Connected Worker - Wearable Video & Mobile Telemedicine

WEST MERCIA RURAL 5G PROJECT

Supported by BT

Improving health and social care delivery through 5G enabled technology

Tenbury Wells & surrounding areas and Malvern

There are many challenges for healthcare in remote settings, such as the limited remote visual access and information for experts, no access to additional resources at isolated/remote locations, time delay vs critical 'Golden Hour' and the rising costs to deliver care at remote locations.

The hypothesis is that mobile telemedicine can make the NHS more efficient and can enhance the preventative role played by domiciliary care providers. By implementing a set of 5G enabled telemedicine and domiciliary care scenarios for wearable video in rural context, we intend to determine if 5G enabled technology improves health and social care delivery.

These scenarios are 5G/4G wearable video for:-

- rural paramedic with an emergency event
- rural community nurse
- training support
- domiciliary care workers in people's home
- doctor virtual walk round in a care home

How it could work

Interactive Videos over 5G

e.g. connecting 999 call centres/GPs to urgent care services

Primary Care Nurse Supports Nurse in Care Home

Field based Training Support Over 5G

e.g. Senior Doctor advising Junior Doctor/nurse/paramedic

Supporting workers in people's homes

linking domiciliary care workers to a range of practitioners who are able to advise, guide and support

WEST MERCIA RURAL 5G PROJECT

Benefits of Connected Worker

Clinical Benefits

- More rapid and appropriate treatment for patient
- Less risk of contagion in hospital
- Early identification and prevention
- Helps reduce the burden on urgent care services

WEST MERCIA RURAL 5G PROJECT

Economic Benefits

- More efficient use of NHS resources by using video rather than transporting patients or transporting doctors, in cases where video can be applied
- Avoid unnecessary ambulance transfer and hospital admissions.
- Helping people to live independently at home for longer and reducing need for hospital care

Specific Clinical Scenario Benefits

- More efficient use of pre-hospital NHS resource (saving ambulance transfers)
- Enhanced patient outcome - accelerated treatment during 'golden hour'
- Reducing cost for medical support for frail/elderly cohort
- Accelerating time to treatment for medical support for frail/elderly cohort
- Reducing training cost for medical staff by having immediate access to senior support
- Increasing confidence level for new medical staff as they can get support in difficult situations
- Operational efficiency improvements
- Retention of domiciliary care workers

Research Benefits

- Answers to key research questions:
  - How good is n77 & n78 5G uplink bandwidth for in house rural telemedicine?
  - How good a video image can be achieved with 5G band n77 & n78 in various rural scenarios?
- Quantification of economic and operational benefits of 5G Mobile Telemedicine in rural settings
- Testing potentially scalable solutions in operational delivery of domiciliary care