

# WMAHSN Impact Report 2021/22



**west midlands**  
ACADEMIC HEALTH SCIENCE NETWORK

# INTRODUCTION TO THE WMAHSN IMPACT REPORT 2022

It is with great pleasure we introduce the 2021-22 annual impact report for the West Midlands Academic Health Science Network. As an organisation, we are proud to lead, catalyse and drive co-operation, collaboration and productivity between academia, industry, health and care providers, commissioners, and citizens, to accelerate the adoption of innovation and generate continuous improvement in the region's health and wealth.

Our purpose is to support partners and stakeholders from across the region to deliver measurable outcomes in health improvement, through the development of some of the most innovative technologies, encouraging economic growth and the adoption and spread of proven innovations.

The impact of the COVID-19 pandemic has meant many of our programmes and priorities were adjusted to support the priorities, efforts and needs of our region. Over the last 12 months, the WMAHSN has adjusted, grown and adapted to a 'new normal', strengthening its relationships with partners. The organisation has grown significantly to support the efforts around the strategic programme themes:

- Cardiovascular disease prevention
- Mental health resilience
- Workforce innovation and transformation
- Patient safety (including managing deterioration in care homes, mental health, maternity and neonatal services, medicines safety and adoption, and spread)

- Medicines management
- Remote monitoring and digital transformation (including artificial intelligence)
- Health and social care innovation

We have also seen the launch of a new communications strategy and improved website and achieved a platinum accreditation from IdeasUK, an organisation which celebrates and rewards workplace innovation.

There are no signs of slowing down for the WMAHSN or the wider health and care system, with the upcoming establishment of Integrated Care Boards (ICBs) and Integrated Care Systems (ICS). This summer, we will also see the introduction of new technologies for system-wide rollout, the updated priorities for the National Patient Safety Improvement Programmes (NatPatSIP) and the recent update to the MedTech Funding Mandate Policy coming into force.

A huge well done to all the members of our team, as well as the myriad of partners and collaborators working together to improve healthcare and life sciences outcomes across the West Midlands. This work ensures we are well placed to further evolve our current impact and ensure even better performance in the future. The individual stories in this report will showcase our progress towards our goals, and we hope they inspire you to get involved with our work.



**Professor Michael Sheppard**  
Chair



**Tony Davis**  
Innovation & Commercial Director

# OUR APPROACH

The West Midlands Academic Health Science Network on a page



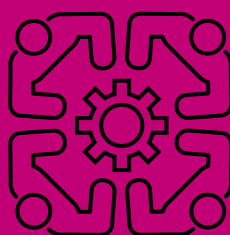
## 1 of 15

Academic Health  
Science Networks  
[AHSNs]



## 6 ICS

Integrated  
Care Systems  
comprised



### Programmes of work:

- Innovative technologies
- Polypharmacy
- Mental health
- Workforce
- Cardiovascular disease
- Digital enterprises
- Commercial enterprises
- Managing deterioration
- Maternity and neonatal
- Medicines safety
- Adoption and spread
- Remote monitoring



Our region includes both a large number of elderly residents while also having the youngest population in the UK



### 3 delivery workstreams:

- Innovation & Commercial
- Safety & Improvement
- Implementation & Adoption



### Cross-cutting themes:

- Inequalities
- Environmental sustainability
- Equality, diversity and inclusion
- Economic growth and entrepreneur engagement
- Human factors
- Public participation, involvement and engagement

### Strategic programme themes:



- Cardiovascular disease prevention and management
- Driving technological transformation
- Innovation
- Medicines optimisation
- Patient safety and improvement
- Workforce innovation and transformation



The West Midlands includes many of the most challenged, deprived, and vulnerable communities in the country

# TRANSFORMING HEALTH AND SOCIAL CARE THROUGH INNOVATION

The West Midlands Academic Health Science Network (WMAHSN) is one of 15 AHSNs set up by NHS England to operate as the innovation arm of the NHS.

Across the country, AHSNs are encouraging the development and adoption of innovation in health and care, stimulating growth in industry and the life sciences sector, and improving the health and prosperity of their regions by unlocking the potential of new ideas.

The AHSN Network's national strategy for 2021-26 builds on the successes to date with three core strategic priorities;

- to multiply our scale and depth of impact through outcomes-led programmes
- to build on the high-impact national innovation pipeline
- to establish AHSNs as a national authoritative voice on transforming health through the spread of innovation

These priorities complement and strengthen the wide range of local and regional work which AHSNs currently undertake.

The WMAHSN works to transform the West Midlands health and social care by supporting the development of innovation and providing patients access to the most effective medical discoveries. Working in collaboration with industry partners, universities, patients and more, the WMAHSN creates the right environment to improve the overall health and wealth of the region.

Our close work with local and regional health and care communities helps develop projects and programmes that reflect the needs of our population; the West Midlands is home to the most challenged, deprived, and vulnerable communities in the country.

We partner with a range of organisations creating the right environment to adopt and spread innovation at pace and scale, supporting the improved care, effectiveness and efficiency in the NHS and social care.

The 2021-2022 impact report sets out the progress WMAHSN has made across its programmes highlighting just a few of the achievements made over the past 12 months. It demonstrates our leadership and approach to navigating the complex and evolving healthcare landscape, supporting the national innovation pipeline, meeting local patient demand, and strengthening our role in tackling health inequalities.





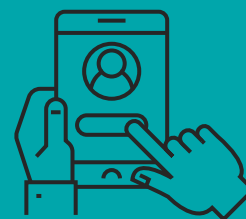
# OVERALL IMPACT

**7,130**

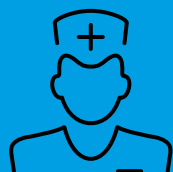
FeNO mouthpiece tests  
conducted across  
the West Midlands

**1,255**

West Midlands care  
homes engaging  
in testing/adoption  
of deterioration  
management tools

**148**

Innovators given IP advice

**705**

West Midlands patients  
benefiting from Focus ADHD

**100%**

West Midlands acute  
trusts, community  
and mental health  
trusts have adopted  
NEWS2

**2,259**

Registered users on  
Meridian Innovation  
Exchange

**57**

Innovations  
signposted

**1,365**

PCSK9i patients benefited from  
prescribing inhibitors

**100%**

West Midlands  
trusts adopted  
administration of  
Magnesium sulphate  
in preterm babes  
(PreCePT)

**12**

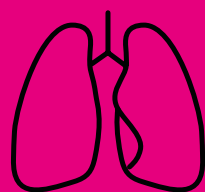
West Midlands (100%)  
trusts have adopted  
all elements of the  
COPD discharge bundle

**12**

horizon scanning  
activities completed

**273**

companies supported  
through Innovation &  
commercial services

**890**

people living with severe asthma  
in the West Midlands have  
benefitted from Asthma biologics  
programme

# OUR IMPACT

The following pages will provide an overview of the work undertaken in the past 12 months under the themes of:

**Supporting the AHSN Network  
national innovation pipeline**

1

**Engaging with Integrated Care Systems**

2

**Local demand signalling and horizon scanning**

3

**Local work**

4

**Tackling health inequalities**

5



# OUR ROLE IN SUPPORTING THE AHSN NETWORK NATIONAL INNOVATION PIPELINE

As outlined in the NHS Long Term Plan, published in January 2019, the AHSN Network has been working to develop a new national innovation pipeline and portfolio management approach. The intention is to streamline the AHSN Network's role as a conduit for developing innovations in the NHS, so that proven and affordable innovations get to patients faster.

The pipeline includes the mechanism by which proposals are identified, assessed, prioritised, and supported through to deployment and adoption at scale.

It is also one of the priorities outlined in the 2021-26 AHSN Network strategy, to provide a framework for managing the internal processes of the regional AHSNs. Utilising a common gateway, making decision points based on shared criteria, data categorisation and recognising requirements that distinguish an innovation as ready for roll-out, is allowing local execution of projects that can then easily be aggregated for a national view.

The West Midlands Academic Health Science Network has provided programme management resource and expertise to lead the development of the AHSN Network's national innovation pipeline.

This workstream is a key strategic priority area for the AHSN Network, aiming to build a high-impact national innovation pipeline through:

- Unifying our offer to innovators
- Strategic partnerships further up the innovator pipeline
- Real world evaluation and validation

In addition to the provision of resources to lead this work, the WMAHSN has actively participated in the process to achieve network-wide agreement on the universal offer to innovators and the development of an implementation model.



# OUR IMPACT

Implementation & Adoption workstream



## FeNO

**7 Service Level Agreements** agreed to support transition of £42k funding

## Focus ADHD

**705 patients** benefiting from Focus ADHD



## IMpulse CVD

**1,046 attendees** at 40 IMpulse CVD workshops since November 2021

## gammaCore

**80%** of applicable trusts have adopted gammaCore



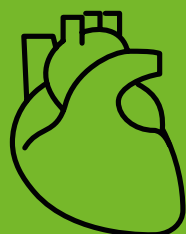
## Asthma Biologics

**890 people** living with severe asthma in the West Midlands have benefitted from Asthma biologics programme



## PCSK9i

**1,365 PCSK9i patients** benefited from prescribing inhibitors



## HeartFlow

**40% applicable trusts** in West Midlands at implementation or adoption of Heartflow



## Placental Growth Factor (PLGF)

**9 out of 14 West Midlands trusts** are implementing or adopting placental growth factor



## Lipid Management

**Over 62%** of eligible patients have benefitted from high intensity statin prescribing through the lipid management and familial hypercholesterolaemia programme

## SecurAcath

**69%** of applicable trusts have adopted SecurAcath



## Early Interventions Eating Disorders (EIED)

**81 patients** benefiting from the first episode and Rapid Early intervention for Eating Disorders (FREED) model



# CASE STUDY: HEARTFLOW

HeartFlow is one of the technologies listed under the MedTech Funding Mandate policy, which aims to accelerate equitable patient access to The National Institute for Health and Care Excellence (NICE) recommended devices, diagnostics or digital products. These innovations aim to deliver tangible benefits to the NHS and its patient, are cost saving in year, and affordable to the NHS to implement.

HeartFlow Analysis is a non-invasive cardiac test for assessing the haemodynamic significance of coronary narrowings seen on CT coronary angiography. It is typically used to help assess patients with potentially symptomatic coronary artery disease.

The HeartFlow Analysis does not require patients undergoing further coronary testing as it utilises the data captured from a non-invasive coronary CT scan which is uploaded to the HeartFlow core lab. Using computational modelling, CT images and data are used to create 3D computer models of the coronary arteries, simulate blood flow, and assess the impact of narrowings found in the coronary arteries have on the overall blood flow.

## Aim

The objective of this project was to support the implementation of HeartFlow in Trusts across the West Midlands. Heartflow aims to reduce the number of patient journeys to hospital for diagnostic tests, as well as reduce the need for more invasive procedures and other cardiac imaging methods such as cardiac MRI and stress echocardiography, within the care pathway.

## Our approach

The WMAHSN has a dual national and local HeartFlow role. Nationally, the WMAHSN is supporting the supplier HeartFlow with the implementation and adoption of the technology in the eligible Trusts across England.

The WMAHSN is also supporting other Networks in their implementation and adoption activities through monthly calls and ad-hoc support with the AHSN leads, to discuss the national picture and raise any issues or barriers, which can help inform activity in other areas of the country. Weekly update calls directly with HeartFlow is helping to support narrative building and openly discussing any national issues, regional progress or barriers, identifying areas of best practice. Regular communication with the Innovation, Research and Life Sciences Group from NHS England and Improvement enables progress and successes to be shared regularly.

Locally, the WMAHSN has worked with all 10 providers eligible for HeartFlow under the MedTech Funding Mandate Policy, providing support to providers and commissioners in the area assisting with the development of business cases for the continued use of HeartFlow following the Innovation and Technology Payment (ITP) programme in April 2021. We have worked closely with the HeartFlow representatives at each site to discuss progress and raise any opportunities or challenges.

## Outcome

Within the West Midlands four eligible providers have adopted HeartFlow Analysis with a further three sites at the implementation stage. By working with the providers, we have been able to secure funding to continue the provision of HeartFlow analysis.

Nationally, the WMAHSN has supported AHSNs with the implementation and adoption of HeartFlow across England. Within the last year over 5,000 scans were performed nationally.



**One of the main benefits of using HeartFlow in our current pathway is that we can understand the anatomy and physiology with one scan. This allows us to get more information about a patient's condition sooner, which helps with more efficient clinical decision making, often avoiding the need for other tests, while gaining a better understanding of which patients require invasive testing.**

**Dr Simon Duckett, Consultant Cardiologist at  
University Hospitals of North Midlands NHS Trust**



# ENGAGING WITH, AND REFLECTING THE PRIORITIES OF INTEGRATED CARE SYSTEMS AROUND INNOVATION

To achieve the NHS Long Term Plan's ambition to incorporate every part of the country into Integrated Care Systems (ICS) or Sustainability and Transformation Partnerships (STPs), we have had to accelerate the process of bringing local health and care organisations together to join up planning and service delivery.

ICSs are new partnerships between the organisations that join up health and care needs across a region, coordinating services and planning in a way that improves population health and reduces inequalities between different groups.

Since 2017 the WMAHSN has funded innovation leads embedded within each STP, roles which transitioned into ICS implementation leads in April 2022. These ICS innovation leads provide essential system engagement for national and local programmes and operate as a conduit between each ICS and the WMAHSN. Our ICS innovation leads are working with us to identify immediate system priorities, engage with key stakeholder groups within each ICS and ensure the WMAHSN is engaged with these identified groups.

More recently, the ICS innovation leads have supported the mapping of key infrastructure such as new Innovation Hubs, Academies, Digital Hubs, established clinical special interest groups, and academic partnerships to support the articulation of our region-wide offer. Another key role is to ensure the WMAHSN is connecting innovators with system needs and system capacity to encourage collaborative innovation.

The ICS Innovation leads are represented at the Operational Group Meeting of the WMAHSN and within key decision-making and discussion forums, such as the WMAHSN Pipeline Qualification Huddle process; an internal system developed to inform decision-making, resourcing and allocation of budgets for future projects.

As such, our ICS Innovation leads are involved in the review, prioritisation and brokering of innovations presented to the WMAHSN, and are tasked with engaging with their contacts to identify and articulate local requirements for challenges to be created.





## CASE STUDY: WORKING IN PARTNERSHIP TO CREATE A SYSTEM WIDE APPROACH TO MANAGING DETERIORATION WITHIN STAFFORDSHIRE AND STOKE ON TRENT

Staffordshire and Stoke-on-Trent have a combined population of 1.13 million citizens (as of 2019), with approximately 333 care homes, that is an estimated 9,284 care home beds.

At the beginning of 2021, the West Midlands Patient Safety Collaborative (WMPSC), who are hosted by the WMAHSN and commissioned to deliver the National Patient Safety Improvement Programme (NatPatSIP), collaborated with the Staffordshire & Stoke-on-Trent Integrated Care System (ICS) to look at how we could better recognise and respond to deterioration within our care homes.

### Aim

This project aimed to increase the uptake of implementation and adoption of deterioration management tools within care home settings across the West Midlands and forms part of NHS England's national Managing Deterioration Safety Improvement Programme (ManDetSIP). The ambition is achieving a 60% implementation rate for deterioration management tools by the end of March 2022; a target which has been successfully achieved in Staffordshire and Stoke-On-Trent.

### Our approach

Following an initial introduction to the ICS team, a governance structure was created locally, in addition to clear terms of reference. This allowed the programme to

be central to work already underway around Enhanced Health in Care Homes, and to ensure that the ICS Deterioration Safety Network was recognised as an influencer in supporting, changing and championing care home staff and residents.

In March 2021, a multidisciplinary group was formed of health partners, local authority leaders, CCG teams, WMAHSN partners, and the Community Rapid Intervention Service (CRIS), forming a collective agreement of how the programme could strengthen local work within care homes.

Following a regional audit of the methods and tools currently being used by care home staff around the region, the group determined the tool that was collectively complimentary was the 'Stop and Watch' tool.

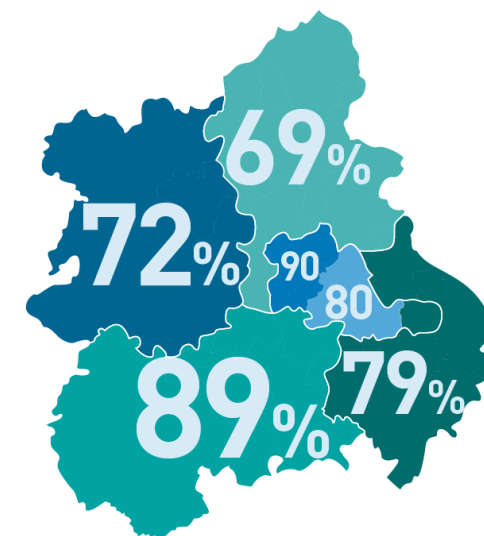
The WMAHSN and ICS staff co-ordinated training, with teams from health and social care invited to learn about the Stop and Watch tool, access care home resource packs, gain peer support and a forum to adopt a common language around the tools. This approach is enabling the mechanism of early decision making, providing staff with the tools and confidence to make the right care decision for residents.

### Outcomes

Data is still being reviewed of the impact from implementing the deterioration management tools.

However, the audit thus far has shown approximately a 30% decrease in attendance to emergency departments for care home residents. 63% of care homes in Staffordshire and Stoke-On-Trent have fully adopted the deterioration management tools.

The ICS Deterioration Safety Network is reviewing the data and there is a plan to explore Urgent Crisis Response data, following a recent increase in calls and referrals. We are hoping to demonstrate an outcome where an increased number of residents are staying and being treated within their preferred place of care.



Percentage of care homes who have adopted deterioration management tools across the West Midlands.

## CASE STUDY: WORKING IN PARTNERSHIP TO CREATE A SYSTEM WIDE APPROACH TO MANAGING DETERIORATION WITHIN STAFFORDSHIRE AND STOKE ON TRENT

### Reduction in A&E attendance from care homes

**896**

Baseline (April 19-20)

**869**

Target (April 21-22)

**748**

Actual (April 21-22)

**121**

Variance

### Reduction in non-elective admissions from care homes

**589**

Baseline (April 19-20)

**571**

Target (April 21-22)

**434**

Actual (April 21-22)

**137**

Variance



It has been a privilege to be a part of the network created to support the improvement of the health services pathways for our local nursing and care home residents. The invaluable work to date will also enhance the support for our partner staff, working in care settings, as they will now have a structured process for escalation when concerns arise for their deteriorating patients.

Helen Wheeler, Operational Manager County Wide  
SLT/OT/Falls and Community Rehabilitation Midlands  
Partnership Foundation Trust

## WMAHSN APPROACH TO UNDERTAKING LOCAL DEMAND SIGNALLING AND HORIZON SCANNING

The WMAHSN is supporting innovators in overcoming historic barriers to adopting innovation by forming closer links between the NHS, industry and academia, and by developing the infrastructure to improve the scale and speed of adoption across the West Midlands.

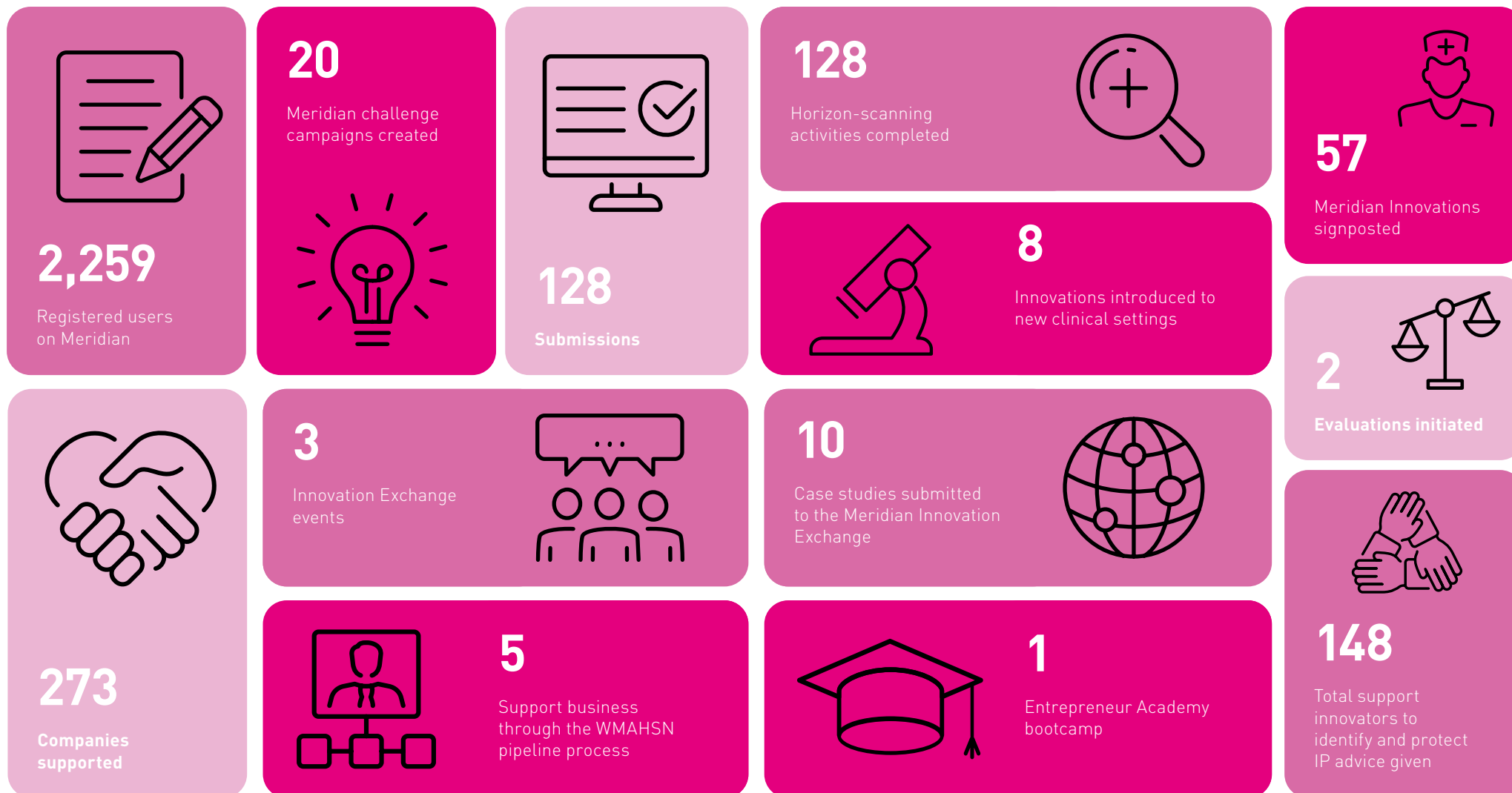
Meridian, the WMAHSN's online health innovation exchange, has been specifically designed to support the West Midlands' innovation ecosystem. Meridian's role is to assist the NHS, academic, commercial and industrial stakeholders, and creating a collaborative approach to resolving clinical and service challenges building a region-wide innovation culture and helping to resolve healthcare challenges that reflect local demand.

The Meridian platform is part of the WMAHSN Innovation and Commercial service, designed to power the development of innovation through several channels, including dedicated business support, Intellectual Property (IP) advice, and our entrepreneur academy. The Meridian Innovation Exchange enables horizon scanning through a continuous process of engagement, review and assignment of support. This process engages all parts of the WMAHSN, including our key delivery partners, to ensure the identification of high-value innovations and the provision of appropriate support is allocated to strengthen innovations across the health and social care sector.



# OUR IMPACT

## Innovation and Commercial workstream



## CASE STUDY: QI NOTIFY-EMLAP

QI Notify-Emlap, developed by The Dudley Group NHS Foundation Trust, with support from the WMAHSN. It is a digitally assisted solution to support clinicians with using their National Emergency Laparotomy Audit (NELA) data more efficiently, to drive their emergency laparotomy (EmLap) quality improvement (QI) work.

Identified staff receive a Time Critical Review (TCR) on their smart device, for each patient who has undergone an eligible emergency laparotomy and had a NELA record created. The TCR provides much of the information needed to understand when and how interventions or milestones within the pathway were delivered successfully for individual patients.

Gaining insight in this way about every patient journey along the pathway transforms the 'case note review' process from a delayed, protracted and sometimes negatively perceived Root Cause Analysis (RCA) type process into a timely and positive 'Learning from Excellence' experience. QI Notify-Emlap delivers TCRs securely, rapidly, and comprehensively to a significant proportion of staff across the Emlap pathway, including senior clinicians in ED, Surgery, Radiology, Anaesthesia, Theatres, Critical care, Elderly care and General Management.

### Aims

- To provide readily interpretable and timely patient level NELA information to local staff, thereby filling the 'real-time' data gap which historically limits the pace and success of QI programmes.
- To provide a 'near real time' overview of each patient's journey to theatre, allowing clinicians to contextualise the effectiveness of their intervention(s) while events are still recent.
- To enable NHS professionals responsible for delivering the Emlap pathway to review standards, reflect and provide feedback on the delivery of clinical best practice and how care could be improved for future patients.



# CASE STUDY:

## QI NOTIFY-EMLAP

### Our approach

The WMAHSN has supported the project from the outset, working with The Dudley Group NHS Foundation Trust and their development partners Exploding Phone, a West Midlands based app developer, to create the QI Notify-Emlap digital solution and launch a local pilot within Dudley to test the prototype.

We engaged with the Cloud Centre of Excellence team at NHS Digital, who expressed an interest in supporting wider NHS rollout, if the solution can be developed to a platform level where it is usable by more than one organisation.

We continue to support the project and the related data governance processes, to ensure the solution remains compliant with evolving regulatory requirements. We are supporting the development of QI Notify 2.0, with an intention to achieve Full ORCHA accreditation<sup>2</sup>, user suggested enhancements, on-going Year 9 NELA compatibility and progressive Webb-App design, to ensure changes in smart device OS does not impact performance.

### Outcomes

A QI Notify-Emlap prototype is being piloted amongst a group of NHS professionals within The Dudley Group NHS Foundation Trust, to assess delivery against the initial aims. So far, this is limited to 11 individuals, reviewing 155 case records and providing a total of 61 reflections.

An early analysis has suggested regular use of the app may be associated with a reduction in 'Door to Theatre' time, an important quality metric.



**Learning from excellent care, and repeating it more often, is a key element of our day-to-day practice. It requires timely and relevant feedback to staff, which we saw as a challenge in need of digital assistance. The whole team at Exploding Phone has worked with us at Dudley Group and our partners at the WMAHSN, to provide not only the digital expertise but also the flexible work ethic needed to develop a sleek, efficient and user-friendly solution to this complex problem.**

**Julian Sonksen,**  
Consultant Anaesthetist,  
The Dudley Group NHS FT



## CASE STUDY: IMPROVING OUTCOMES FOR PEOPLE AT RISK OF/ WITH CARDIOVASCULAR DISEASE (IMPULSE CVD)

Impulse CVD is an ambitious collaborative project led by the WMAHSN, with support from the Midlands Cardiovascular Clinical Network, The British Heart Foundation, Office for Health Improvement & Disparities (OHID) and industry partners.

### Aim

The aim of this project was to provide practical upskilling workshops to all healthcare professionals in primary care who are involved in the diagnosis and management of cardiovascular conditions such as atrial fibrillation (AF), hypertension, hypercholesterolaemia and heart failure (HF).

The content of the workshops, which are delivered by local experts from both primary and secondary care, have been designed to help support primary care teams. Their aim is to deliver on the cardiovascular ambitions outlined in the NHS Long Term Plan and meet the requirements of the CVD Primary Care Network Direct Enhanced Service (PCN DES).

In line with the AHSN Network “detect, protect, perfect” approach we support systems to achieve PHE targets in relation to:

- **Detect** – Identifying of people with a high-risk CVD condition or those with heart failure.
- **Protect** – With modification of cardiovascular risk factors, commencing statin treatment and/or anticoagulation where appropriate and ensuring anti-hypertensives and disease modifying therapies for the management of HF are prescribed and optimised as appropriate.
- **Perfect** – Ensuring on-going optimisation of therapy with appropriate and timely follow-up and monitoring.

**70.5h**  
of training



**40**  
workshops



**1,046**  
attendees



## CASE STUDY: IMPROVING OUTCOMES FOR PEOPLE AT RISK OF/WITH CARDIOVASCULAR DISEASE (IMPULSE CVD)

### Our approach

With the support of the STP / ICS, the WMAHSN identified enthusiastic local experts in CVD from primary and secondary care who had experience in providing education to their peers to deliver workshops using WMAHSN-developed content.

We have collaborated with the Sustainable Transformation Partnerships (STP) Integrated Care Systems (ICS) Education & Training Hubs, University Hospitals of North Midlands NHS Trust (UHNM), and the Centre for Pharmacy Post Graduate Education (CPPE) to deliver 12 atrial fibrillation and 13 lipid management workshops. These took place in 4 STP regions and via CPPE during October and November 2021.



**My knowledge was broadened through this course. I feel more confident dealing with AF patients, which in turn helps with other physical health checks.**

*Anonymous primary care professional*



## SPOTLIGHT ON OUR LOCAL WORK

The West Midlands region is diverse and includes many of the most challenged, deprived, and vulnerable communities in the country. Our population has a large number of elderly residents while also being the youngest population in the UK; Birmingham being the youngest city in Europe with under 25s accounting for nearly 40% of the population.

The WMAHSN footprint extends across 13,000 square kilometres of a geographically diverse region, ranging from the intensely urbanised areas of the centre conurbation to the rural counties of Shropshire and Herefordshire in the Welsh marches, pastoral Warwickshire and Worcester to the South and the rugged Staffordshire moorlands to the North. Comparison of a range of health indicators in the West Midlands versus the rest of England reveals evidence of significant health inequality. Our role is to support partners to work together across areas of identified need, adding value for our patients and population.

Through our programmes, the WMAHSN has played an increasingly influential role in improving healthcare and creating the conditions to generate wealth for the West Midlands' population. Our local work is focusing on the needs of our community, and the following case studies highlight some of the key achievements over the past year.



## CASE STUDY: HIGH SENSITIVITY TROPONIN (HSTN)

High sensitivity troponin (hsTn) is a blood test used to help confirm or rule out a minor heart attack. In line with National Institute for health and Care Excellence (NICE) recommendations, the implementation of hsTn is part of an early rule-out pathway to either confirm or discount an acute myocardial infarction (AMI). By analysing blood samples taken at presentation and again at 2 hours, the process is facilitating a more timely review, triage and either discharge or referral for in-patient management.

Being able to rule out an AMI or non-ST-segment elevation myocardial infarction (NSTEMI) early creates efficiencies, allowing more patients to be safely discharged from the Emergency Department (ED) instead of being admitted to an in-patient bed whilst awaiting results from the traditional testing method.

The high sensitivity troponin best practice pathway was published in NHS England's Commissioning for Quality and Innovation (CQUIN) scheme in January 2020, following which a CQUIN was introduced for Hospitals in England with an ED in April 2020. The CQUIN framework is intended to reward excellence, encouraging a culture of continuous quality improvement, whilst delivering better outcomes for patients.

### Aim

The overall aim of this project was to determine the safety and suitability of adopting a 2-hour testing pathway, collaborating with the Royal Wolverhampton NHS Trust (RWT) who had a different early rule-out pathway in place.

### Our approach

The WMAHSN supported RWT with a Quality Improvement project under the Pathway Transformation funding scheme for hsTn testing.

As part of the project, ED clinicians were informed to request both 2 and 3 hour troponin samples when the 0 hour troponin sample indicated a 3 hour sample would be required. The 2 hour troponin sample requested was processed by the laboratory, but the result was not made available for clinical decision-making and instead used to contribute to the QI project.

The results were shared with RWT to provide the data necessary to make an evidence-based decision if the move to a 0-2 hour pathway would be safe and appropriate.



**The funding received has been invaluable in supporting the project, and the WMAHSN has been extremely helpful along the way, from the point of applying for the funding through to project completion. We look forward to working with them again in the future!**

Lauren Hughes, Principal Clinical Scientist,  
Clinical Biochemistry, RWT



## CASE STUDY: HIGH SENSITIVITY TROPONIN (HSTN)

### Our approach

RWT is currently awaiting full audit data to determine whether a 0-2 hour pathway is safe and appropriate.

Changing from a 3 hour pathway to a 2 hour pathway will negate the need for additional patient review by clinicians in the Acute Medical Unit (AMU) and Clinical Decisions Unit (CDU) as the patient will be discharged directly from ED.

If proven, the move to a 0-2 hour pathway at RWT could see a suggested annual saving to the Trust of circa £800,000. This is due to the reduction in unnecessary transfers to CDU and admissions to AMI, according to a health economic analysis. Up to 150 patients could safely be discharged more quickly from RWT ED each month. Whilst the audit will not be concluded until later in 2022, it is hypothesised that the change would result in significant cost savings.



**During this project, we have been able to network with different hospitals within the region and talk to our pathology colleagues to ensure that we practice and embed the best evidence-based pathway and decision tool. This was further strengthened by the teams' ability to share their work, results, thoughts and challenges across sites and come up with solutions that were practical and easily embedded.**

Ruchi Joshi, hsTn Clinical Lead, WMAHSN



# OUR IMPACT

Safety and Improvement workstream



## EmLap

71 attendees  
at 6th West Midlands  
EmLap Collaborative  
event

## Patient and Carer co-design

537 feedback  
surveys completed  
by individuals with  
learning disabilities  
about access to  
services



## Maternity & Neonatal

100% West Midlands  
trusts adopted  
administration of  
magnesium sulphate  
in preterm babes  
(PreCePT)

## Deterioration

65% full adoption of care homes  
use of deterioration management  
tools



All 3 pilot sites have implemented  
national Paediatric Early Warning  
Score (PEWS) system



## Asthma Discharge Bundle

6 (50%) of West Midlands trusts are  
testing the implementation of Asthma  
Discharge bundles

## Mental Health

26 wards identified  
across West Midlands  
(100%) to be involved  
in the Mental Health  
Safety Improvement  
Programme



## Medicines Safety



543 attendees at West Midlands  
care home safety network events

50% reduction in interruptions  
during medicine rounds at pilot  
residential unit following WMAHSN  
toolkit implementation



## COPD Discharge Bundle

12 West Midlands trusts (100%)  
have adopted all elements of  
the COPD discharge bundle





## CASE STUDY: SUPPORTING CARE HOMES TO USE DETERIORATION MANAGEMENT TOOLS

- One ICS supported to develop a care homes dashboard measuring ambulance call outs and conveyances, along with A&E attendances and hospital admissions. Data shows on average of between a 17-30% reduction following the webinar series, the roll out of the escalation guide and the direct streaming of 111/999 calls by the Urgent Crisis Response service. The five other ICSs are now being supported to develop something similar.
- One ICS supported to develop a 16 module care homes rolling training programme covering topics such as frailty, managing deterioration, end of life, falls and pressure ulcers
- One ICS supported to develop a care home deterioration pack for all of their care homes. The pack is now being developed in all six ICS's, thus meaning in 2022/23 every care home within the West Midlands will have a deterioration pack. Memorandums of Understanding (MoU) have been signed by the other five ICSs to replicate this for all care homes within the region



**The programme has allowed health services, local authorities and providers to come together with a common purpose. It has delivered real quality improvement for care home residents alongside supporting staff while at the same time helping system partners – it can genuinely be described as transformative.**

Dr Steve Fawcett, Medical Director,  
North Staffordshire CCG and Stoke-On-Trent CCG

**636 GP practices**



trained in the use of deterioration management tools across four ICS's representative of 82% of the total number of GP's in the West Midlands; with 331 GP practices actively testing deterioration management tools

**100%**



of community trusts and mental health trusts are now using deterioration management tools in the West Midlands

**1,334 (81%)**



care homes, across the West Midlands engaged to support management of deterioration programme

## CASE STUDY: SUPPORTING CARE HOMES TO USE DETERIORATION MANAGEMENT TOOLS

The West Midlands is home to over 1,650 care homes. The West Midlands Patient Safety Collaborative (WMPSC), hosted by the WMAHSN and commissioned to deliver the National Patient Safety Improvement Programme (NatPatSIP), was created to upskill and empower the care home workforce.

The improvement programme is working to aid staff in recognising and responding more effectively to residents that are showing signs of deterioration.

### Aim

This project aimed to upskill care home staff in their ability to recognise and respond to deteriorating residents, and reduce the inconsistency in escalation pathways with healthcare professionals, which often result in avoidable hospital admissions. This work is part of NHS England's national Managing Deterioration Safety Improvement Programme (ManDetSIP) which has the ambition of seeing 60% of care home settings using deterioration management tools by the end of March 2022.

### Our approach

In March 2019, the WMPSC worked with 45 of the region's 1,655 care homes. A WMPSC-led audit showed inconsistent escalation pathways for deterioration between healthcare professionals across the region, resulting in delayed escalation of care for some residents, and avoidable hospital admissions for others.

The WMPSC developed an educational webinar series to help care home staff across the West Midlands recognise the signs of deterioration in their residents and how to escalate these as early as possible.

The 3-part virtual series was underpinned by Quality Improvement methodology, supporting the Prevention, Identification, Escalation and Response (PIER) framework. The webinar series also included a fourth session, aimed at services that support care homes such as GP practices, Community Healthcare NHS Trusts, including community Advanced Nurse Practitioners and Care Home Quality Teams from CCGs and Local Authorities, to form a system-wide approach to managing deterioration.

The WMPSC also worked to build six ICS Deterioration Safety Networks across the West Midlands to ensure strategic transformation. The ICS networks meet on a quarterly basis as part of a Regional Deterioration Patient Safety Network to foster collaboration and consistency in approaches. The networks include a multitude of system partners including, primary care, community health trusts, local authority such as adult social care, ambulance trust, acute trusts, mental health trusts, and other agencies, such as Skills For Care and care home providers.



**Thanks to the staff introducing the deterioration management tools we have reduced risks for our residents. We have prevented harm by early detection resulting in a reduction in safeguarding referrals. The falls rate for the service is low and there are no home-acquired pressure injuries. The early detection has also resulted in hospital avoidance.**

**Caroline Morris, Care Home Manager,  
Bradwell Hall nursing home (Staffordshire)**

# WMAHSN'S APPROACH TO BUILDING IN AND SUPPORTING THE REDUCTION IN UNWARRANTED VARIATION THROUGH THE LENS OF HEALTH INEQUALITIES

Core20PLUS5 is a national NHS England and NHS Improvement approach to support the reduction of health inequalities at both national and system level. The approach defines a target population cohort – the 'Core20PLUS' – and identifies five focus clinical areas requiring accelerated improvement.

**"Core20"** focuses on the most deprived 20% of the national population, as identified by the national Index of Multiple Deprivation (IMD).

**"PLUS"** includes Integrated Care System (ICS)-determined population groups experiencing poorer than average health access, experience and/or outcomes and includes other inclusion groups.

The **"5"** clinical areas of focus sit within the national programmes and are: maternity, severe mental illness, chronic respiratory disease, early cancer diagnosis and hypertension case-finding.

The WMAHSN has already included the Core20Plus5 framework into our Pipeline Qualification Huddle process; an internal system developed to inform decision making on the development and resourcing of future projects as well as budget or funding requests that align with strategic and operational goals.

We have commissioned a demographic and inequalities dashboard to support the awareness, visualisation, and ability to model impacts of projects and programmes where there are areas of unwarranted variation. In addition, the WMAHSN is supporting a programme where the Midlands Health Inequalities Policy Commission, led by Midlands Innovation Health, with support from the Midlands Engine, to identify best practice and opportunities to accelerate change. The programme seeks to minimise future health inequalities through the collection of views, empirical data, reports and recommendations to understand the complex impacts of the pandemic on these communities.



# CASE STUDY: MULTICULTURAL STOPPING OF OVER MEDICATING OF PEOPLE WITH A LEARNING DISABILITY, AUTISM OR BOTH WITH PSYCHOTROPIC MEDICINES (MC STOMP)

The West Midlands is diverse and includes many of the most challenged, deprived, and vulnerable communities in the country.

Evidence suggests that the COVID-19 lockdown caused an increase in medication interventions to manage mental health and behavioural issues in people with a learning disability and/or autism. People from black and ethnic minorities are over-represented in mental health pathways, meaning they are more likely to be diagnosed with a mental illness and more likely to receive compulsory treatment, which may not be appropriate.

At Birmingham Community Healthcare Trust (BCHC) working experience has shown that some people from ethnic minority backgrounds experienced:

- Difficulty reporting and recording challenging behaviour
- Engaged less with non-pharmacological strategies
- Wanted medication first-line for challenging behaviour
- Language barriers: communication is crucial in establishing the aetiology of behaviours of concern, which guides appropriate management; overcome through multilingual skills are not readily available within teams

## Aim

The MC STOMP project aimed to reduce overprescribing of antipsychotics by increasing structured medication reviews (SMR) in people across the West Midlands living with a learning disability and/or autism from an ethnic background. It is encouraging the implementation of positive behavioural support plans as an alternative form of treatment.

## Our approach

The WMAHSN collaborated with a consultant psychiatrist from Birmingham Community Healthcare Trust to co-design, promote and host a virtual webinar. This created a platform for colleagues to connect, raise awareness, and share multi-lingual resources and quality improvement methods to support the implementation of MC STOMP.

The webinar had an attendance of 60 like-minded professionals across the West Midlands, and over two thirds requesting access to the resources and webinar recording post-event. The webinar provided a valuable opportunity to connect, gain an understanding of MC STOMP and the campaign messages, and share resources and experiences for collaborative quality improvement in the field.

## Outcomes

Participants were asked to provide an evaluation of the session.

- 82% were not already aware of the MC STOMP initiative prior to the webinar
- 60% stated that they found the webinar extremely relevant
- 81% stated they were very likely to use the MC STOMP resources shared
- 8 participants stated they would be interested in undertaking an MC STOMP QI project

# LOOKING FORWARD

The West Midlands Academic Health Science Network has worked incredibly hard over the past year to adapt its services to support the region's needs and shifting priorities as a result of the pandemic. This has not only shown our ability to remain agile but also highlighted how the WMAHSN is uniquely placed to support the needs of our partners and the wider system.

As we approach the WMAHSN's tenth birthday in 2023, we will continue to support our local health and care systems with identifying and addressing unmet needs, bringing together innovative solutions and strengthening relationships to support the adoption and spread of innovation.

As outlined in the 2022/23 WMAHSN Business Plan, we are looking at how our workforce can support NHS England, NHS Improvement and the Office for Life Sciences priorities, including the recent review of the National Patient Safety Improvement Programme, additions to the MedTech Funding Policy and Core20Plus5 strategy.

The plan will build on existing stakeholder engagement, our learnings over the past nine years, and the tools we have developed along the way, to deliver against our core areas, powering the development of innovation, enabling patient safety, and facilitating the adoption and spread of innovative technologies.

Our ongoing commitment to tackling health inequalities through innovation will help us to ensure equitable access to health services for our population. This will continue to be a focus for the WMAHSN for future projects and programmes of work.

We will continue to collaborate with our AHSN colleagues across the Network, contributing to the National Network Strategy and multiply the scale and impact of our work through the national Innovation pipeline.

Our mission is to transform health and social care through innovation, and we will continue to strengthen our ability to work nationally, regionally, and locally, to maintain the right environment to improve the overall health and wealth of the region.



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