagues, remained unchanged for 2019-20. However, there are plans to refresh these in 2020-21, especially in light of our experiences and lessons from the pandemic and what our people have told us about what is important to them

Remote Clinical Decision Making & Support

Telephone triage, remote clinical decision making (RCDM), or Hear & Treat (H&T) is an established strategy used within Emergency and primary care settings to manage an increasing patient demand. Many professionals undertake telephone triage, such as nurses, paramedics, midwives, doctors, and psychiatrists. The goal of telephone triage differs depending on the context of its use. Still, from an out-of-hospital perspective, it predominantly involves the enhanced triage of patients calling 999 using some kind of Clinical Decision Support Software (CDSS) (Cooke and Brady, 2018).

The use of this secondary triage was developed in response to increasing demand, limited resourcing, and encouraged by the ‘Bradley Report’ (DoH, 2005) has become an integral part of the way care is provided to patients calling 999 in the United Kingdom. Approximately 509,000 (6.1%) calls to 999 services were managed over the phone in 2018/19 (AACE, 2019).

This secondary triage forms part of the Welsh Ambulance Service Care Pathway and is an important Ambulance Quality Indicator. Various studies have demonstrated high degrees of patient safety associated with telephone triage (Eastwood et al., 2014; Meer et al. 2010; Huibers et al. 2011), and patient satisfaction is generally high; as is the likelihood that patients will accept the advice offered to them (Turner et al., 2015).

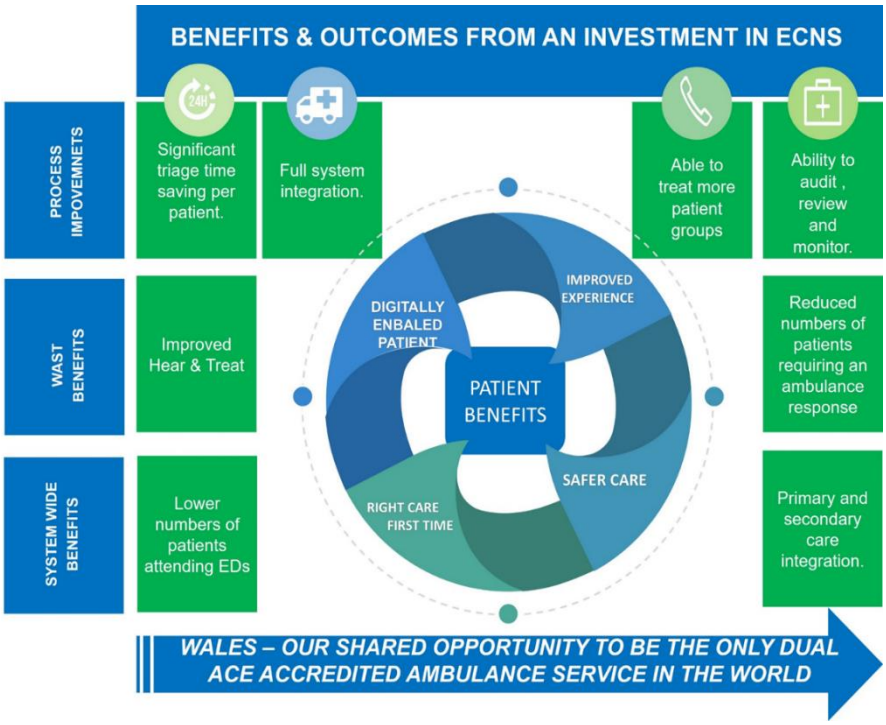
Clinicians undertaking secondary triage often use clinical decision support software to help guide, structure, and record their assessments, providing clinical assessment and advice in an auditable, evidence-based way. CDSS allows remote clinicians to ask questions to which the answers would be obvious if they were working in face-to-face clinical practice, and thus, might be forgotten (Cooke & Brady, 2018). Ensuring that organisations, staff, and patients use and are assessed through the most up to date, evidence-based, digitally enhanced Remote Clinical Support technology, and not the paper-based system WAST currently uses for secondary triage, is the key to the future growth, development, and improvement of 999 services.

Executive Summary – **Our Goal** -– Delivering **Excellence** in hear and treat services

The Trust's Strategy *Delivering Excellence – Our Vision For 2030* sets out the Trusts' ambitions to be a world-leading provider of ambulance care over the coming decade. Remote Clinical Triage and support is well established in WAST as a key part of the operational and clinical delivery model with the Clinical Support Desk (CSD) delivering the hear and treat for the 999 Services (EMS).

This Strategic Outline Investment Case will set out the case for and benefits arising from replacing the current paper tool (CDSS) in use to support clinical decision making in favour of an integrated, digital alternative. The integrated alternative will allow us to do better for patients, staff and the wider system alike. It will deliver performance, quality, patient safety, colleague and patient experience benefits which exceed the investment.

In setting out the case, this paper will represent a key enabler to our shared vision for Wales to become the first dual accredited country of international excellence anywhere in the world.



This is the hallmark of 'excellence in patient care for ambulance contact centres and the wider Welsh Health Economy.

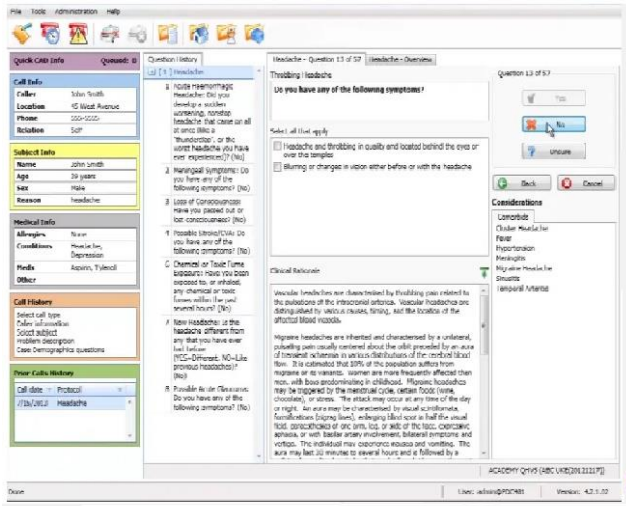
Following significant research and development with the International Academies of Emergency Dispatch (the provider of the proposed replacement), they have sought to work with WAST, granting the Trust the permission to be the only country in the world to achieve that accolade using Paramedics.

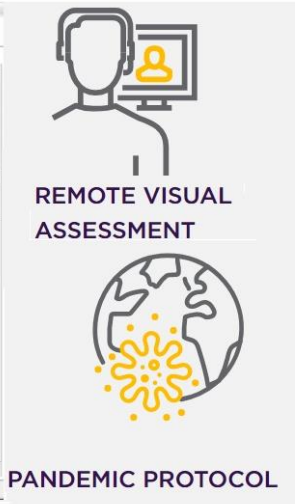
Financial Summary

Total Cost (Year 1): (Implementation)	Training	£39,600
	Project Manager	£21,450
	ECNS Access	£246,800
	ICT Costs	£16,191
	TOTAL	**£324,041**
Total cost (subsequent years):	ECNS Access	£221,800
	ICT Costs	£15,000
	TOTAL	**£236,800**
Total staff revenue Cost (year 1):	Senior Practitioner Educator/Clinical Development	£50,335
Total staff revenue Cost (subsequent years):	Senior Practitioner Educator/Clinical Development	£50,335
Offset Cost saving	Ceasing use of MTS	- £25,000 (per annum)
** All costs are exclusive of VAT.		

The Current

The Future





WAST needs to keep pace with the wider health economy, move away from outdated paper systems and transition to globally recognised excellence in Remote Clinical Support & Triage

Context & Strategic Case

Existing Arrangements

All UK ambulance services undertake some secondary triage of patients presenting to the 999 systems, and many lessons have been learned through the recent COVID-19 pandemic. WAST is known for its digital innovation and forward-thinking approach to future practice and has been involved in incredible developments such as:

- Implementation of virtual pan-Wales computer-aided dispatch system (C3) for 999 in 2017
- Appointment of its first-ever director of digital in 2019
- Collaboration of consultant connect application in 2020
- NHS 111s online symptom checker in 2020
- Award of contract for WASTs first-ever Electronic Patient Care Record (ePCR) in 2021

Yet, WAST, a forward-thinking digitally proactive ambulance service, currently relies on 53 stand-alone pieces of paper to triage, assess, and refer patients who call 999 but for whom an ambulance may not be suitable.

This needs to change.

The current tool used by WAST (Manchester Triage System) was initially designed for face-to-face contacts within an emergency department but has undergone some development for telephone use. The evidence base for its use in face to face is proven (Azeredo, 2015); however, the evidence for its use in the telephony secondary triage environment is limited.

Ultimately MTS is a set of 53 stand-alone paper or PDF files providing flow charts to prioritise patient need in a manner that is not integrated with any system, has only a paper-based audit system, and provides no data to the organisation or users.

There are a range of limitations that exist with the current tool, identified within the CCC Clinical Review, which indicate the need for a more robust, evidence-based, logically structured, and digitally integrated triage and audit system. A consultation as opposed to just a prioritisation.

Such progress would translate into benefits for both patients (ensuring they receive a clinically sound, standardised assessment) and staff (like the celebration of positive and exemplary practice, identification of learning needs, performance strengths, and quality improvement pathway becomes easier and more data-led). This case will also detail the benefits, efficiencies and outcomes for the wider urgent and emergency care system.

The secondary triage system of the future needs to deliver consistent, evidence-based, highly effective clinical outcomes for patients with the ability to be easily monitored and audited to support staff in learning and developing. For Quality Assurance, legal, audit and governance purposes, the documentation needs to be thorough and contemporaneous; freehand documentation increases the call lengths, reducing the efficiency of the clinician. The quality and governance of such a system should be internationally maintained and managed and be locally adapted to suit the ever-evolving EMS objectives to deliver the very best advice and care to our patients receiving Hear and Treat assessments. Such a tool should be fit for modern purposes.

It must be able to work seamlessly with 999 PROQA, have full C3 integration, a full directory of service integration, chat functionality, email advice, video conferencing, answer feature logic, full digital audit capability, and allow seamless sharing of clinical information between services, and work intelligently with electronic patient care records systems.

Delivering Excellence: Our vision for 2030

The Trust's vision for the next ten years describes seven principal enablers for the Emergency Medical Services (EMS).

The first described enabler is *We will enhance our 'Hear & Treat' services*

The document describes the Trusts intention to *fully embed the latest 'digital' and 'video' technology to improve communication and connectivity. We will enhance our clinical diagnostic capabilities; this could include using artificial intelligence, point of care testing or mobile scanning equipment*

Integrated Medium-Term Plan (IMTP) **– Gateway to urgent & Emergency Care –**

WAST IMTP recognises the need for strong telephony and video audio services within both 111 and 999. The need for innovation through digital enhancements can widen opportunities to increase the number of people treated remotely. These digitally enabled modernisation and integration advances will not only offer patients more options for meeting their urgent and emergency care needs but will also build confidence through excellence within the wider health economy.

Our IMPT vision is for WAST to be the '**Gateway to Urgent and Emergency Care'** and work seamlessly across boundaries through a national **Integrated Clinical Assessment Hub**. Ensuring that 999 patients are not solely triaged but actually consulted, assessed, and treated instead of solely being referred is key to realising excellent patient care and wider system efficiencies.

This can only be achieved through digital advances such as those outlined in this case and the WAST IMTP. Solutions that integrate with a wide range of existing infrastructure is future-proofed

for systems in development (**EPCR**), has access to existing patient information and records **(Welsh Clinical Portal),** are appropriate for the context of Emergency and urgent care, and can seamlessly share high-quality data for research, quality improvement, and rapid response to incidents such as pandemics. The wider health economy can have confidence in the system being used to support patient assessments, the integrated referral pathways, the evidence used, and ultimately the suitability of the treatment of referral offered to the patient.

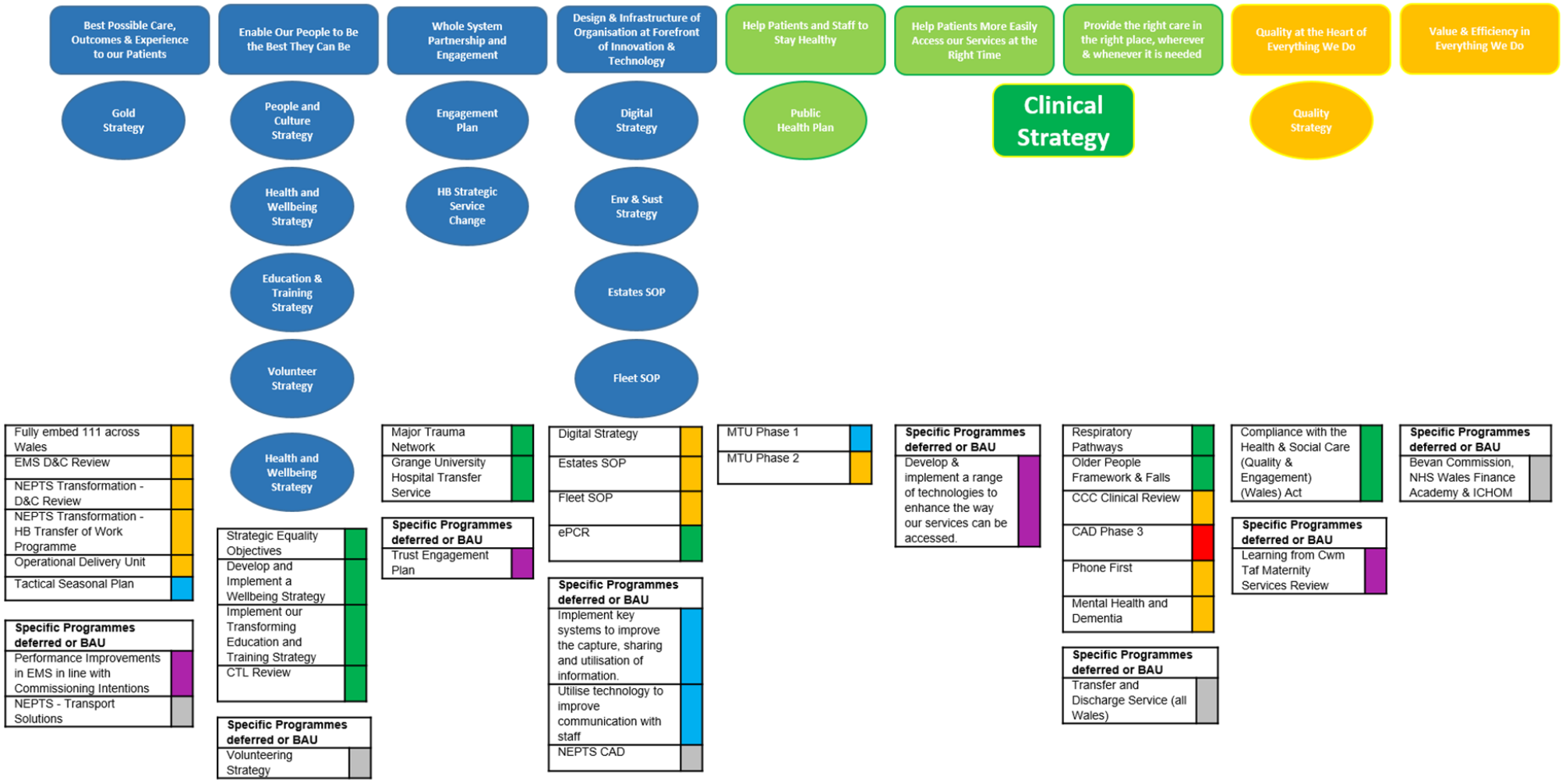
Specifically, investment in a new Remote Clinical Support Software for WAST would align with key deliverables set out within the 2021-22 IMP, as seen below; and would set WAST on a clear trajectory for remote clinical excellence in both its 111 Urgent and 999 Emergency arenas.

Deliverables in 2021-24	Actions in 2021-22
We will increase the capacity and capability of the clinical team, increasing clinical information available to them and we will create one integrated national team	• Develop within commissioners a remote clinical support strategy and commence implementation of recommendations from the CCC Clinical Review • Develop plans and commence implementation of video consultation / consultant connect (or replacement) • Introduce mental health practitioners, integrated across 111/999 clinical teams (subject to funding) • Develop a case for change for discussion with stakeholders on the integration of clinical teams
We will take steps to continuously improve the safety and quality of the service and provide an improved patient experience	• Recruit the agreed level of additional call takers and clinicians recruited to meet demand and to ensure that calls are answered promptly and call backs within agreed timeframes • Recruit to operational and clinical leadership and governance structures and embed them fully
We will work with partners to develop this service as an integral part of the wider urgent and emergency care system	• Establish a programme for delivery for "Care Closer to Home" • Recruit clinical leadership and project management resources to support roll out of the Care Closer to Home programme across Wales • Formalise our relationship with national urgent & emergency and primary care programmes and develop collaborative plans to maximise contribution WAST makes to the system • Develop a specialist Mental Health See and Treat offer for consideration by commissioners • Embed preferred technical platform to access senior clinical support
We will increase resources (information, equipment and technology) available to clinicians on scene to allow them to most effectively assess and treat patients	• Continue actions to implement Duty Operation Manager / Senior Paramedic roles • Pilot or extend use of video / phone consultation to improve advice • Operationally implement the electronic Patient Care Record system for frontline response staff • OnClick Major Incident training and Everbridge communication platform rolled out
We will work with partners to increase number of seamless 24/7 referral pathways as alternatives to ED conveyance and improve hospital handover	• Complete a phased roll out of the national respiratory pathway to all Health Boards across Wales • Work with partners to develop other referral pathways, using linked data, for example through Lightfoot, to inform where possible (plan to be developed further in collaboration) • Scope our pathways development work for mental health and dementia • Work with partners to significantly reduce handover delays, including collaborating in EDQDF work programme and using WIIN as a mechanism for improvement
We will take steps to continuously improve the safety and quality of the service and provide an improved patient experience	• Implement concept of Cymru High Acuity Response Units (CHARU) in order to secure improvement in Return on Spontaneous Circulation (ROSC) rates • Develop a clinical indicator plan and audit cycle • Review of clinical response model (comparison with England) • Deliver new Mental Health and Dementia Plan setting out in detail how we will improve WAST services

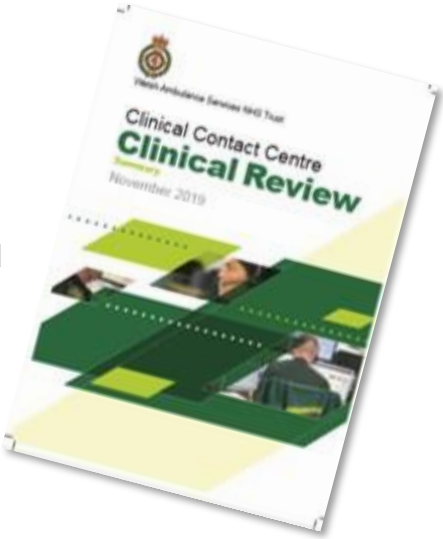
WAST also has a very clear digital agenda, which will be explored later, but which forms an integral part of the IMTP deliverables. The digital agenda and the IMTP deliverable encompass and embody the proposal for investment set out within this case; moving away from outdated paper systems and transitioning to globally recognised excellence in Remote Clinical Support & Triage. Allowing systems to seamlessly speak to each other to ensure a better patient experience and more joined-up patient care closer to home.

The delivery map overleaf shows how the variety of strategies, programmes and projects interconnect. This delivery map includes the CCC Clinical Review.

Delivering Excellence 2030



Clinical Contact Centre (CCC) Clinical Review



The provision of remote clinical triage and support has grown organically over the past years; however, the Clinical Support Desk (CSD) now has now 13 principle functions at the great risk that it has lost the role clarity that is required to deliver a consistent and effective service.

The Clinical Review was commissioned to review those functions and explore what opportunities there are for improvement, reform and change.

Its recommendations will facilitate WAST's transition from providing disparate and often independent clinical functions to that of a coordinated, integrated clinical assessment service and gateway to Emergency and urgent care, which meets the needs of the patients, irrespective of the number used to contact the service.

The CCC Clinical Review, and its subsequent COVID-19 Lessons Learned report, identified, amongst many things, that the current paper-based Remote Clinical Support Tool is outdated and in need of replacement. This identification was made areas core to effective remote patient care; some of which can be seen below:

Performance and Productivity	In order to determine productivity, effectiveness, manage poor capability and celebrate great performance, the following are required: • Key Performance Indicators for remote clinical care • Real-time data on dispositions, referral rates, and outcomes • Real-time data on Hear & Treat rates per clinician per centre. • Average call time call to triage time and call to disposition time.
Clinical governance	In order to ensure a high-quality clinical call audit, the following are required: • A database of calls for random call audit. • Digitally automated identification of themes and trends • Individual, centre, and organisation clinical outcome metrics • System that allows easy pan wales access to clinical audit data • System that allows easy pan wales access for audit levelling
Patient Safety & effectiveness	In order to ensure that more patients and more patient presentations can be assessed robustly, the following are required: • More than 52 basic support algorithms • Digital integration for video consultation • Pandemic and seasonal flu capabilities • Legal and clinical governance protection and support • A pathway for accreditation as a centre of excellence

None of these are possible to achieve fully without investment in a new and fit for purpose Remote Clinical Support Software.

The case for a single alternative provision & preferred way ahead.

Medical Priority Dispatch System (MPDS) became the telephone triage tool of choice 24 years ago at the cost of £156,958 per annum.

Whilst more than 3,000 organisations currently utilise MPDS across the world, WAST has to be awarded 'Accredited Centre of Excellence status. This status has only been achieved by 250 organisations in 8 countries, positioning WAST as a world leader.

In order for the benefits of a new CDSS to be realised, it is essential that the CDSS is fully integrated with the MPDS and the Trust's CAD (C3).

There is only one solution that meets this specification which is the Emergency Communication Nurse System (ECNS), which is also known colloquially as 'Low Code'. ECNS is a well-established add-on to MPDS. The business case for C3 included a specific intent to purchase ECNS in order to realise the benefits described in this SOIC.

As a consequence, the remainder of this outline investment will describe the strategic case and benefits arising from a change to ECNS.

WAST Digital Strategy – Disruptive Excellence -

In November 2020, the Trust approved its first-ever Digital Strategy. The strategy sets out five principles to guide how to deal with digital changes that happen to us; four missions to shape how we drive the digital change we want, and three phases of development to ensure we deliver sustainable change.

The key capabilities of this proposed remote clinical support system align with the principles and missions of our digital strategy.

To be a modern service, the need for data becomes even more important, so we aim to provide our services and stakeholders with the best data, at the best time, presented in the best manner to drive the best decisions for the benefit of patients and colleagues. It is critical that we use our data for maximum value to deliver intelligence and insights whilst ensuring it is of the best possible quality.

Digital Patient

The ECNS system has the ability to link the patient across the entire patient journey through Emergency, urgent, primary, and secondary care. ECNS can capture unique patient IDs such as

NHS numbers and import data from platforms such as Welsh Clinical Portal, or Summary Care Record System, to ensure the clinician has the most up-to-date robust clinical information required for assessment (Audio or Video Assessment).

The ECNS assessment summary can be shared with health boards, GPs, Out of Hours services, hospitals, and Urgent Care services through Application Programming Interface (**API**) developments to make referrals with ease and to ensure securely shared awareness of patient interactions with 999 services. The same API developments ensure that ECNS assessment summaries are sent to Ambulance Electronic Patient Care Record (**EPCR**) Systems and the **CAD** system to ensure responding ambulance crews are equally furnished with the most up to date robust clinical information (including photos if appropriate).

Following an assessment, the patient can also receive the ECNS assessment summary (via a cloud-based component) to discuss with any onward referrals (such as OOH). They can receive bespoke worsening and self-care instructions sent straight to their smartphone to ensure that every contact counts and they have the information they need to care for themselves, they know when to recall, and educating the patient (using existing NHS Wales Information if suitable).

Digital Workplace

The ECNS system has an integrated clinical audit capacity called AQUA. This stand-alone digital system (replacing the excel system currently in use) and ensures that staff and managers have key clinical call audit data, clinical performance indicators, and themes and trends data at their fingertips.

Aqua is a continual improvement tool over an audit tool and can help build confidence within the wider healthcare system that patients referred to them are suitable and appropriate, and if they are not, there is a way to audit calls to an internationally agreed standard.

Staff should have access to patient information and care services information throughout the clinical assessment. ECNS allows for an integrated Directory of Service (DOS), ensuring the most suitable care pathway is presented as an option for the most suitable patients, depending on the assessment algorithm chosen and questions answered. An integrated directory of service allows for more joined-up care, closer to home, and better sharing of information between the most suitable services.

Intelligence through data

It is critical that we use our data for maximum value to deliver intelligence and insights whilst ensuring it is of the best possible quality. We are already working proactively with the National Data Resource (NDR) programme to pilot new ways of handling, storing and securely sharing data across NHS Wales in close to real-time.

The ECNS system will allow the wider health economy to scrutinise the referrals made to them through access to the ECNS summary assessments. Equally so, the ECNS system can capture

data of previous health interactions and can build reporting metrics for how and why patients present to the emergency services through simple question builds. This data can inform planning assumptions, challenge inappropriate referrals to 999 through evidence, and ensure confidence is built and maintained throughout the wider system.

Through the collection of data such as NHS numbers, WAST 999 will be able to undertake high quality linked data studies to follow up patients, determine the sensitivity of referrals, the efficacy of supporting algorithms, and suitability of care instructions, all of which is not possible now. This intelligent use of data will again build and maintain confidence within the wider health system and ensure that the data being collected through normal patient interactions is also being used to improve the quality of clinical care in future.

Digital foundations

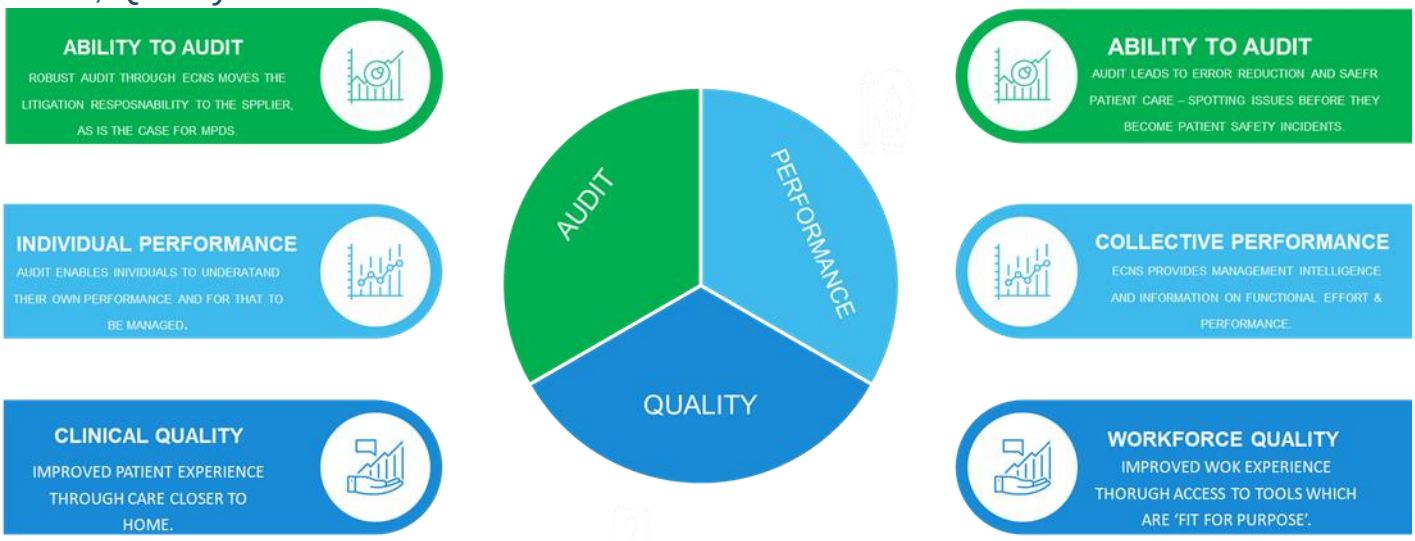
As a national provider of patient care, WAST interacts with every health provider in Wales. We also work in partnership with multiple care organisations, from local government, other emergency services to charities and third-sector organisations. Collaboration is key to the transformation of our services, and we need to ensure any technological change makes this easier rather than limiting or preventing it now or in the future. In addition, we shouldn't duplicate effort and deliver systems locally that already exist elsewhere nationally. Therefore, we need to consider:

- Will new developments operate with other systems we have now or may have in the future?
- Could it be more capable if it was linked to other systems?
- Does it use data intelligently?
- Does it support our staff? ECNS does.

Patient Safety & Clinical Care Case

The current tool is a set of PDF files providing flowcharts to prioritise patient need. This PDF is not integrated into WASTs MPDS primary triage tool and is not integrated into WASTs computer-aided dispatch tool (CAD – C3).

Audit, Quality & Performance



The current arrangements provide no data to either the organisation or the individual clinicians to aid quality improvement or support practice, or celebrate strengths. The audit tool is in the form of an excel file, and as such audit has to be completed using the audio of the call and any notes manually entered on the incident; which contrasts to the route flow and structure of other CDSS's such as ECNS audit through AQUA (which WAST currently use for their MPDS audit).

Although WAST telephone triage clinicians are audited each week/month, the process of reviewing trends, easily celebrating positive performance, tracking learning, and intelligently using data-driven systems is not possible. It is a paper-based system that does not allow the clinician and manager to see the use of the triage flowchart, compliance to care outcomes, upgrades or downgrades, what interim self-care advice is offered, or cumulative compliance of the entire CSD service. In addition to the current tool not being integrated with ProQA and C3, because it is a PDF, it cannot form a queue of calls waiting. As a PDF flowchart, it does not provide consistent questioning or consistent care advice; and software such as video conferencing, directory of services, and reporting back to primary care providers is all separate and somewhat disjointed.

WAST has seen the benefits of using a system such as MPDS and the internationally maintained locally managed system of clinical governance this brings to patient care (to an ACE level). Allowing WAST to use a different CDSSS, in addition to many other reasons, provides a real opportunity to ensure better care for our patients managed over the phone and to provide better clinical support to our staff through a data-led audit, quality improvement, and performance measurement. WAST is seeking an opportunity to do better.

Pandemic Preparedness

During COVID-19, WAST were unable to launch a pandemic triage algorithm using the current tool, and the process of audit was seen as too time-consuming in its current form that numbers were reduced to focus senior clinical cover on patient triage and assessment. Had WAST been using a more advanced CDSS with the ability to launch a pandemic algorithm (which has been available in ECNS prior to the official announcement of the pandemic by the WHO), undertake more data-led intelligent call audit while striving for ACE accreditation, would have been possible. Moreover, COVID-19 saw 999 Clinical Contact Centers increase their clinical staffing dramatically (so as long as staff met the minimum job description criteria). These staff would have been more readily and better supported and provided with far richer in-depth audit feedback than what was possible. WAST is seeking an opportunity to do better for patients and staff.

Patient Experience

Within the extant system, the clinician is responsible for providing worsening advice to patients verbally. Inevitably some of this advice won't be recalled by the patient or for those with specific needs or language barriers. This is likely to be relatively ineffectual and time-consuming.

ECNS provides the opportunity to 'chat' with the patient using text in addition to verbal communication to assist with that understanding. Additionally, the system enables advice to be sent via either SMS and/or email, enabling the patient to refer back to the advice.
Given that ECNS has both the functionality to send worsening instructions and collect patient IDs such as NHS numbers, it is possible to also send patients a user experience survey link. While this direct approach has limitations in terms of data collection, it provides a new opportunity to allow the patient to share their experience of secondary telephone triage for the first time in WAST 999.

Performance & Service Delivery Case

Demand & Capacity Programme

In 2019 the Trust commissioned ORH to undertake a demand & capacity review for Emergency Medical Services (EMS), including Clinical Contact Centres (CCC) and Response.

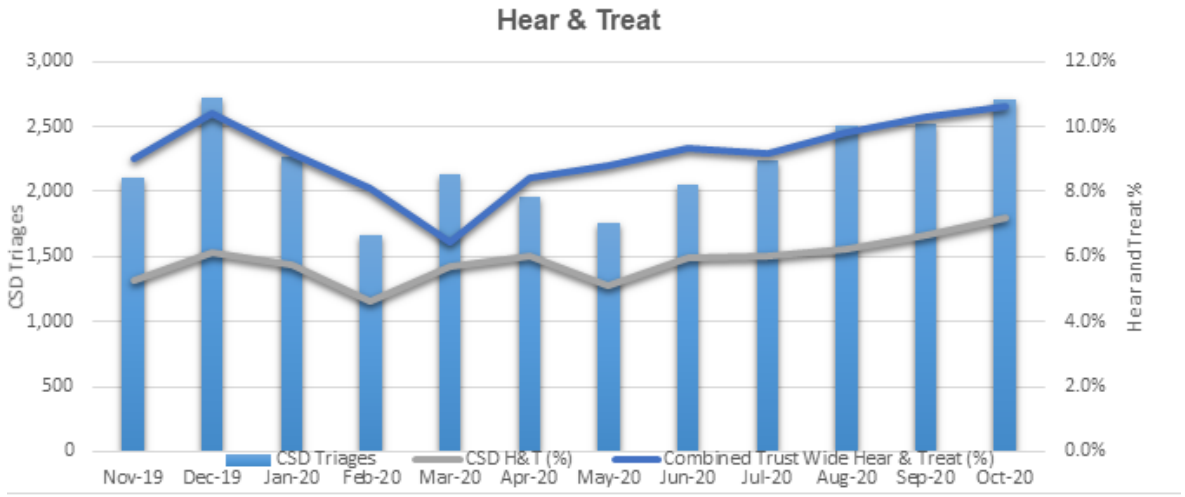
The report produced by ORH, which has been approved and endorsed by both the Trust and its commissioners, explored the potential for hear and treat through remote clinical decision making.

The table below from ORH's report sets out the opportunities as it was foreseen in the report to achieve a Hear and Treat rate in CSD of 4.4%.

Average Daily CTA Suitable Calls

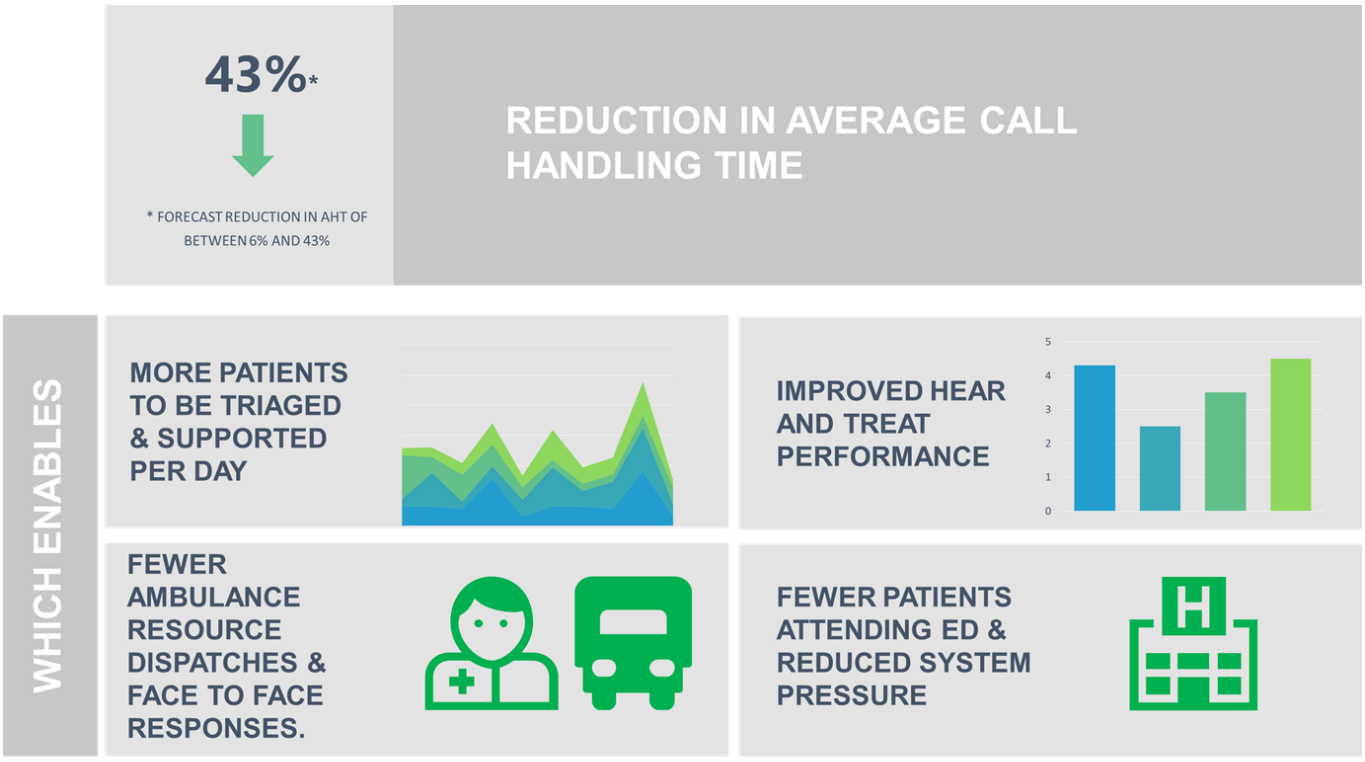
Initial Category	Current Codeset (WAST)			Expanded Codeset (WAST + Trust C)				
	NHSD	CSD	Total	NHSD	CSD			Total
					Clinician	Pharmacist	Mental Health	
Red	0.1	0.1	0.2	0.1	0.1	0.0	0.2	0.5
Amber 1	0.1	0.0	0.1	0.1	2.1	0.0	0.0	2.2
Amber 2	0.0	29.7	29.7	0.0	52.0	0.0	50.0	102.1
Green 2	0.0	42.1	42.1	0.0	49.9	2.2	4.4	56.5
Green 3	133.4	10.1	143.5	133.4	1.8	8.3	0.0	143.5
HCP	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1
Total	**133.7**	**81.9**	**215.6**	**133.7**	**106.0**	**10.4**	**54.7**	**304.9**
% of Verified Calls	**10.5%**	**6.5%**	**17.0%**	**10.5%**	**8.4%**	**0.8%**	**4.3%**	**24.0%**
Hear & Treat %*	**5.9%**	**2.1%**	**8.0%**	**5.9%**	**2.7%**	**0.3%**	**1.4%**	**10.2%**

The overleaf shows that CSD has been achieving in excess of the 4.4% target with month-on-month improvements for the last 2 months. This is despite the limitations of the current CDSS.



It should be noted that during this period, 54% of all the activity captured as ‘Hear and Treat’ was associated with safety netting long waiting patients. Opportunities, therefore, continue to present themselves to exploit further hear and treat within lower acuity patient cohorts with an improved CDSS.

Reduced Average Handling Time (AHT)



The current average call length for a CSD Clinician using MTS is 19 minutes. This call time doesn’t include the writing of notes or referral letters which can range between 15 mins and 60mins. Unfortunately, the current system doesn’t allow the time spent on these activities to be accurately counted.

Evidence from other Trusts shows that this time will reduce to between 11 and 15 minutes, with the lower end of that range realised later in the implementation period as staff confidence and experience with the system grows.

The principle basis for the reduction in AHT is on five broad factors:

- As a result of integration with the CAD, there is a removal of the need to duplicate record-keeping on two systems.
- The structure of ECNS helps clinicians cut triage time down as they are guided in their questioning and not having to think of questions for different types of patient presentation. They also have access to a far larger range of questioning suits.
- The system saves patient details, reducing the need to collect the same data on multiple occasions and again reduces the administrative burden.

- Onward referrals are all automated, with full summaries being shared, reducing the need for verbal referrals, which take time.

The opportunity to reduce AHT from a mean of 19 mins to a mean of between 11 and 15 minutes does not include the elimination of manual referrals to GPs, falls teams or other specialities. These reductions would represent further efficiency savings. Additionally, this doesn't include the time which may be saved through the automation of self-care advice rather than it being provided verbally.

Additional time is spent re-writing the same notes and placing them onto the CAD; something ECNS would stop.

Between November 2019 and November 2020, the Clinical Support Desk triaged 29,416 patients. The table below shows the productivity return in operational hours and equivalent WTEs for each minute reduced from the mean AHT.

	Productivity Return Per Annum (Operational Hours)	Productivity Return (Equivalent WTEs)	Productivity saving Expressed in £'s
19 mins (Current Mean)	-	-	
18 mins (60 Sec Reduction)	490.27	0.25	£13,088.25
17 mins (120 Sec Reduction)	980.54	0.50	£26,176.5
16 mins (180 Sec Reduction)	1470.81	0.75	£39,264.75
15 mins (240 Sec Reduction)	1961.08	1.00	£52,353
14 mins (300 Sec Reduction)	2451.35	1.26	£65,964.78
13 mins (360 Sec Reduction)	2941.62	1.51	79053.03
12 mins (420 Sec Reduction)	3431.89	1.76	92141.28
11 mins (480 Sec Reduction)	3922.16	2.01	105229.5

The current requirement for Clinicians to manually create records in more than one system by copying notes across is not only an inefficient use of clinical resource but also a patient safety risk. It is inevitable that human error can result in notes being miss-copied, and this can create risks for patients and their onward care. Through its system integration, ECNS would eliminate this risk.

Increasing Clinical Support Desk Capability and wider system confidence

The current MTS tool has only 53 broad triage cards ranging from abdominal pain adult to rashes, worried patients, and unwell adult. This paper-based system does not seemly allow movement between different algorithms, use of symptom aliases, or indeed suitable assessment for the incredibly diverse range of reasons patients call or present to 999 with.

ECNS offers more than 250 algorithms to support the clinician to assess the patient and record the answers to the questions asked to form an assessment summary and suggest a proposed outcome, which the clinician then decides upon.

The triage algorithms, which promote critical clinical thinking, are all evidence-based, fully references, and are maintained by a team of expert telephone triage doctors, nurses, and allied health professionals. They conform to five key principles:

1) The provision of self-care instructions and the structured ruling out of serious conditions is key to ensuring that patients are not needlessly sent to A&E departments but that A&Es are not overburdened with patients not suitable for them.

2) All ECNS users can act as a positive gateway for caller education. ECNS is not a diagnostic tool but a consultation tool. ECNS should consult the patient to reach the most evidence-based suitable outcome and not solely triage them to an alternative provider.

3) ECNS algorithms aim to provide appropriate and maximal information support for clinicians to make evidence-based decisions with confidence.

4) ECNS algorithms do not replace the need for physical examination; if required.

5) ECNS algorithms are designed for maximal customizability and can be altered in dozens of ways to support the organisation using them and the data capture required.

Key areas where these algorithms support the clinician far more than MTS currently does are in pharmacology, mental health, and assessment of children. These areas often involve high referral rates to other providers but can be managed more effectively, with generalist clinicians, through the effective use of such algorithms.

Pharmacology

As this case sets out in earlier sections of the 2019 report produced by ORH, there are opportunities to increase Hear & Treat closures within the Clinical Support Desk by 4.4%.

The 4.4% is in part achieved by increasing the number of pharmacology calls closed without a face-to-face response.

Pharmacology isn't currently included within the current MTS system, and therefore these calls are often managed through a face-to-face response. However, unlike MTS, ECNS has pharmacology elements built in to support the safe and effective resolution of additional patient cohorts within CSD.

These elements include areas to collate drug information and allergy specifics, algorithms on overdose assessment, questions related to recent medication changes, and allergies. The self-care instructions also include basic pharmaceutical management and advice on self-medication. The ECSN assessment summary can also be sent digitally to pharmacists to whom the patient can be referred; to ensure more cohesive joined-up care.

Mental Health

MTS currently has two cards that would be suitable to assess patients thought to be experiencing mental ill-health, which include (9) Behaving Strangely and (33) Mental Illness; neither of which fully support the clinician to assess and discharge a patient away from the A&E department. ECNS, however, has a range of suitable supporting algorithms for the assessing clinician, including:

- Anxiety
- Behaviour Change
- Depression
- Ingestion Toxic Substance & Overdose
- Panic Attacks
- Stress Reaction

- Suicide Ideation
- Suicide Ideation Adolescent

The addition of this wide range of algorithms will help support and guide the assessing clinician and provide a more structured assessment of this high-risk group. ECNS summary care assessments can be forwarded to mental health teams for information or to request to make contact with the patients. Such support does not currently exist with the MTS tool.

Children and young people

MTS currently has nine cards that would be suitable to assess children; however, all of which are quite generic and do now support the clinician to feel confident in discharging children away from A&E and referring them to primary care, midwifery, child and health visitors and alike. These Cards include (2) Abdominal Pain Child, (15) Crying Baby, (28) Irritable Child, (30) Limping Child, (43) Shortness of Breath Child, (48) Unwell Baby, (49) Unwell child, (50) Unwell Newborn, (52) Worried Parent.

ECSN hosts a large range of triage algorithms suitable for the assessment, triage, and management of children and young people and includes:

Abdominal Pain Child	Discharge - Ear, Child	Unwell or Irritable Infant
Abdominal Pain Toddler	Discharge - Ear, Toddler	Crying - Infant
Allergic Reactions - Child	Ear Pain - Child	Urogenital Problems Female Child
Allergic Reactions - Toddler	Eye Discharge Child	Bed Wetting - Female Child
Breathing Problems Infant	Eye Injury Toddler	Discharge - Vaginal, Child
Breathing Problems Toddler	Fever Infant	Dysuria - Female Child
Burns - Child	Fever Toddler	Itching - Vaginal, Child
Burns - Infant	Head Injury child	Urogenital Problems Male Child
Burns - Toddler	Head Injury - Toddler	Bed Wetting - Male Child
Colds and Flu Child	Heat Stroke - Child	Discharge - Penile, Child
Constipation Infant	Nasal Congestion Infant	Dysuria - Male Child
Constipation Toddler	Nasal Congestion Toddler	Lumps - Testicle Child
Cough Child	Foreign Body - Nose Toddler	Scrotal Pain or Swelling - Child
Cough Infant	Nosebleeds Child	Urinary Burning – Male Child
Croup Infant	Nosebleeds Toddler	Unwell Newborn
Croup Toddler	Rash Child	Unwell or Irritable Newborn
Diarrhoea Infant	Rash Infant	Vomiting Child
Diarrhoea Toddler	Sore Throat Child	Vomiting Infant
Diarrhoea – Child	Dental Toothache Child	Vomiting Toddler

This is not an exhaustive list. The management and more suitable assessment and referral or provision of care and advice by generalist clinicians are made possible through such a large range of algorithms.

Increasing Clinical Support Desk Capability – Video Technology

The ability of a Clinician to resolve a patients healthcare needs over the phone without sending a face-to-face response is limited by the Clinicians ability to see the patient and conduct a more detailed visual assessment.

Increasingly video technology is enabling Clinicians to undertake a better assessment of patients and their presenting complaint, resolving more without the need for a face-to-face assessment. Video technology offers the clinician the ability to pick up on visual cue, conduct examinations, build great patient rapport and understanding by accessing non-verbal cues

While data is nationally limited for the overall benefits and patient experience of using video conferencing in remote triage, an appropriate way to approach its description would be to ask 'what will it allow us to provide that we don't already do now'. Evidence for the effectiveness of video consultations is scarce but points towards effectiveness, safety, and high satisfaction in patients and healthcare providers.

Video conferencing allows the organisation to help more patients. Patients, for example, for whom an ambulance would typically just be sent, or a referral to an alternative provider be made. Those who lip read, for example, or are deaf and can benefit from the clinician seeing a patient or using the chat functionality. Those with rashes are challenging to assess over the phone. Those patients with minor skin injuries can be more readily and safely assessed over the phone. Those patients for whom an eye on assurance is needed for remote clinician – seeing children's breathing rate, viewing the skin colour of a range of patients. Those who have limited literacy skills and have challenges explaining medication prescriptions. Such patients are currently more likely to be seen by an ambulance and or referred to an alternative provider – where care may have been delivered at home.

While this is an outline of the generic advantages of a video conferencing tool, the ECNS module offers more than this. ECNS video conferencing can be launched at any point of the triage. This allows the triage to continue in a more integrated fashion than other tools and allows the ECNS quality audit not to be affected by the launching of the video conferencing element. The video element of the triage can be recorded (alongside the existing voice recording of the call), and that video recording can be hosted by the organisation (for data safety and quality reasons), unlike other models currently in practice. The video module allows for still photos to be taken and stored also. Such photos form a part of the triage notes, which ECNS allows to be emailed to primary care providers – such as GPs. The video conferencing module of ECNS also allows email and chat functionality with smartphones. This allows self-care advice, appointment instructions, worsening advice, and acute care plans to be sent to the patient. This can help the patient manage their condition at home, better understand instructions, reduce recontacts due to unnecessary concerns, and improve compliance to clinician instructions. It can empower the patient – making every contact count.

Whilst other options for video assessment software are available, they don't provide an integrated solution, and correspondingly the majority of the benefit would be lost.

Increasing Clinical Support Desk Capability – Integration with wider health system

The introduction of ECNS has system-wide benefits through its robust assessment process and digital integration.

Implementation of ECNS will enable integrated access to the Directory of Services and provide the CSD clinician with the details of alternative care pathways which are available and the relevant acceptance criteria.

Over 250 robust algorithms support the clinicians to make more suitable referrals to A&E, Minor Injury Units, GPs, and of course, provide significant amounts of sharable evidence-based self-care advice and support.

Easy but secure access to sharable ECNS summary records can be shared with multiple providers and ensure that patients are not receiving multiple assessments. Children, people with mental ill-health and those seeking pharmacological support are better managed and cared for through ECNS, and wider integration with WASTS existing systems of C3, MPDS, and soon ePCR make this investment value for money and future proof.

The provision of evidence-based self-care and worsening instructions to patients smart phones can reduce unnecessary duplication through access to other services and reduce recall rate.

ECNS assessment will build confidence within the wider health economy of WASTs secondary consultations (not just triages), and its internationally recognised audit system will contribute to this confidence and clinician competence moving forward.

These system-wide benefits, which moves 999 secondary triage from paper to the height of digitally augmented triage and governance, represents system-wide benefits in four key areas:

- **Reduced emergency department pressures** resulting in **fewer delayed handovers of care.**
- **Increased Utilisation of alternative care pathways** through integrated dos and more robust patient triage, data sharing, and digital referral options.
- **Improved patient experience** and care being received closer to home with fewer interactions.
- **Improved red and amber performance** through greater ambulance availability through increased H&T of a larger range of patients.

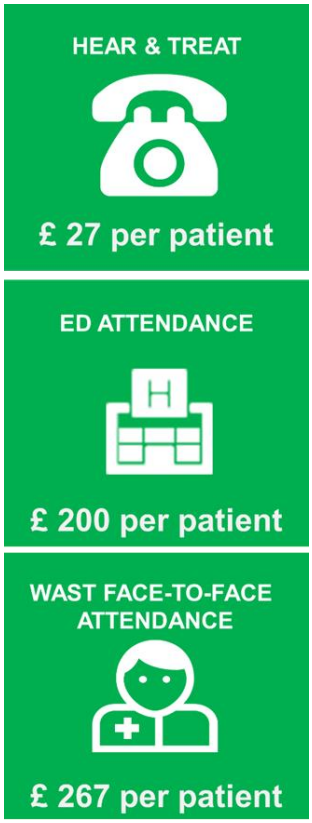
System resilience

The ECNS system is installed on two resilient SQL servers. Other aspects of the data storage are available on cloud-based services also (meeting NHS Wales standards). In events such as remote server power failure, internal server power failure, or system fall-over, the ECNS system also offers a stand-alone function. This means that a stand-alone version of the ECNS system would be available on laptops, desktop links, or other devices to be used in such events. Once the event is over, all data can be transferred from the stand-alone version to the secure server base, ensuring a high-quality governance process. This allows clinicians to continue to work fully, without CAD, but with the full support of ECNS, at home or on-site.

Urgent & Emergency Care System Efficiencies.

The implementation of ECNS will enable WAST to continue its role as a system leader across the urgent and emergency care system in Wales.

This Strategic Investment Case has set out the principle basis upon which implementation of ECNS would drive efficiencies, increase the number of patients assessed and triaged through the Clinical Support Desk and therefore:



- **Reduce the number of ambulances being sent** to patients who could be safely managed without it through 'hear and treat'.
- **Reduce the number of patients attending an Emergency Department** by making the contact with a WAST CSD Clinician the point of definitive care and by increasing the use of alternative care pathways.
- **Reduce pressure on Emergency Departments** and thus **reduce handover delays** at Emergency by fewer patients making their own way due to a lack of ambulances (missing opportunities for see & treat) and more patients being directed to alternative pathways.
- **Increase ambulance availability** to respond to the most acutely unwell patients in the Red and Amber categories, **reducing the unacceptable ambulance waits.**
- **Improved safety of long waiting patients** through the creation of additional capacity to safety net those patients and provide more robust advice.

Whilst not cash-releasing savings ECNS would save NHS Wales £173 per patient resolved via hear and treat who would otherwise have attended the Emergency Department and £240 for every patient who would currently receive an ambulance response.

This represents an indicative **saving to NHS Wales** of **£63,952** for every 1% of additional hear and treat performance achieved.

Options Review

Option 1	Advantages	Limitations
Maintain existing MTS tool	Cost. The current delivery requires minimal costs in licensing and CAD integration. Training is delivered internally, and WAST can train its own trainers to deliver the course. Simplicity, the system is simple to use (52 generic flow charts).	Minimum current cost is evidence of its significant and ageing limitations. It cannot integrate with CAD or other systems currently in use. Governance arrangements around training are poor. Training takes only 1 day for both the use of the tool and train the trainer delivery. The level of governance and supporting evidence is very low. It does not provide a consistent assessment because the questions are not posed. It does not allow a consistent auditing process. It does not produce any data. It does not embed or allow any integration with Directory of Service, EPCR, CAD, PROQA. As a PDF file, it has no live record-keeping (question sequence), no chat function, no video function.
Option 2	**Advantages**	**Limitations**
Move to Low Code EMS	Evidence-based well researched clinical assessment tool. Provision of evidence-based well researched self-care and worsening advice instructions. **ECNS can send this from ECNS to the smartphone.** Allows agencies to submit a proposal of change forms for algorithms/advice – if evidence-based justification can be provided. Supports higher H&T dispositions and mitigates risk considerably. Call length between 8-15 minutes – which is shorter than less robust systems.	Training does take longer 4 days MPDS training (including PROQA (for all staff to be able to manage a deteriorating patient). **The cost of this is covered under NEMA – pay and backfill are not.** 4 days ECNS training (Including system software) – 6 half-days if delivered remotely. Will require backfill to maintain CSD staffing. Will require auditors to undertake a 2-day training course (Including the AQUA training) **(likely 10 staff to attend only).**

	Provides a significant amount of high-quality data. Over 200 algorithms to choose from (featuring answer logic allowing the use of nurse/paramedic clinical judgement and LowCode consultation Database). Managed and maintained by the International Academy of Emergency Dispatch (with research capabilities). WAST has a positive working relationship with the IAED team. Able to apply for National Dual ACE. Pandemic Protocol (And COVID-19 protocol, which has been updated with more detailed information on symptomology and risk factors since the interim release earlier in the year). March 2020 released. Remote Visual Assessment to enhance the telephonic triage process. Fully integrated system (with C3 and PROQA). Can work remotely from VPNs (to continue Covid-19 response). Identifies frequent callers to the service. Allow clinicians to use MPDS emergency actions (if trained). Included within the NEMA contract. Quality of audit excellent & ability to review voice and documentation at the same time as call audit integrated into the product, aligned to AQUA. Able to provide clear, concise, objective audit reports, continuous quality assurance reports, and individual, team, and organisational quality audit data; to improve performance.	Only band 6 paramedics of 5 years post qualification experience will be permitted to use this tool. This is generally in keeping with the requirements of the current CSD Job Description.

Financial Summary

Total Cost (Year 1): (Implementation)	Training	£39,600
	Project Manager	£21,450
	ECNS Access	£246,800
	ICT Costs	£16,191
	TOTAL	£324,041
Total cost (subsequent years):	ECNS Access	£221,800
	ICT Costs	£15,000
	TOTAL	£236,800
Total staff revenue Cost (year 1):	Senior Practitioner Educator/Clinical Development	£50,335
Total staff revenue Cost (subsequent years):	Senior Practitioner Educator/Clinical Development	£50,335
Offset Cost saving	Ceasing use of MTS	- £25,000 (per annum)
** All costs are exclusive of VAT.		

Timetable of implementation

It is proposed that from the outset, full implementation would take between 3-6 months, depending on resources applied to the programme of work. For example, dedicated ICT support and dedicated project management support – which has been costed as part of the implementation.

For illustrative purposes only, the following schedule of works has been drafted using September as an example programme start:

ECNS Phase 1 - Implementation Planning

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
ECNS & Project Management Team Meeting	13/09/2021	13/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Login and Password to Program Administrator	13/09/2021	13/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Course Voucher Creation	21/09/2021	21/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Licensing - Product Key Information	22/09/2021	22/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Implementation Prep Intro Email Inform the client that a pre-implementation conference call is being scheduled. Should include the purpose of the call and who must be present during the call.	22/09/2021	22/09/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Implementation Planning Call Establish Implementation Start Date and Go Live Date. Identify Agency Project Manager. Establish membership of the Steering Committee and the DRC.	29/09/2021	29/09/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Technology Preparation Preparing client readiness for IT	29/09/2021	29/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Technology Planning Call Overview of Tech Eval; Provide National Q Client Document (Secure Link) (please fill out the attached Pre Planning Technical Call form)	29/09/2021	29/09/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Technical Evaluation - 3 Hours Local IT, Data & Tech Overview and evaluation	29/09/2021	29/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Scheduling Call with Agency & Project Manager	13/09/2021	13/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Sent Proposed Implementation Schedule to Agency Send schedule with proposed dates to the agency.	06/10/2021	06/10/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Booking Courses with Course Coordinating Notification to the Course Coordination Team via Software Questionnaire and Course Submission Form	13/10/2021	13/10/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Book Weekly Calls with Agency	29/09/2021	29/09/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 1 - One Week Prior to Stakeholder Course & Kick off Sessions Contact with client to verify preparedness for Stakeholder and Kick off Activities. Ensure DSC, DRC, QAU members are provisionally selected and informed.	13/10/2021	13/10/2021	Anyone	Project Management T.	High	0%	Upcoming (Not started)
Stakeholder Orientation Course/Kick off Day 1 The kick off sessions are events that must take place which assists the client with the upstart of the implementation process.	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Information Gathering - 1 Hour Existing system description	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
System Start up Policies - 3 Hours Review draft policies	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)

Response Configuration - 2.5 Hours Response Configuration (ECNS Eligible Code Set, Scripted Questions, Point of Care other configurables)	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Additional Options - 1.5 Hours KQAI, SAT vs LAT, Discipline Launcher, Condition Codes, AQUA Voice Recorder etc. (ECNS Eligible Code Set, Scripted Questions, Point of Care other configurables)	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Kick off Day 2	21/10/2021	21/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Accreditation Homework - 3 Hours Review of implementation “Measures of Success” and detail the ACE homework documentation	20/10/2021	20/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Response Configuration Review - 2.5 Hours REMOTE Response Configuration review - discussion to finalize decisions and processes (ECNS Eligible Code Set,	21/10/2021	21/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Scripted Questions, Point of Care other configurables)							
Response Configuration Items to Developers Response Configuration of edited configurable items to be submitted to Rich Saalsaa, ECNS Eligible Code Set (AMPDS Users), Scripted Questions, Point of Care, Override Reasons other configurable items)	26/10/2021	26/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Response Configuration Items completed to Software department Response Configuration items returned from Richard to Tech support	26/10/2021	26/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
1st Joint Steering/ DRC meeting	21/10/2021	21/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ERC/ESC Meeting - 2 Hours REMOTE	21/10/2021	21/10/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of ACE Points 1, 16, 18, 19, 20 Due two weeks after kick off day 3	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 1 1. Communication center overview and description https://www.emergencydispatch.org/Accreditation	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 16 1. Maintenance and modification processes for ECNS Points of Care levels https://www.emergencydispatch.org/Accreditation	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 18 1. Appointment and appropriate involvement of the Medical Director to provide oversight of the center’s ECNS activities https://www.emergencydispatch.org/Accreditation	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 19 1. Agreement to share nonconfidential ECNS data and call recordings (de-identified) with the Academy and other IAED affiliated entities for the improvement and enhancement of ECNS in general https://www.emergencydispatch.org/Accreditation	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 20	02/11/2021	02/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)

1. Agreement to abide by the Academy's Code of Ethics, Code of Conduct, and the Performance Standards set forth for an Accredited Center of Excellence https://www.emergencydispatch.org/Accreditation							

ECNS Phase 2 - Software Installation & CAD Interface Testing

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
Software Install REMOTE	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Install Xlerator Install Xlerator. Verify connections and Security settings.	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Install LowCode Training configuration and testing Install ProQA. Verify connections and Security settings.	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Install AQUA for ECNS Install AQUA. Verify connections and Security settings.	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Install LowCode Production configuration and testing Install LowCode Production configuration and testing. Verify connections and Security settings.	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
CAD/ LowCode Interface	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Test LowCode / CAD Interface Create test cases, run test cases, document results	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Test Response Configuration Configure CAD and/or ProQA for PDS Codes to CAD Response Codes	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Local configuration Admin Utility LowCode Configure LowCode Admin utility with local settings, POCs, and interface options. Configure AQUA for audio recorder interface	09/11/2021	09/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
User Acceptance Testing REMOTE End to end testing including complete CAD Interface sign-off and user acceptance	10/11/2021	10/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
IT Admin Training LowCode REMOTE	11/11/2021	11/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 2 - Verification of Completed Install and Level of Understanding Contact with client to verify completion of the software install and level of understanding regarding management of system	18/11/2021	18/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of ACE Point 2	19/11/2021	19/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 2 1. Emergency Communication Nurse SystemTM (ECNSTM) confirmation of current versions https://www.emergencydispatch.org/Accreditation	18/11/2021	18/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)

ECNS Phase 3 - Training

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
Verification of Electronic Materials (Send & Received)	18/11/2021	18/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Verification of Training Readiness Instructor contact with client to verify readiness for training and details of training location	18/11/2021	18/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
EMD AMPDS Training REMOTE	24/11/2021	26/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ECNS - Nurse Training and Certification REMOTE ECNS Course	01/12/2021	03/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ECN-Q Nurse Quality Assurance Training & Certification REMOTE	06/12/2021	07/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ECNS-Q Quality Assurance Training & Certifcation Course #1 REMOTE	14/12/2021	14/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
AQUA Training REMOTE	08/12/2021	08/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
1 day course 6-8 hours - # of attendees, verify use of lab							
Systems Admin Training REMOTE ProQA System Admin Training (4 Hours)	10/12/2021	10/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ECNS/Q Practice Time Run 20 practice cases per person through CAD and LowCode on recorded lines. Local should practice importing cases and reviewing process. Two weeks of practice cases.	29/11/2021	16/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of ACE Points 3&4	17/12/2021	17/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 3 1. Current Academy ECN certification of all personnel authorized to process ECNS calls https://www.emergencydispatch.org/Accreditation	17/12/2021	17/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 4 1. All ECNS certification courses are conducted by Academy-certified instructors, and all case review is conducted by Academy-certified ECN-Qs https://www.emergencydispatch.org/Accreditation	17/12/2021	17/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
EMD omega Protocol Training REMOTE SELF PACED	29/11/2021	29/11/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 3 - Contact Client to Verify Training Completed Contact with client to verify completion of the ECNS training, investigate/facilitate needs of additional training retests	21/12/2021	21/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)

ECNS Phase 4 - System Start Up

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
Pre-Live Meetings REMOTE DSC, DRC, QAU planning meetings to complete pre Go-Live tasks	20/12/2021	20/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Policy Completion/DSC Meeting REMOTE	21/12/2021	21/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Review draft policies, submit input, finalize, approve at DSC meeting							
Policy Distribution Distribution and training of Comm Center staff regarding any new or modified policies associated with system.	21/12/2021	21/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Joint Committee Meeting #2 (ERC/ESC) REMOTE Discuss pre-implementation issues; Policy Implementation; Other Meeting agenda items.	23/12/2021	23/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 4- Go-Live Readiness Contact with client to verify readiness for Go-Live. Investigate in there are any additional needs prior to Go-Live	24/12/2021	24/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Go-Live! REMOTE Begin using PDS ProQA on-line in Dispatch Center	28/12/2021	28/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Notify Client Rep of Go-Live	31/12/2021	31/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of Ace Points 5, 6, 7, 11, 12, 13, 14, 15	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 5 1. Full activity of quality improvement (QI) committee processes https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 6 1. IAED quality assurance and improvement methodology https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 7 1. Consistent case evaluation that meets or exceeds the Academy’s minimum expectations https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 11 1. Implementation and/or maintenance of ECNS orientation and incident inquiry for all personnel https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 12 1. Verification of local policies and procedures for implementation and maintenance of the ECNS. Include all policies relating to ECNS practices, which must include the following: https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 13	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)

1. Copies of all documents pertaining to your Continuing Dispatch Education (CDE) program for ECN recertification https://www.emergencydispatch.org/Accreditation							
ACE Point 14 1. ECNS policies and processing methods used to ensure safe transfer of calls escalated by the ECN for an emergency dispatch https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 15 1. Established local configuration of ECNS Points of Care dispositions https://www.emergencydispatch.org/Accreditation	04/01/2022	04/01/2022	Anyone	Project Management T.		0%	Upcoming (Not started)

ECNS Phase 5 - Post Go-Live Activities

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
Begin QA/QI Local Qs begin case review and call feedback process	29/12/2021	29/12/2021	Anyone	Project Management T.		0%	Upcoming (Not started)
1st Post - Live Visit REMOTE	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC Evaluate system implementation Subjective Assessment by DRC. What's not working? Discuss issues of concern and develop solutions	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Data Review Assists QAU, Review Calls, Assess ACE Status, provide feedback to Comm Center Management/Personnel	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Evaluate System Data Identify areas of improvement for protocol compliance	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Develop 1st Continuing Education Lesson Develop lesson plans and scheduling training	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC/DSC Meeting, Eval monthly system data Report of findings of visit, recommendations for improvement, discussion of pathway to success	02/02/2022	02/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 5 - Verify Action items form 1st visit Contact with client to verify understanding of recommendations and action items from 1st visit	09/02/2022	09/02/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
2nd Post - Live Visit REMOTE	09/03/2022	09/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC Evaluate system implementation Subjective Assessment by DRC. What's not working? Discuss issues of concern and develop solutions	09/03/2022	09/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)

Data Review Assists QAU, Review Calls, Assess ACE Status, provide feedback to Comm Center Management/Personnel	09/03/2022	09/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Evaluate System Data Identify areas of improvement for protocol compliance	09/03/2022	09/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC/DSC Meeting, Eval monthly system data Report of findings of visit, recommendations for improvement, discussion of pathway to success	09/03/2022	09/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 6 - Understanding of Recommendations and Action times from second visit	16/03/2022	16/03/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
3rd Post - Live Visit REMOTE	06/04/2022	06/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC Evaluate system implementation Subjective Assessment by DRC. What's not working? Discuss issues of concern and develop solutions	06/04/2022	06/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Data Reivew Assists QAU, Review Calls, Assess ACE Status, provide feedback to Comm Center Management/Personnel	06/04/2022	06/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Evaluate System Data Identify areas of improvement for protocol compliance	06/04/2022	06/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
DRC/DSC Meeting, Eval monthly system data Report of findings of visit, recommendations for improvement, discussion of pathway to success. Begin Response configuration review	06/04/2022	06/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 7 - Verify Understanding of Recommendations and Action Items form 3rd Visit Contact with client to verify understanding of recommendations and action items from 3rd visit	13/04/2022	13/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ECNS - Review Point of Care and Eligible Code List	13/04/2022	13/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ECNS - Implement Any Changes Implement any changes suggested after review of Point of Cares and Eligible code list if in use	13/04/2022	13/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of Ace Point 8	22/04/2022	22/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
ACE Point 8 1. Historical baseline QA data from initial implementation of structured Academy QA processes https://www.emergencydispatch.org/Accreditation	15/05/2022	15/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)

ECNS Phase 6 - Accreditation

Active Tasks	Start Date	Due Date	Responsible	Created By	Priority	Progress	Status
ECNS - Nursing Accreditation Preparation (180+ days) Prepare twenty-points documentation and submit to agency administration for review	26/04/2022	26/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Checkpoint 9 - Verify Understanding of Recommendations and action items from 4th visit Contact with client to Verify Understanding of Recommendations and action items from 4th visit	29/04/2022	29/04/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Submit Accreditation Package “Submit completed package to the Academy (Online ACE Site)”	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
IAED ACE Site Visit Site visit by IAED rep to physically review key aspects of Accreditation	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Regular Follow-up Visits Review technical installation, software versions, PDS calltaking, QA, ACE, response plan, etc.	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Submission of Ace Points 9, 10, 17	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Point 9 1. Monthly ACE Performance Standards Reports for six months preceding the Accreditation application, with compliance levels at or above accreditation levels for at least the three months immediately preceding application https://www.emergencydispatch.org/Accreditation	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Point 10 1. Verification of correct case evaluation and QI techniques validated through independent Academy review https://www.emergencydispatch.org/Accreditation	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)
Point 17 1. Type and frequency of all ECNS Recommended Care Levels (RCLs) and subsequent Points of Care (POC) are for the six months immediately preceding application https://www.emergencydispatch.org/Accreditation	03/05/2022	03/05/2022	Anyone	Project Management T.		0%	Upcoming (Not started)