

INNOVATION IN HEART VALVE DISEASE



Implementing technology to improve the patient pathway

In 2017, Heart Valve Voice (HVV) worked with a range of stakeholders to produce a report entitled *Towards a Heart Healthy Future: A Gold Standard in the Diagnosis, Treatment and Management of Heart Valve Disease in Adults*. This set out a series of quality statements and recommendations for the diagnosis, treatment and management of heart valve disease.

Following the publication of the report, a Gold Standard Taskforce was established to enact its findings.

The Taskforce recommended a focus on the opportunities for innovation in the pathway. Accordingly, in January 2020 Heart Valve Voice and Health Innovation Manchester hosted a roundtable policy meeting to help identify specific technologies to improve patient care for patients with heart valve disease.

The meeting brought together clinicians, pharmacists and industry personnel combine to agree a set of recommendations for implementation across Greater Manchester and beyond. The following report outlines those recommendations and discussion.

*Heart Valve Voice
Health Innovation Manchester*



ATTENDEES

Heart Valve Voice would like to thank the following attendees for their participation in the meeting:

Dr Tracey Vell MBE, Associate Lead for Primary Care, Health Innovation Manchester

Dr Victoria Watt, Consultant Cardiologist, Manchester University NHS Foundation Trust

Keith Pearce, President, British Society of Echocardiography

Andrew McDonald, PhD Candidate, University of Cambridge

Ameer Ally, Senior Market Access Lead, Edwards Lifesciences

Lia Cole, Principal Market Development Specialist (Aortic Stenosis), Medtronic

Russell Fillingham, Cardiovascular Ultrasound Sales Team Manager, GE Healthcare

Dan Kinsey, Clinical Manager, Biosensors International

Dr Craig Frame, Heart Failure Clinical Lead, Manchester Health and Care Commissioning

Dr Matthew Luckie, Consultant Cardiologist, Manchester University NHS Foundation Trust

Muhammad Mian, Manager, Everest Pharmacy

Hunaiza Khan, Pre-registration Pharmacist, Everest Pharmacy

Wil Woan, CEO, Heart Valve Voice

PHARMACY SECTOR

KEY AGREEMENTS

Minimal information is currently provided to pharmacists on the symptoms of heart valve disease.

An opportunity exists to learn from similar conditions, such as atrial fibrillation, and effectively implement innovative technology within the pharmacy setting.

There is now greater appetite amongst pharmacists to embed technology within their work and become an integrated part of the patient pathway.



RECOMMENDATIONS

Work towards introducing digital stethoscopes within a pharmacy setting to aid detection.

Consideration needs to be given to the ways pharmacies can reduce the burden on GPs as innovative technology increases detection rates.

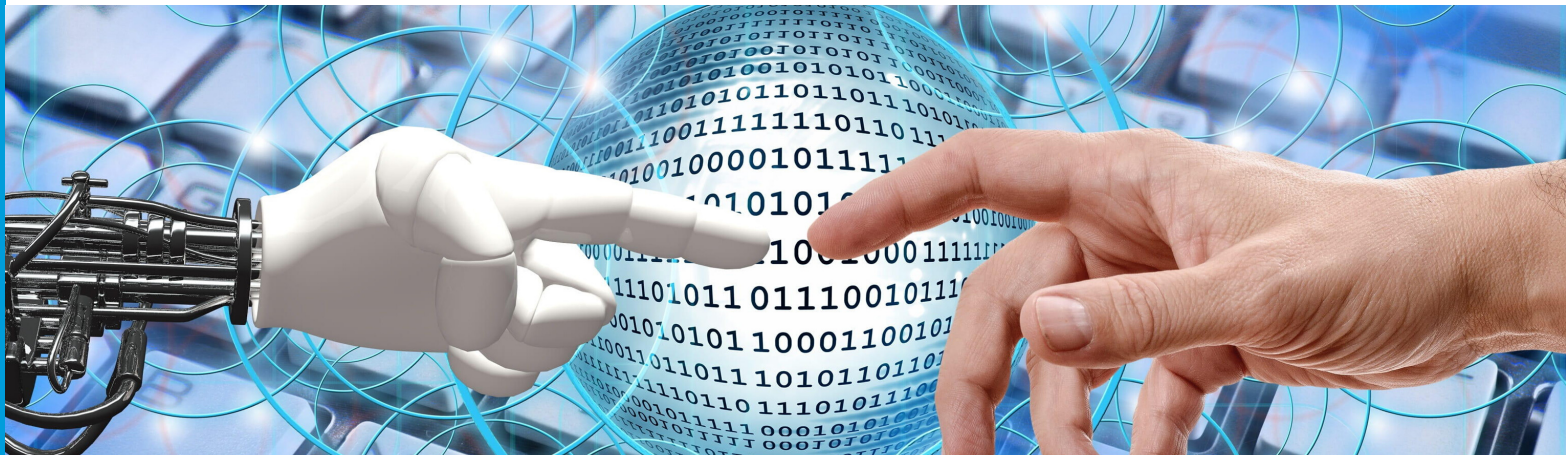
BUILDING CONFIDENCE IN TECHNOLOGY AND INNOVATION

KEY AGREEMENTS

Clinicians may be wary of referring patients on the basis of technology alone. This is increasingly likely to be the case if they cannot be sure the technology accounts for the many murmurs that are not pathological.

Clinicians, industry and patient advocacy groups are also aware of the importance of not creating a cohort of "worried well" patients, especially as the levels of health anxiety continue to rise.

Although technology has the power to transform diagnosis and care, GPs should still listen to hearts on a more frequent basis. A recent heart health survey found that 78% of over 65s in England never or rarely have their heart listened to by a GP, compared to only 10.2% of over 65s in France.



RECOMMENDATIONS

In collaboration with Heart Valve Voice and Health Innovation Manchester, undertake a trial to test the digital stethoscope technology developed by the University of Cambridge, against GPs, to build proof of value amongst clinicians.

Positive data, when available, should be widely shared with clinicians to support uptake.

COMMUNITY DETECTION

KEY AGREEMENTS

If technology to assist with community detection is rolled out on a wider scale, robust patient pathways need to be established so patients diagnosed outside of a traditional setting are able to access a GP and treatment in a timely fashion and know their recommended next steps.

The annual flu-jab, given to over 65s is a good way of targeting an at risk cohort for heart checks, due to the high uptake rate.



RECOMMENDATION

Heart Valve Voice will continue to work with pharmacy to utilise the annual flu-jab programme to increase detection of heart valve disease.



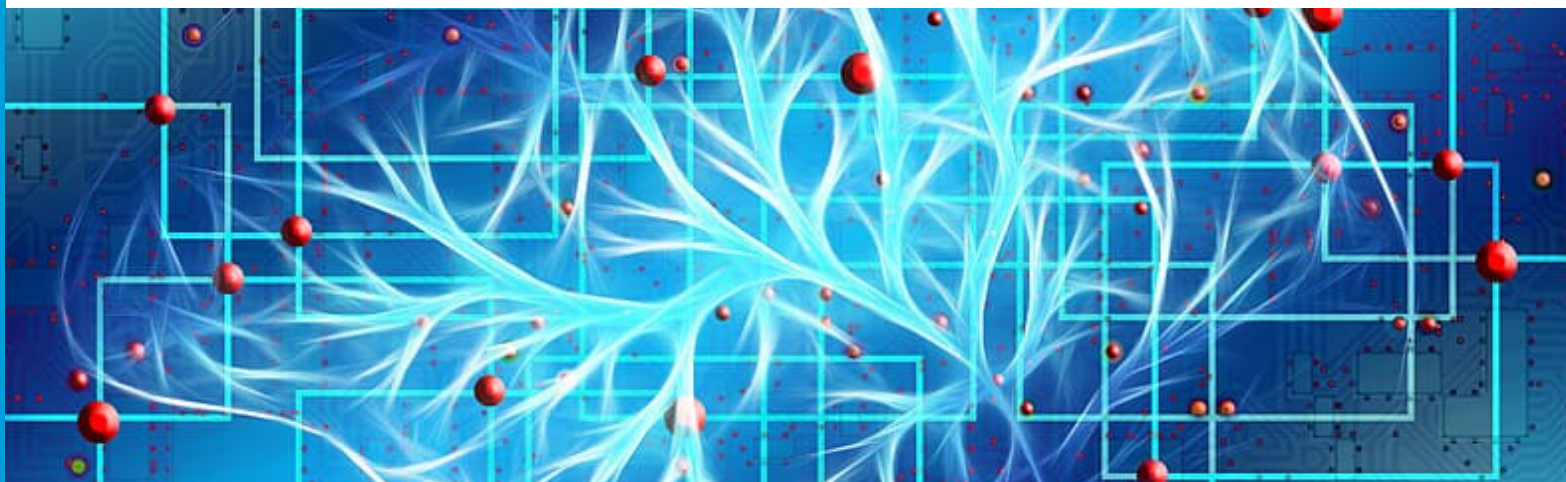
DATA SHARING

KEY AGREEMENTS

Many healthcare professionals are required to repeat patient tests as they are unable to access results from tests undertaken at different stages of the patient pathway. In some areas across Manchester, it is easier to share imaging and data. This indicates that a solution could be found and implemented to ease the burden in certain areas. Health Innovation Manchester's software *UltraLink* should be explored further by different Trusts.

In some cases, repeat testing is necessary as the referral process can take many weeks and changes in a patient's condition need to be assessed.

NHS England needs to follow through on assurances given to HVV that a solution to data sharing issues will be announced in 2020.



RECOMMENDATIONS

Promote awareness and uptake of existing software, such as *UltraLink*, to improve shared access to data and imaging and reduce waiting times across the patient pathway.

Ensure pressure is applied to NHS England and the devolved nations to progress enhanced image sharing on a national basis.

Investigate the option of giving patients access to their own healthcare data, potentially via the introduction of a patient passport or HVV app to streamline the patient pathway.



WORKFORCE ISSUES

KEY AGREEMENTS

Further research is required to develop artificial intelligence (AI) so it can effectively distinguish between pathological and innocent heart murmurs during diagnosis

Considerations need to be made as to not overwhelm primary care with high volumes of additional diagnoses due to the introduction of AI. Weekend and flexible working can also contribute to maximising efficiency within local healthcare systems.

RECOMMENDATION

A hub and spoke trial should be introduced within Greater Manchester where a number of GPs refer patients to a valve clinic when high risk symptoms have been identified with AI. This will initially begin on a small scale so that the process remains streamlined and not overwhelm clinics.



PATHWAY INNOVATION

KEY AGREEMENTS

Joined up care across the patient pathway is crucial for improving time to diagnosis and time to treatment. The option of a specialist unit of clinicians to undertake echocardiography should be explored, in order to streamline services and reduce treatment times. Alternatively, an echocardiography service within pharmacies that bypasses GPs altogether is another option to consider.

Devices such as Fitbits can be used to assess at risk patients' exercise tolerances and compare recovery times between those patients who have undergone traditional versus minimally invasive surgery.

The ability for patients to take ownership of their healthcare data should be promoted and enabled, in order to allow them to make informed choices about their care.



RECOMMENDATIONS

Research should be undertaken into training programs for pharmacists so that they are able to assist with echocardiography.

Heart Valve Voice will continue to work towards introducing a trial to measure recovery time for patients undergoing traditional versus minimally invasive surgery, via the use of Fitbit devices.

ACTIVITY

In 2020, Heart Valve Voice will be holding an event in partnership with Health Innovation Manchester and Lancashire County Cricket Club to test the use of new technology and assess how different healthcare professionals, including pharmacists, can best utilise the equipment.

A subsequent meeting will evaluate the outcomes of the test and discuss ways to increase innovation within primary care and draft a report to circulate to key stakeholders on this topic.



PRIORITY ACTIONS

Push for the introduction of a national valve disease register, so that all patients with a diagnosis of valve disease can be registered and can be assisted with future care and recovery.

Undertake work with industry partners to support the development of technology that will make it easier for non-specialists to undertake echocardiography tests. To achieve this, Health Innovation Manchester and Heart Valve Voice are committed to helping the team from the University of Cambridge to test their digital stethoscope against GPs to build confidence in the technology among clinicians.

Increase confidence around innovative technology by building the case for greater uptake.

Allow patients to take greater ownership of their own healthcare data.

Train pharmacists so they are able to assist with echocardiography, in order to reduce the burden on GPs.

Increase awareness of how innovative technology can point to heart valve disease as a cause of symptoms, so patients aren't misdiagnosed with other conditions such as asthma.

Organise an event in partnership with Health Innovation Manchester and Lancashire County Cricket Club to discuss ways to increase innovation within primary care and draft a report to circulate to key stakeholders on this topic.