

Advancing the Technology Enhanced Living Service (TEL)

Hospital at Home Service using Dignio, QHealth and Integrated MDT response to manage chronic long-term conditions and Acute episodes in community rather than in a Hospital or Out-Patient setting.



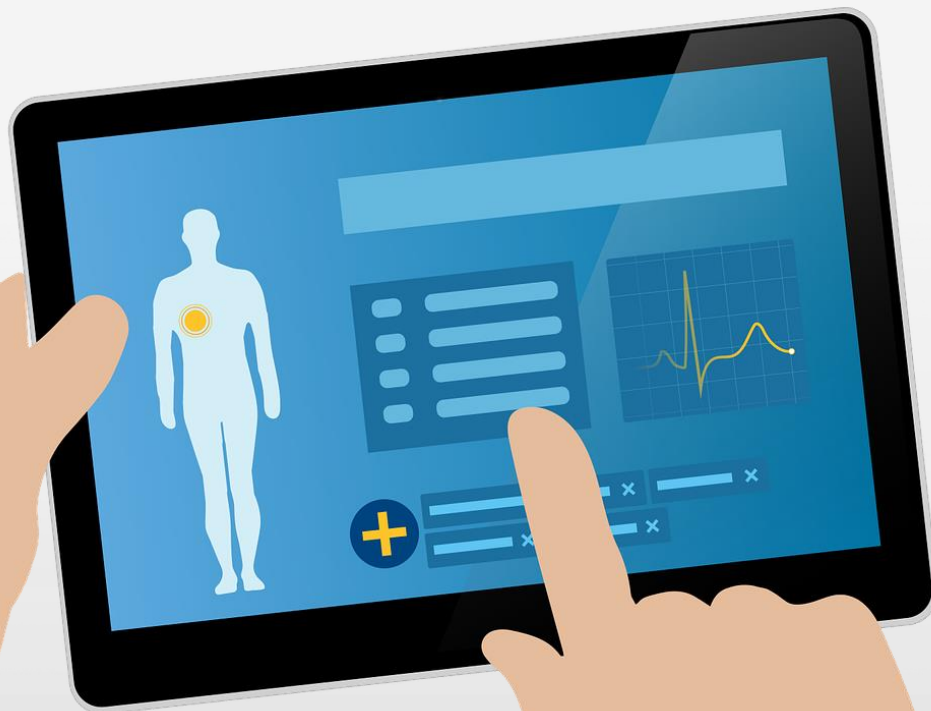
In association with
1 **NHS**
Stockport
Clinical Commissioning Group

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Forward



In many ways the NHS has relied on innovation more heavily than ever on this crisis footing but technological innovation must be a continual investment for that precise reason.

We cannot afford to be caught off guard by ever changing virology and levels of demand.

Services like the Tech Enhanced Living Service not only embraced *change* pre-COVID 19 but adapted to assist in the fight against COVID 19.

This evaluation and extension proposal will serve to testify to the need for continual and unrelenting enhancement of Health Care Services using digital innovation and virtual working methodologies.

The future is here, today.

Are we ready...

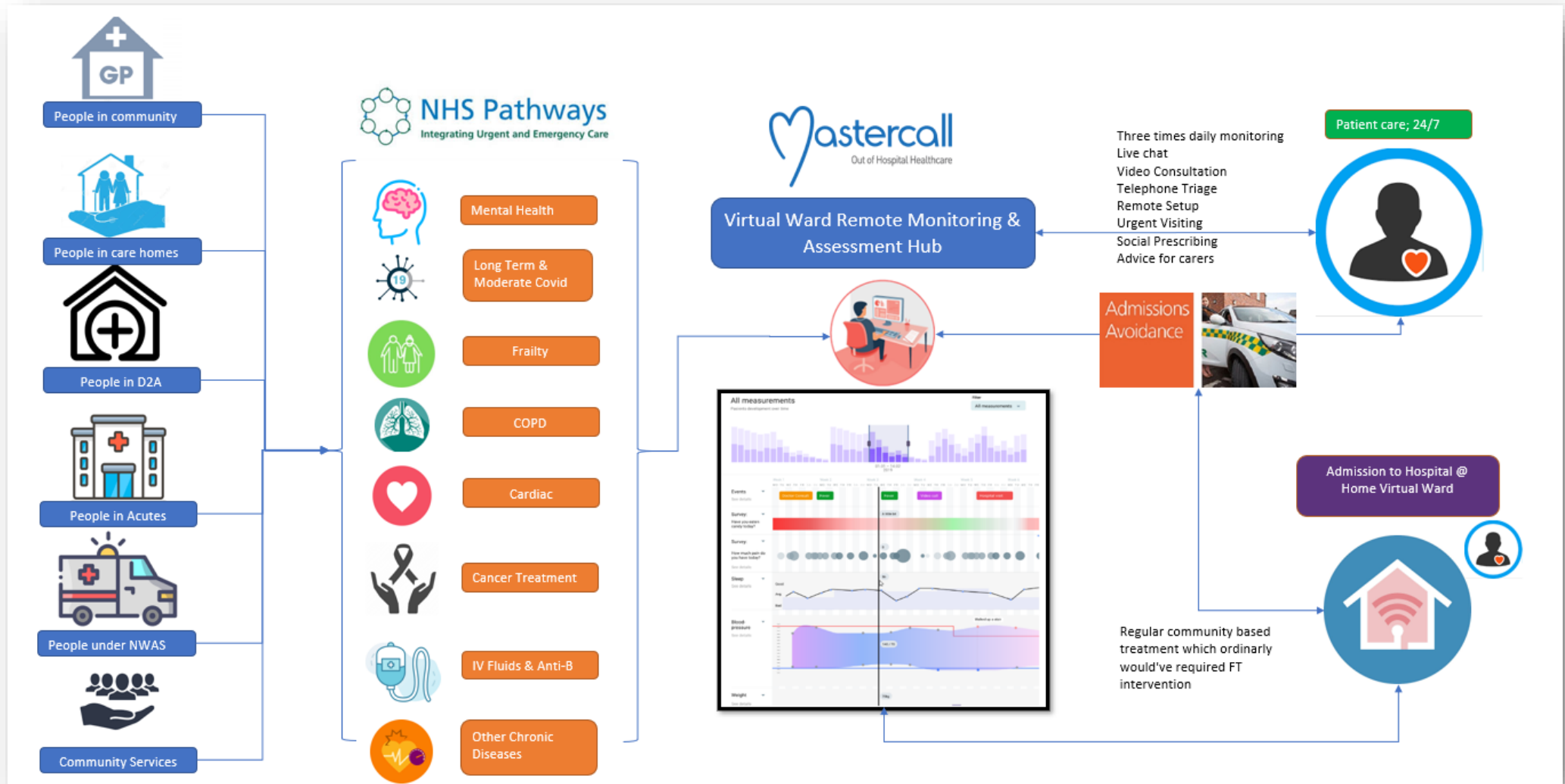
*Stockport COVID System Recovery Plan
2020*

TEL BROUGHT TO LIFE



https://www.youtube.com/watch?v=0_p6NyQf2LY

Integrated Pathways Overview



Referrals

Conditions

Digital/Remote Hub

Acute Response

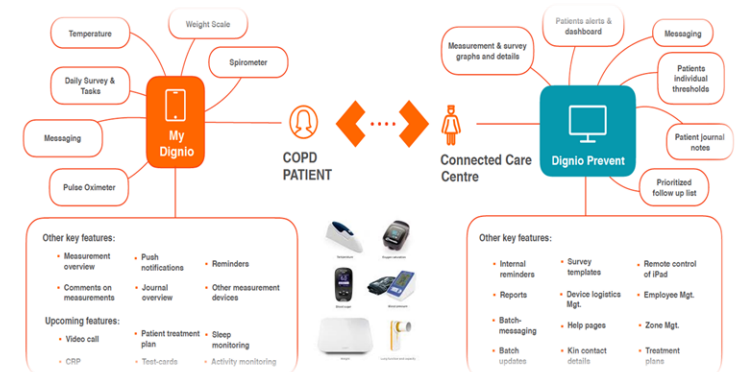
Service Overview:

The purpose:

- We had noticed that many patients with chronic conditions and comorbidities do not always manage early indications of exacerbations. This has a consequence of higher demand on the health & social care system which leads to more GP appointments, increased risk of hospital admission and use of urgent & emergency care services.
- The Service was therefore designed to reduce Non-Elective Admissions to Stepping Hill Hospital, improve patient care and empower patients and community staff to better manage patient care in a safe community setting.
- Covid and Long Covid pathways were introduced in 2020 & 2021 respectively

The Methodology:

- Mastercall partnered with remote monitoring platform solution expert Dignio (from extensive market testing in Oslo)
- Dignio 'Prevent' is Dignio's App based remote monitoring platform which permits agnostic Bluetooth devices to connect
- Dignio Prevent also has an App based user interface allowing patient data self-entry or device auto-read/reporting.



Operational Synopsis:

Stockport's Local Authority partnered with Mastercall to provide a Technological Enhanced, Care Homes and Community, Chronic Disease Management & Remote Monitoring Service which comprised of:

- Bluetooth remote reporting medical devices connected to a 24/7 remote access monitoring portal (managed by a Multidisciplinary Clinical Hub of GPs, ACPs and CPs for triage and visiting where appropriate).
- A sample size of 650 patients was chosen (Jan 2020-May 2021) although 888 patients were treated with thousands of interventions.



Dignio Prevent is designed to be an electronic patient journal for remote patient care. The information elements that may be stored in the database include:

- **Medical measurements** including but not limited to: Blood pressure, blood glucose, body temperature, body weight, spirometry values, blood oxygen values, pulse
- **Medication plans**, medication notifications, medication taken events
- **Notifications** raised by the system when attention from the healthcare professional is needed to help or advice a patient
- **Patient journal notes** as entered by the healthcare professionals using the system, documenting the healthcare provided
- **Messages** exchanged between the patients and the healthcare Professionals
- **Reminders** for the healthcare professionals to help them remember planned tasks
- **Zone Access** for differing levels of user visibility i.e. Patient's own GP, specialist services and/or patient

Dignio Prevent Overview

Patient name, unique personal identification, date of birth, address, phone numbers, height, and any free text information entered by the healthcare professional that is useful for the daily care provisioning

- **Patient relations** such as family member or others that may be contacted by name, email address and phone numbers
- **Employee names**, unique personal identification, phone numbers, email addresses
- **Mobile numbers** for forwarding of notifications to mobile healthcare professionals
- **Hardware device information** used for the management of device location and usage
- **Security settings**

Patient Testimony:

Kerrie McManus I would just like to say a big thank you for all that you did for my dad last year. The swift response from your team meant he was dealt with very quickly. I strongly believe he may not have done so well had this rapid response team not been in place. 18 months ago my dad had no life and no prospect of a life and was essentially waiting to die. Now, he has regained his life and is starting to recover so many aspects in his life that were never thought he would ever locate again. He now lives in a great care home where they really looked after his care and he is growing from strength to strength x

2d



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1 reply

Hi Michaela, I can't thank you enough for offering my Dad the TEL service. I did not know anything about it...after much Google research I'm now an expert! Dad has found it easy to do the readings and it really is reassuring to know that if things deteriorate he is being monitored. I would be more than happy for you to share my feedback, on my worst day when things really were in crisis and I just did not know what to do, it was your team that got me the help we needed. Its refreshing to deal with an organisation with a can do attitude! Xxxxx

Dignio & Mastercall Healthcare

Dignio, in partnership with Mastercall Healthcare, has been helping to...



14

1 comment 8 shares



Like



Comment



Share

Most relevant ▾



Nicola Heaps Love being able to refer patients onto this service overnight! X

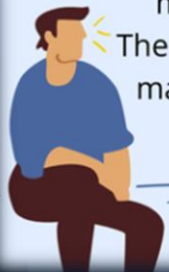
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"I couldn't fault the staff at Mastercall, I was reassured that I wasn't alone and given a monitor to record my stats every day. The service felt personal! Towards the end of my antibiotics I started getting a pain in my back so I notified the stats app and within 20 minutes someone had rang back! The service definitely helped me to self manage my symptoms and gave me reassurance."

Ian Garner, TEL service user



Mastercall Healthcare

Send Message

Like



Mastercall Healthcare, Stockport



38

3 comments 7 shares



Like



Comment



Share

Most relevant ▾



Write a comment...



Press Enter to post.



Al Howarth

My family have used your services via GP referral when we were struck down by Covid over the past few weeks. We were tested with you and I subsequently attended the 'Covid clinic' twice. Absolutely fantastic and the 'bed side manner' was both reassuring and on point in terms of advice.

My wife and I both then used your monitoring service via the app with follow up calls. The professionalism was absolutely top drawer. The guidance and 'triggers' to look out for were made very clear. All your Team at the other end of the phone were so very kind, understanding and full of support.

For me personally Covid was / is as much as about mental strength as about physical impact, and every time I spoke to someone the support was empathetic and so very supportive. Full of help and sound advice.

Your colleagues guidance stuck with me and I recognised issues with my oxygen levels as they dropped significantly in the night. I acted as I'd been advised. It got me into an ambulance and to hospital and then onto a Covid ward for a week until I recovered from Covid pneumonia.

Whilst I was in there you were taking my wife's data and calling and supporting her whilst through her Covid experience whilst she cared for our kids, one of which had Covid. Massive reassurance for me whilst I couldn't be there. Absolutely invaluable.

We are recovering and fatigue is challenging at times but I can honestly say we would be in a lot lot worse place had it not been for your Team and the culture we encountered. Genuine Caring; sound medical advice.

Thank you all for what you did for my family. I wish each and every one of you the very very best.

Like · Reply · 3 d · Edited



11

2 replies



Quality Assured...

Clinical Review of Consultations

Quarter	Excellent	Good	Satisfactory	For reflection	Concern	Total
Oct-Dec'20	3	113	24	8	0	148
Oct-Dec'20	2%	76%	16%	5%	0%	100%
Jan-Mar'21	7	49	1	2	0	59
Jan-Mar'21	12%	83%	2%	3%	0%	100%
Quarter	Excellent	Good	Satisfactory	For reflection	Concern	Total
190-W9L37	13%	83%	5%	3%	0%	100%

A further extract of patient testimonials from Ulysses:

Date of event	Details Of Case
12/11/2020	Patient stated that he wanted to pass on how grateful he is and that he thinks the service and the staff are amazing
08/11/2020	Card received from patient and her husband stating;To all the Dignio Team We would both like to thank you all for taking care of us over the last few weeks. It was so good to know that we had your support and that we could send our obs to you each day. Thank you
05/12/2020	Thank you so much for caring for me and looking after me over the last 4 week. You have all been amazing and kind (it meant a lot to me at a scary time in my life).
26/11/2020	Thank you card received from patient stating;Thank you for your help in my recovery from this dreadful virus you are all superstars
05/11/2020	Thank you card received from patient as follows;I just want to give a huge thank you to all the Dignio nurses who looked after me even though it was phone calls you were all so wonderful to me
17/12/2020	Letter received as follows; I am pleased and delighted to write this feedback for the service I received from the TEL team. I have been referred to the TEL team on the 7th December with high heart rate, oxygen level and blood pressure issue due to long Covid-19. My condition and moral strength were very poor on that point. I have been under observations with the team for about 10 days. From the begging day I found all the staffs and doctor were friendly, understanding and used to listen my day to concern with kind heart. They gave me hope, moral support and strength. Monitoring staff duly reported my observation report to the doctor. Then the doctor organised meeting with my GP and finally i was sent to the hospital for further specialised treatment. It was a good teamwork. I felt really at ease and was treated with dignity and respect. I have been overwhelmed by the support I received from TEL team. I gained a fantastic, wonderful, and warm experience from the start to finish. Thanks a million - I am genuinely grateful for your endless hard work, commitment and determination. You are STARS. Please except my heartfelt gratitude.
17/12/2020	Letter received from patient as follows;I would like to thank everybody concerned with my treatment. You helped me enormously and felt I was in good hands. Your caring and concern were very much appreciated. Thank you P.S. your brilliant
29/01/2021	This is a brief example of how the clinician was able to utilise admission avoidance in their role as a Neighbourhood Advanced Nurse Practitioner in partnership with the Dignio Tel-Health service provided by Mastercall Healthcare. In their role as a Neighbourhood Advance Nurse Practitioner they assess patients in community at risk of admission. The clinician was called out to assess a patient who was presenting with a low blood oxygen levels suspected to be caused by a lower respiratory tract infection by The North West Ambulance Service. This patient was previously known to their caseload and they had put a enhanced case management care plan in place to avoid unnecessary admissions. The patient was a 75 year old male who had developed a fever and cough for the past two days. The clinician assessed him and diagnosed a chest infection and started an oral antibiotic. His saturations were 94% on room air and all other observations were stable and within range. The patient expressed his preferred place of care as being at home. The clinicians concern was that his oxygen saturations would deteriorate at home and that there was no monitoring in place to stop this from happening. Due to their experience of referring community patients to the Dignio Tel-Health Monitoring Service they knew they could keep him at home and avoid hospital admission. The clinician was reassured that they could treat him with antibiotics in community and refer for digital monitoring to be put in place to assess for worsening observations and signs of sepsis. If this service was not available, then their clinical decision would have been to sent him to hospital due to the risk of deterioration. By working in partnership with this service they were able to treat the patient in his prefer place of care but this also helped to reassure him, his family and them as a clinician that prompt action would be taken if he were to deteriorate at home.
24/01/2021	Positive feedback received via TEL Service Lead stating patient wanted to pass on her thanks to the team for looking after her. She also said that having regular phone calls and contact with the TEL service helped to reassure both herself and her husband. She was very happy with the care that she received.
21/01/2021	Thank you card received as follows;Dear **, GP's and staff,I just wanted to send a note to say many thanks for your kind support, guidance and care throughout my recent Covid19 treatment, very much appreciated.You are doing a sterling job. With all good wishes
05/02/2021	Thank you card received from patient stating; Thank you for your support and care to the TEL team
19/12/2020	Card received from family of patient;Thank you to everyone at Mastercall. We can't thank you enough for everything you have done. You have given us the best support and care. Thank you
19/02/2021	Letter received from patient stating;Just a quick message to say that I have enclosed the equipment back to you and thank you for your service over the last 21 days
27/02/2021	Thank you card received from patient stating;Thank you or all your care while I suffered from Covid-19
18/03/2021	Thank you for all the telephone calls from when I was recovering from Covid-19. Towards the end of my 3rd week I was admitted to hospital but later was able to go home.Thank you for all your hard work.
19/03/2021	To the nurses on the TEL team. Thank you so much for helping and looking after my dad, your amazing Love **, **

Staff Experience:



Care Homes manager quote- Appleton lodge.

‘Extremely impressed with the service. Staff were well trained, initially visited by team and basis and [methodology] behind the idea were fully explained. Both myself, my deputy and senior staff are fully behind this initiative. We have seen the benefits for individual residents, we have not had to admit any resident on the scheme and I think taking into consideration both the residents currently on the scheme have a past history of varying health issues and wide range of underlying problems that can usually flag up a possible admission, we have in the past seen both residents admitted probably inappropriately. We look forward to using the service with new residents, in fact we will be calling through today for another.’

Mastercall Associate Director of Nursing, Suzanne Curtis:

In the future, from our experience and service development, we can see that the use of a digital platform (including remote monitoring) will be used for the successful management of all long term conditions including Long Covid, Mental Health interventions and cancer treatments. This is the future of healthcare.

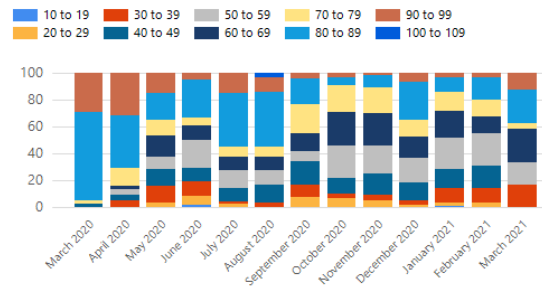
Mastercall, Tim Davison Associate Director of Transformation and Strategy:

With an ageing population, ever increasing complexities and comorbidities, rising demand for healthcare intervention and diminishing capacity we must harness cutting edge technological development to check the balance. Dignio, when partnered with Mastercall's excellence in clinical practice, has mobilised a remote monitoring virtual ward (and proactive & reactive Care Home in reach) with minimal (yet appropriate) staffing and saved lives. This is not a question of innovating towards change. Change is here. We have embraced change; both patients and systems are reaping a reward in both quality and economic reform. Join us.

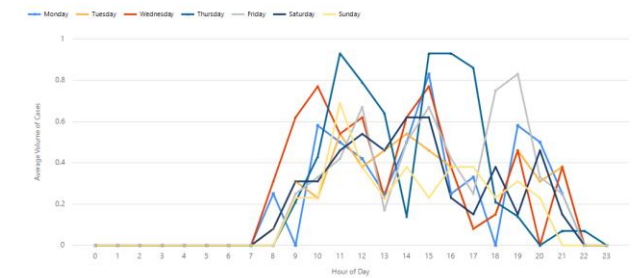
12mths Adastra Case Outcomes

Date	Total
Advice Only	67%
Other	11%
GP To Contact	6%
Medication Prescribed	5%
999	5%
Admitted to Hospital	2%
Unmapped / Not Applied Info Outcome	2%
Advised to attend ED	1%
Onward Referral	1%

TEL Referrals by patient age



TEL Quarter Average count of Cases by day, hour of day (previous full quarter)

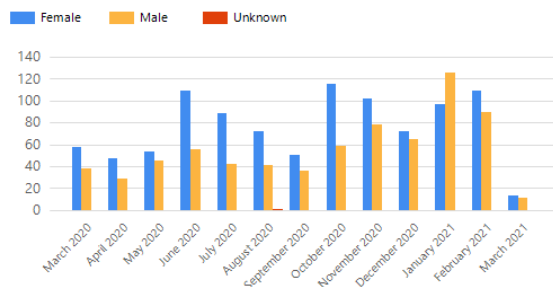


Condition	Top Ten
Viral infection NOS	1
Lower resp tract infection	2
[D]Cough	3
Difficulty breathing	4
Other Therapeutic Procedures	5
Asthma unspecified	6
Lower respiratory tract infection	7
2019-nCoV (novel coronavirus) detected	8
Upper respiratory infect.NOS	9
Other resp.system diseases	10

Quantitative Data

- Over 1100 patients stays (average of 22day or 14 median days) to date
- Thousands of patient interactions & ten of thousands of readings
- c2106 high acuity clinical interactions
- 8% of urgent response (Adastra) cases resulting with a Hospital Outcome
- 67% of urgent response (Adastra) cases closed at advice
 - 44% *average* admissions avoidance rate based on substantiated clinical audit (team of clinicians, 3 separate audits)
- Continual development of new pathways including Long Covid

TEL Referrals by patient gender



Integrated Pathways



In addition to Care Homes. Community and COVID Virtual Monitoring TEL has been integrating with wider services:

Integration with specialist services

What we have found is that home visiting can be very time consuming for most teams and at times they can be inefficient but necessary if you need to check someone's observations etc. We have linked with the heart failure team and the COPD team to offer remote monitoring and we are working with these teams so they only need to see a patient face to face when necessary and all monitoring can be done remotely which is a better use of their time but also empowers their patients to self-care.

Integration with Discharge to Assess and Primary care

The complexity of patients that are being discharged into the community and into the Discharge to assess facilities have increased. Therefore, remote monitoring is invaluable and has proved very beneficial to not only the care home but also to commissioned GP services. This in addition to the rapid response of the H@H element of the service provides an enhanced community response to deal with the increased need and complexity. The team have now progressed to offering IV fluids to patients in a care home setting which has reduced the need for admission and safely manages patients through remote monitoring and integration with the care home staff. Its also been noted across the care home sector that the TEL service is also enabling care staff and they feel more empowered and skilled especially in relation to NEWS2 and Response2.

Typical Cases on service



Case 1

56 year old gentleman referred from the IV team.

TEL team accepted the referral and commenced monitoring over the last few days the patient was receiving his IV antibiotics.

Monitoring at home consisted of temperature, pulse and oxygen saturation measurements on a daily basis, carried out by Mr R and relayed to the TEL team via his smart phone. Mr R had a mild learning difficulty and during lockdown he had not been engaging in his normal daily activities, which he was able to share with the TEL team. As well as offering the monitoring of daily observations, we were able to offer Mr R wellbeing support through the App with a set three questions answered daily of emotional wellbeing.

The TEL service continued to monitor Mr R for a further three weeks following completion of his home IV antibiotic regime, incorporating a planned gradual discharge ensuring any new support is in place. As the discharge date approached, Mr R reported his wound to his foot was beginning to hurt again with a strange odour. The TEL service referred the patient back to his GP for review. He was further referred back to the community IV team thus avoiding a potential admission to hospital as early detection of the infection was picked up.

Case 2

Mrs S telephoned 111 reporting both herself and her husband feeling unwell. Following a telephone triage an ambulance was called and they were both transferred to the Emergency Department for further assessment. Mr & Mrs S were both unwell with COVID-19 and were unwell transferred immediately to the ICU.

Mrs S had been made aware of the TEL service and when she was discharged from hospital, she self-referred to the TEL service. She was enrolled on the service for home monitoring and remained with the TEL service for a further two weeks while she was recovering. This reduced LOS in hospital while she was safely monitored in her own home.

Case 3

Ms W, a 27 year old lady referred from the COVID clinic where she was originally referred by her GP for review following a positive COVID-19 test nine days earlier. Ms W remained symptomatic with worsening symptoms. The TEL service monitored Ms W for a total of 12 days where her heart rate and oxygen saturation were assessed daily. On her day of discharge from the service, Ms W praised the team for the support she received and confessed to feeling 'scared' but reassured once enrolled on the service, knowing someone was at the end of the phone or text via the Dignio App.

The team have gratefully received thank you cards and some small tokens of appreciation in the form of chocolates and flowers. The positive feedback has been a pleasure to receive.

LIVES SAVED: Family Quote

Case study

I can say from personal experience, my own dad who is in residential care benefitted from dignio, to the point I believe it saved his life. He had increased confusion, lethargy, high temp and was initially diagnosed as having a skin infection. Due to the temperature, to GP agreed to get him swabbed for potential covid. Over the next 2 days his fever worsened, with a dry cough, sore throat , increased lethargy.

The team agreed to add him to dignio as potentially he had covid.

On the first consult, the clinician did a video consult also, as he was concerned at the low oxygen levels. My dad was not easily rousable and showing signs of confusion. The clinician arranged an ambulance transfer.

On the way to hospital in the ambulance , his oxygen levels dropped to 86%. His should be 95-98%. He has no respiratory disorders.

He was diagnosed with COVID and pneumonia. He was very unwell. He wasn't a candidate for a ventilator but was offered iv antibiotics, fluids and oxygen to manage his symptoms.

I am delighted to say against all odds he has recovered. He is now back home and is having a further period of dignio monitoring. His oxygen levels are improving daily. My family cannot express our thanks more.

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Further Potential

There are still further areas for development of the TEL service:

- 24/7 monitoring with skin patch to increase Step Down utilisation
- Supported early discharge and integrated social and health virtual MDT with vital signs input for rapid DTOC alleviation.
- Intermediate care monitoring especially related to falls
- Outpatient clinics
- Reduced social isolation – improved mental health
- Cardiology monitoring
- Increased use of video consultation
- Increase use of IV fluids in Hospital at Home service (where appropriate).
- Improved links with GP's, Consultants, and specialist teams to remotely monitor their patients
- Training non-clinical staff to monitor the platform which would release clinical staff to manage any clinical deterioration and make the service more cost effective.



Summary

The Service offers improved patient care, saves patient lives and bring Health and Social Care delivery into an Agile Age of Digital Delivery whilst achieving a projected net cost system saving:

- The service has revolutionized the way we can provide high quality health care in the future.
- Most care homes have embraced the technology and it's empowered the care home workforce which has directly improved care to our frail elderly community.
- The Covid-19 pandemic has forced the pilot to postpone widespread community engagement but has evolved quickly to support an effective Covid response to support the wider health and social care system with additional benefits of remote onboarding.
- We have great opportunities to develop the model further and we must ensure this new way of working continues to transform health and social care this Winter and beyond...