LLR Connected Care Programme

Keeping you involved every step of the way

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Thanks also to the care home teams who diligently answered surveys, attended focus groups, and provided such valuable insight to the homes they in work in across the region.

Thanks also to the area leads who have been instrumental in its implementation, the steering groups for their vision and Whzan for their continued support.

Whilst we have endeavoured to write this with as few acronyms as possible, there is a short abbreviation list at the end.

This evaluation was commissioned by Leicester, Leicestershire, and Rutland Integrated Care System.

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Executive Summary

Every personal intervention opens a window of opportunity to look into one's health and wellbeing. People are living longer with increasing health care needs, and due to the prevalence of people living in care homes, some can be at higher risk of becoming unwell resulting in further medical interventions.

In the backdrop of Covid, care homes are still working under stretched resources, changing working relationships, and funding pressures. Equally, there is a wider national focus to support people to live well in their own homes through transferring non-urgent care to community-based support. For many people remaining in the place of their choice is a high priority.

Non-clinical staff, who know residents well, often notice changes in behaviour. Such behavioural changes can be associated with deterioration in residents' physical and mental health. Therefore, with some training this group might be best placed to take vital signs and escalate concerns. The National Early Warning Score (NEWS2) is the only validated tool in use across the NHS, and through National initiatives, the tool has been gradually introduced to care homes, when supported with digital equipment readings can be taken and transferred immediately to a GP or other multidisciplinary members (MDT) (e.g. pharmacists, district nurses and specialist teams) to enable monitoring of long-term conditions and general wellness by facilitating the annual health check.

Leicester, Leicestershire, and Rutland (LLR) are one of the 42 integrated care systems (ICS) that have been newly formed across England to deliver both health and social care. LLR ICS has recently undertaken this pilot to examine the utility and usability of digital deterioration monitoring tools across its care homes, as most acute services are centrally based, this can result in care homes on the borders encountering long transfer times or accessing neighbouring hospitals in other regions. Across England, 70% of care homes are listed as residential homes, therefore this pilot has focused on the people living and working in this category of care home.

The Whzan Blue Box was chosen as the remote monitoring tool for this pilot. The box contains all the equipment to take a NEWS2 score, seamlessly translate this score into the persons profile and make the chart available to a clinician via digital transfer or portal. Soft signs tools are wrapped around to support the translation of worries and concerns, alongside an SBAR, a Nationally recognised handover tool and additional assessments based around the Enhanced Health and Care Home framework (EHCH).

Like any intervention in any system implementing digital deterioration monitoring tools requires change management. This evaluation addresses the implementation process, the impact on system outcomes and the people operating within the system. At its core, the evaluation explores the experiences of the users.

'Vicarious learning' allows people to gain from the experiences of others, understand the nuances of culture and change. This pilot has worked towards building new trusted relationships between care homes, clinical and operational support whilst providing a voice for those that live there. Homes and programme leads have been involved in the journey and process from the outset, generously sharing their experiences to help shape future work.

We heard innovative solutions to embed its use, including how the Whzan Blue Box supported those with learning disabilities, reduced waiting times whilst on phone calls to surgeries and expedited interventions. We also captured the challenges and negativity that some experienced alongside the broader system expectations in the wider data sets.

In this rapidly changing world of technology, this evaluation may not set the course as a compass would but offer up a blueprint for future work based on the users' insights, needs and motivations. Constantly reminding us that people are at the heart of what we do, their needs, wants and desires drive us to go the extra mile.

> *"It is brilliant, so easy to use, I have trained my seniors and staff on the Whzan, we use it when residents are unwell or acting differently, perhaps triggering for an infection, results are added to the ipad and stored, we use care docs, this has the news2 score on so we can enter the details on to their care plan*."

Definitions of Remote Monitoring

Remote monitoring - Remote patient monitoring is a technology to enable monitoring of patients outside conventional clinical settings, such as in the home or in a remote area, which may increase access to care and decrease healthcare delivery costs, can be used as virtual wards to facilitate step up and step down of care, equally, pre and post-operative care.

Telehealth - Telehealth is the distribution of health-related services and information via electronic information and telecommunication technologies. It allows long-distance patient and clinician contact, care, advice, reminders, education, intervention, monitoring, and remote admissions. Established across the NHS in specialised services to enable faster diagnosis and intervention for example in stroke and trauma management, now being adapted for support personal monitoring. Telehealth is very much begging to merge with remote monitoring.

Telecare - Telecare is generally more distinct from telemedicine and telehealth in that it refers to devices that have the main aim of enabling people to remain independent in their own homes by providing technologies to support the individual or their carers' in various ways. Most notable are the pendant alarms.

Demographics

Leicester, Leicestershire, and Rutland have one of the most diverse populations in the UK with over 1.1 million people, Leicester city also has a younger than average population mostly due to the two universities, it's characterised by its diversity having 80% if the city's population from ethnic minority groups as opposed to less than 10% in Leicestershire and 3% in Rutland.

These disparities demonstrate stark differences in population health equalities with Leicester being in the lowest 20% deprivation[i] and yet Rutland is more affluent, however its rurality contributes to inequalities regarding accessing health care. Leicestershire also has distinct pockets of deprivation especially in places where industry such a mining has now closed. The Healthy Living Index further supports this identifying a 10% difference between the city and its peripheries [ii]

In England there are over 14,000 care homes registered of those 70% are providing residential care LLR has upwards of 225 that could be included into a scale up program. Residential means, people treat the setting as their home and are supported with some daily tasks such as mobility, medication administration, washing and dressing. Whereas nursing homes offer additional personal care and support such as dressing changes, often supporting more complex needs enabling residents to have access to 24 hours of specialist nursing support.

People can stay in residential care for long, medium, and short-term care. Whilst mainly the older generation access this, residential care can also cater for people from the age of 18 for example, people with learning disabilities. Transitioning into adult care can be challenging process to navigate. Funded privately or through local authorities care packages are assessed according to their personal needs.

Life expectancy[iii] within care homes walls is lower than those remaining at home. An ONS study of Care home residents in 2021/2 identified that people aged between 65-69 years life lived in a home can be 6 and 7 years, after the age of 90 this reduces to 2.2 – 2.9 years, with females living the longest. For those in non-residential care this number is significantly higher, for the same age bracket of 65-69 years life lived at home can be as long as 20.2-23.3 years, again with females living the longest meaning the cost of care in either setting can be significantly high over time depending on needs.

Care home average weekly costs are escalating above £1000. Compared to the average care package of £18 per hour, the costs are significantly less if people remain in their own home. An example of this are programmes such as Blood Pressure Monitoring at home, an NHS initiative making 220,000 Blood pressure measurement devices available to people to enable initial diagnosis then regular monitoring of treatment for people with high blood pressure.

The Enhanced Health and Care Home framework[iv] model (EHCH) is moving away from the reactive traditional model to one the is person-centred and proactive and states that people in care homes should expect the same level of support as it they were in their own home.

During the pandemic care homes were particularly challenged when health care professionals were prevented from entering due to infection control measures. Since then, across the country there has

been a focus on connecting homes remotely, designing pathways and ensuring governance process are in place to support this. There has been a rapid roll out digital systems potentially adding variance into the system, duplication of work and increasing risk of harm. Using a standardised common language such as NEWS2 and a standardised interface can deliver one version of the truth whilst still providing competition in the market and choice for users.

Supporting people to live well are our social care staff. With demand outstripping the workforce, this has created huge challenges for providers, traditionally made up of women (82%) with almost a quarter on zero contract hours and 28% of staff being over the age of 55. Turnover in the Midlands is slightly lower than the national average of 10.7%. Whilst the Midlands are recorded to have a 10.3% turnover, that still results in 400,000 leavers[v] impacting both provision and delivery of care.

Services

Most services are delivered centrally for example, the emergency department for the region is in Leicester City centre. However, for care homes on the peripheries, their residents may also access Peterborough, Nottingham, Burton, Stamford, and Grantham creating a challenge when it comes to joining up personal health records.

Equally for the older generation these services are associated with difficulties in timely access to care: long transfer times, waits, isolation, and extended hospital stays. Proactive person-centred care planning can improve decision making, increase care quality and enables personal choice.

Nationally the Virtual Ward Programme enabled hospital at home teams to remotely converse with patient using telehealth equipment. Alongside this, the region is moving toward a proactive model introducing Acute Respiratory Hubs which have opened recently across the region to offer patients an alternative to the emergency department.

All care homes are aligned to a Primary Care Network (PCN) through the Direct Enhanced Service contract that GP's work to, with supported living homes being outside of this. The onus is on the homes and staff to support residents in accessing services independently, equally for all care homes the expectation is that they will make the initial escalation to responding teams. LLR has 25 PCN's each supporting several homes.

City based care homes will access a range of services that are locally based, whereas these reduce in number for those further out of the city, the community dentist being one example. Equally, within the city, transfer into secondary care is a short distance (5-10 miles) for those living in the County and Rutland that may mean that they present at a hospital in another region (30-40 miles).

Managing Deterioration

Managing deterioration proactively can improve timely intervention from a clinician. A prolonged hospital admission often results in deconditioning, meaning the person may require ongoing support such as physiotherapy and may not be able to return to the place of their choice as services are not available.

Monitoring physiological deterioration has been standardised in the NHS, since 2012 the National Early Warning Score[vi](NEWS2) is used across 99% of acute and ambulance Trusts, mental health and increasingly community, care homes and primary care, updated in 2017 it is the only validated tool in use. Now recognised as a common language it has an aggregated scoring system based on six physiological parameters to support clinical decision making. Designed to support early decision making it provided a common language for transferring patients and staff to other NHS sites.

Outside the NHS, soft signs tools support the translation of worries and concerns people have regarding the people they care for, there are several, each designed for different residential type homes. Care home staff in the pilot were trained using restore mini then given additional training to take a NEWS2 score. Using a structured conversation using a tool such as SBAR[vii] facilities a clinical handover, framing required information that equally requires a response ensuing that both parties clearly understand the clinical picture presented.

Nationally both health and social care are moving towards digital care records and pathways, covid increased the use of telehealth systems, equally those systems need to interface with wider digital systems to seamlessly record one version of the truth.

Leicester, Leicestershire, and Rutland have chosen to use a telehealth system. The Whzan [viii] Blue Box contains all the equipment needed to take a NEWS2 score, soft signs tools and SBAR. In addition to this are other assessments aligned the EHCH framework. The Whzan Blue Box can also be interfaced with wider equipment such as weighing scales, secure photos, and video conference calling. All the equipment is Bluetooth enabled preventing transcribing errors, the readings when taken also repeat as they are being recorded providing user assurance.

Interfaced with most of the wider systems it can be used to proactively monitor health, medication changes. Should a person require an acute phase of monitoring, they could be onboarded into a virtual ward enabling access to specialist care. Equally, care home managers can give permission through the portal to services such as 111 to provide a baseline set of observations when escalating care.

The last 100 days report[ix] notes time as a currency, requiring co-ordinated multidisciplinary care and care management the care home staff 's vital contribution, residents, families, and staff are more satisfied and less likely to require hospital services.

A lead for each area supported the implementation of the pilot with the ICS having overall oversight. 32 residential homes containing over 800 beds were recruited into the pilots across Rutland, Leicester City, and Leicester County. Of the Rutland homes 90% were onboarded into the project including their Learning Disability homes. Leicester city and County have more homes therefore only 2% were onboarded into the pilot, however these were spread across several PCN's. Also provided with Whzan Blue Boxes were the community support services in Rutland.

Governance

All homes completed the DSPT toolkit and a DSA, the ICS help the DPIA. A system wide Standard Operating Procedure was developed then shared across the ICS for escalation and response.

Overall board oversight was manged through the LLR programme transformation team and steering groups. Homes were identified through expressions of interest, with the clinical lead facilitating the PCN engagement. Loss of the GP lead during the programme impacted the PCN engagement in the county area in not establishing support for the pilot homes, this resulted homes in that area felt less supported and failed to understand the importance of the work leading to poor usage of the Blue Box.

Training

All homes received training as they were onboarded into the pilot with Whzan providing two sessions, they also completed the NEWS2 e-learning. Almost all homes used a top-down training approach training senior staff first only one used a bottom-up approach stating that everybody needed to use the box therefore everybody should be enabled to initially training the younger members as they progressed quicker providing confidence to the more mature members of the team.

You can still use your judgement however the blue box backs up your judgement.

All homes replying to the post training survey said that they felt more confident following the training with an overall rating of 9.43 out of 10 for delivery and effectiveness, also noted was the flexibility virtual training, however, to enable choice and competency other visiting professionals should also be involved.

Methodology

At each system level the data collection grew over time, both qualitatively and quantitively, focusing on the people impact in addition to system wide impact, we wanted to understand the nuances in the homes for those people who didn't result in an admission, where the project added value capturing individual experiences through both questionnaires and monthly focus groups.

Questionnaires were sent using Microsoft forms, with an average of less than 5 minutes homes completed these per-pilot then monthly as the pilot progressed. This enabled concerns to be feedback to the wider programme team.

The groups provided a holistic view of those involved. Offering valuable insights into their strengths and challenges, whilst bringing together shared experiences that highlighted areas for more detailed discussion. They also provided space for specialist homes to collaborate, gain peer support, engage across a further reach. They also enabled iteration in real time through garnering valuable feedback.

Activity data from the boxes was also captured in terms of usage and completed NEWS2 scores, LLR also provided admission data, measured over time to enable triangulation of high level and care home data.

Each area lead connected directly with care homes in the pilot at least weekly, sometimes daily. All three pilot groups were then aligned to enable shared go live dates and focus groups. The group met fortnightly to share insights and challenges and monthly as part of the focus groups, included in the invite were the wider clinical and operational teams. Unlike Leicester and Rutland, Leicestershire choose not to allocate designated time to the pilot, adding it to an already busy portfolio resulting in delays onboarding homes into the pilot.

Distribution

31 Whzan Blue Boxes were distributed across 11 of the 25 PCN's. Whilst not all 53 GP surgeries were not involved, it provided an opportunity to understand the pilot and garner valuable insight into how this could support the wider communication between their homes and the multi-disciplinary team.

	Homes	Beds	PCN's	GP surgeries
Rutland	9	401	1	4
City	6	195	5	27
County	5	233	5	22
	20	**829**	**11**	**53**

The Blue Boxes and all consumables, batteries, temperature covers, and BP cuffs were funded centrally and distributed by the Rutland Team during the pilot. In terms of scale this model would need further consideration for longer term delivery and funding.

Findings and Discussion

Over 5800 vital sign observations were recorded in the Whzan data, of those 422 were NEWS2 scores, homes clearly used the Blue Boxes when worries as some have NEWS2 scores of 7 and above, we also learned the average NEWS2 score was in the 3-5 bracket, however, this isn't represented in enough detail for clinical research purposes. The most activity took place in Rutland and Leicester City with Leicestershire having very little usage until later in the project.

Some homes withdrew from pilot for varying reasons; one sold and another closed whilst some felt they were unable to start. Equally these had less engagement with their leads and the wider pilot groups. Of those who did engage, they remained in contact and grew in confidence over time. Whilst we found differences demographically each shared some commonalities of successes and challenges.

Maintaining engagement in the early stages was a pivotal to sustained use. Working with homes, the area leads who had designated time to pursue this were more successful during the implementation. The familiarity also enabled troubleshooting challenges as the arose and supporting with consumables.

Whilst secondary care was a short transfer away in the city, for others this meant accessing care in neighbouring counties 30 to 40 miles away, we found that more remote locations established a single point of contact whereas those in the city had several which could create some challenges around the familiarity of equipment used between to responding teams.

Homes quickly got used to the equipment with most using it weekly, all used it to escalate concerns, however, for some it hasn't been integrated into the weekly ward round. As confidence in its use grew, all reported it improved the communication between them and the surgery and were able to receive support earlier from outside services. For many this reduced time on the phone, unscheduled visits, and enabled residents to remain at home due to early intervention and treatment.

"We have only recently started using the box and used it when a resident was very unwell and were able to get a good respond from the GP and able to start antibiotics without delay with positive outcomes for the resident and avoided a hospital admission."

Releasing Time to Care

In Rutland, releasing time to care came from several sources. Homes reported initially spending up to 3 hours 30 minutes contacting the surgery this reduced in both numbers of call and time involved from 5-10 times a week to 0-5 times with a waiting time of 15 minutes. Equally, all the homes felt that having some clinical information available supported their conversation, and people seemed to take more notice of them. Having baseline information supported homes to maintain confidence on wellness resulting in a reduction of unscheduled visits. Staff also reported using NEWS2 as part of the homes weekly MDT and understood that it provided translation of their worries and concerns. The care coordinator has a close relationship with all the homes which supports the communication between some and the GP.

> It has given us more confidence when requesting additional medical

In the city there were different challenges relating to confidence in staff recording data in the Whzan Blue Box. One home reported healthcare professionals questioned if staff were able to deliver an accurate NEWS2 score using the Whzan Blue box. In contrast another home escalated an unwell resident using the box and got an immediate response from the GP, who was then able to start antibiotics and avoid an admission. This group also felt that it didn't reduce the time spent on the phone with the GP, however they did reduce the number of unscheduled visits by improving their confidence.

Recommended use of the Whzan Blue Box is monthly to maintain skills and provide a baseline. However, this can be time consuming if every resident's observation are collected on the same day. Suggested ways to manage this is having a "resident of the day" or "Whzan Wednesdays" where base line observations are recorded, promoting continued use, improving confidence and sustainability.

> I would like the system to be less time consuming, all our residents sometimes can take up to 1-2 hours.

The information flow on the software can be altered to enable NEWS2 components to be on one page reducing the time spent inputting the data, also noted was one home using the status-at-a-glance dashboard to review all residents.

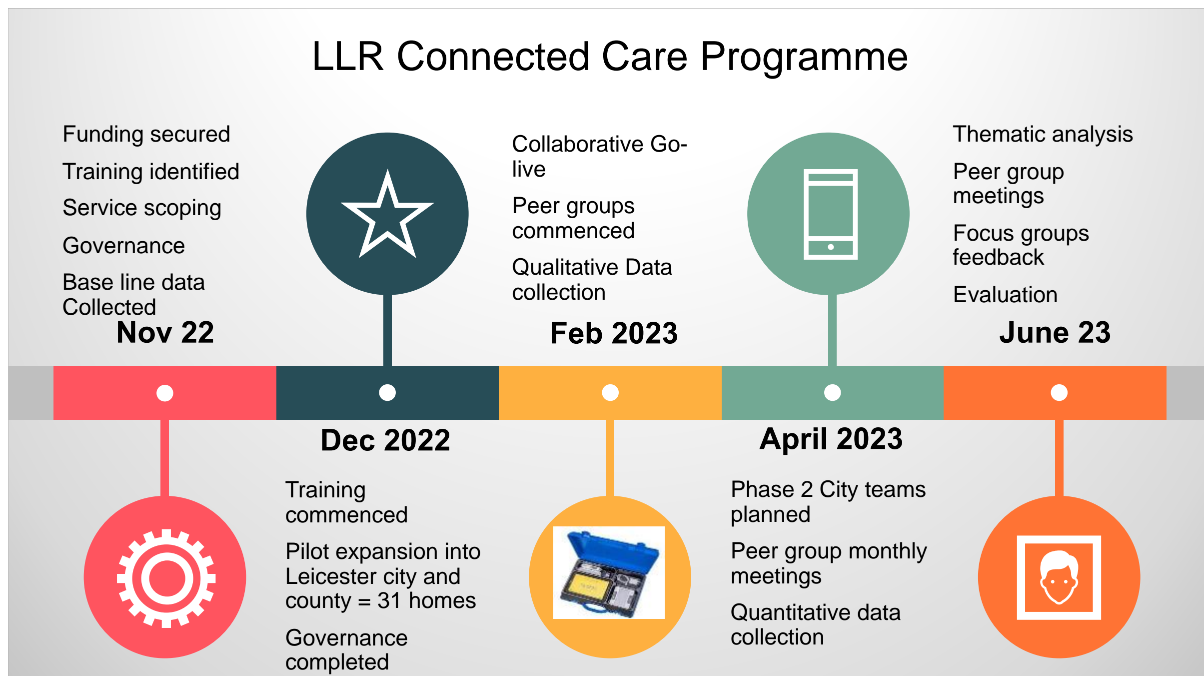
Implementation

For those that embraced the pilot usage became business as usual add into local policy, changes in the programme board impacted on the GP engagement as the lead was not replaced, equally changes in re-organisation of the ICS impacted on the project time.

All the leads found the pilot more time consuming than expected with all experiencing challenges onboarding GP's and local health partners. Encountering push backs around duplication from homes and concerns about increased workloads from the GP's. Even as one ICS, siloed elements continue to exist, with the division between the local authority and the PCN's felt to be one of the key challenges. Moving forward, stakeholders need to be engaged and included prior to equipment delivery, working with rather than doing to as part of the overall strategy.

Reminding homes to use the box, the leads called care homes less frequently but noted some drop off in activity whilst the Leicester city lead was on annual leave, to scale provision to do this needs to be in place, equally supportive are the nursing teams an untapped resource in the project as were the pharmacy team who regularly interface with the homes.

Virtual meetings supported the keep the pilot on track, share information and iron out any issues in real time, bring the leads and homes together in the same place. All said this worked to benefit the programme whilst virtual delivery allowed for further reach and time saving.



Building Relationships

All the area leads were based in the local authority whilst the Rutland lead was also a part of the Rise team (Rutland integrated support team). The care-coordinator and had an established relationship with the homes. All established a relationship with the homes undertaking the weekly, then monthly phone calls. Bi-weekly program meetings were felt to be beneficial providing an opportunity to exchange and compare, bring forward conflicting priorities in the project.

Integrated neighbourhood teams are a key feature in LLR care model. Aiming to keep people well out of hospital through delivering care at a local level using a multi-disciplinary approach. The cornerstone of each of the 25 PCN's supporting the residents of LLR to access specialist support from home.

Overall, the programme required the area leads to connect with the home managers weekly to provide advice on usage and consumables. In the initial stages this sometimes meant establishing the relationship between the GP and the home. It was felt that those working from within the PCN were in a better position to facilitate this as they were often involved in other activities such as the MDT weekly ward round.

Monthly focus groups provided the opportunity to understand homes as individuals. Their priorities, and limitations whilst enabling broader conversations of support across the region. They provided a safe space to raise challenges, equally hear first-hand the impact the system has had on the people involved.

The Whzan Blue Box featured in family meetings too, one home held family meetings where the box, its use and contents would be part of the conversation. Families were said to have felt reassured and included in the care homes business activities.

The pilot also supported homes to build trusted relationships with their GP or practice nurse. It's clear that the homes that managed this were more successful in sustaining usage. The Rutland PCN care coordinator was instrumental in facilitating this for their area. For city homes that have access to several services independently of the MDT the picture is not so clear as the area lead was based in the local authority, equally the same applies to the homes in the county area.

Creating a demand for the data holistically can enhance the information shared between the home and services. It validates conversation, building confidence at both ends of the spectrum. Used proactively the data can build a collaborative personal picture over time, one that can benchmark changes in condition, inform and support future care planning.

Focus on Learning Disability

Most noted was the use of the Whzan Blue Box in the Learning Disability homes. People with learning disabilities often spend their lives in the same home, they are familiar with their surroundings, the staff working with them and have a routine. Change can increase anxiety that for some is difficult to process and manage rationally.

People with learning disabilities are more prone to long term health conditions such as diabetes, heart conditions and respiratory problems[x]. Overall life expectancy is shorter by 18 years for women and 14 years in men, over 70% of people live in residential care. Several national reports[xi] have identified that a higher percentage of people with learning disabilities died from avoidable causes, identifying barriers to health care such as travel time, recognition of deterioration, confidence in escalation and not enough involvement allowed from carers in hospital.

Procedural anxiety can be a huge barrier, whilst annual health checks are on the rise (55.1% from 49.7% in 2017[xii]) there is still some work to be done. Frequent use of the Blue Box and its equipment has enabled staff to reduce anxiety, reduce hospital visits and monitor medications, we heard of a resident so anxious they felt they couldn't leave the house and would often engage with 111 services, taking a set of observations reassured them that all was well, and they completed their day successfully negating the need for round trip to the health centre or ED. Also noted over time was a significant reduction in calls to 111 services.

"With some of our more challenging residents, who do not like intervention or invasion of personal space, I actively involve them, I ask them to hold the ipad for instance when taking blood pressure, I have even done blood pressure on a doll! this is to reassure the resident, I have also advised the staff to leave 1 finger nail unvarnished as this can interfere with the thing you put on the finger for stats, oxygen. Residents are now used to seeing the 'blue box' to be honest it makes them feel important to have observations done and recorded. it an immediate way to trigger a GP call or 999".

Two homes reported that the level of service from GP's had become limited since covid meaning a 30-mile journey to either Leicester or Grantham hospital. This potentially means using a member of staff to chaperone a resident to hospital, so have used it to access reserved appointments. They also reported residents very quickly adapted to having observations being taken.

Desensitising people to procedures has been a common theme in the focus groups, homes reported cases of avoidable admissions as staff felt more confident and able to facilitate monitoring at home. Establishing trusted relationships with their GP another felt an early admission reduced the overall time spent in hospital as they could monitor the resident with the GP's support on their return.

Homes equally must manage to cost of a transfer, and impact on overall funding. Some funding is activity based; therefore, an unnecessary hospital trip can use a week's worth of funding, homes also need to provide a chaperone (usually a staff member), we heard an example in one home where the hospital would have been a 40-minute drive away.

Data

Admission data

Data was made available for both Leicester City and Rutland care homes. Both demonstrated a reduction in admissions whilst we cannot conclude that this was all due to the usage of the Whzan Blue Box we can demonstrate some potential saving if scaled.

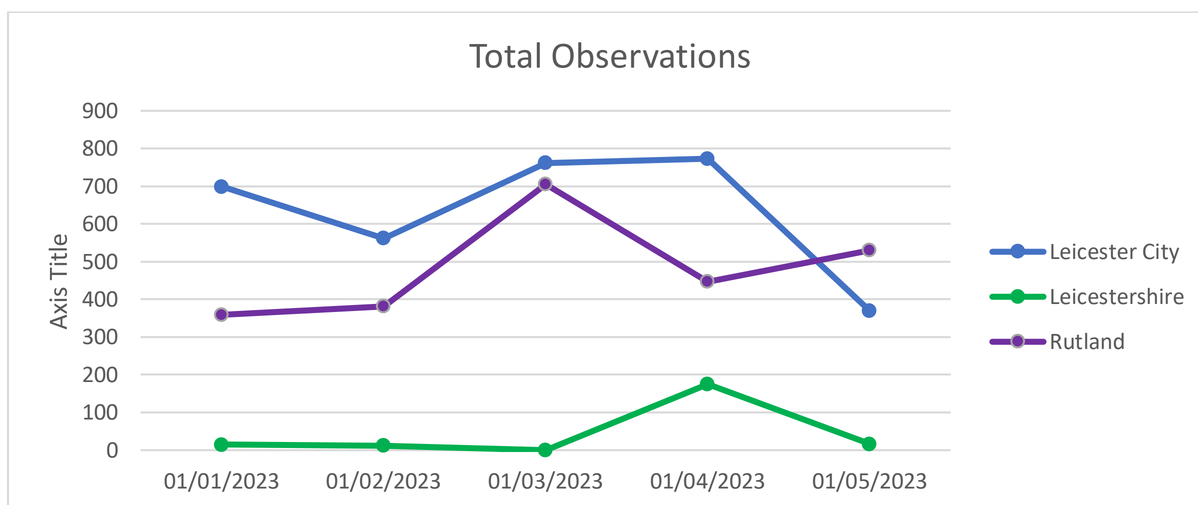
	Whzan blue box cost	Admission reduction	Conveyance cost	Average 10 day stay	Saving
Rutland	£6,440	32	£7,200	£292,800	£293,560
Leicester City	£2,700	34	£7,650	£311,100	£316,050
Totals					**£609,610**

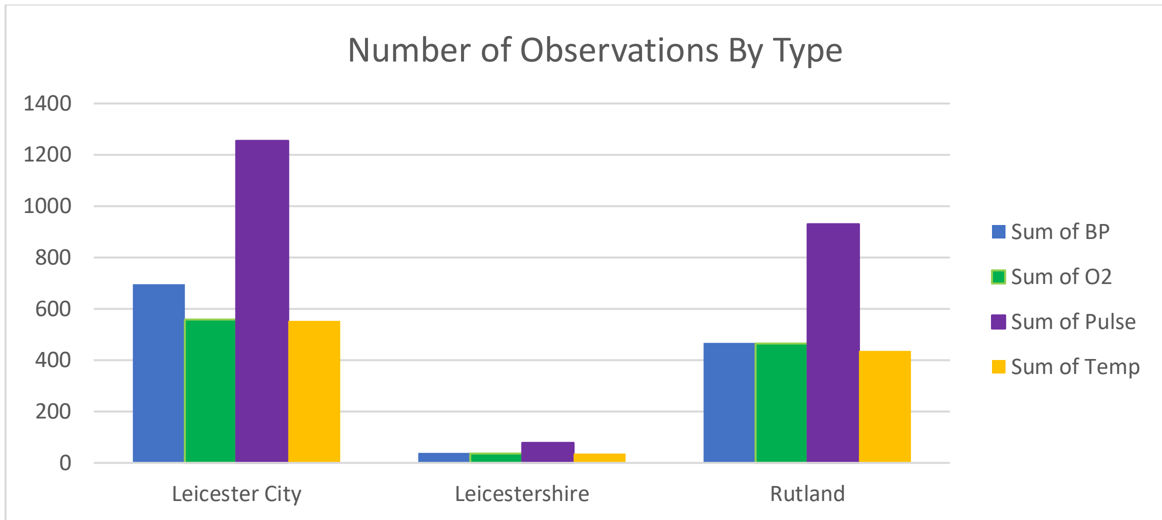
If the county homes had also engaged this number would have potentially increased by a further £300,00.00 and seen a further reduction in admissions, equally this data only relates to a four month period – over a year could result in £210,00.00 in savings

Scaling the programme could see benefits across the whole system in efficiencies and recruitment and retention, equally there would be people who have been living with undiagnosed conditions that a programme such as this highlights that are now receiving the correct treatment to live well in the home of their choice.

Activity data

This data has been collected and processed from the monthly data set provided by Whzan, whist there is not enough for true SPC, there are definite trends in usage.



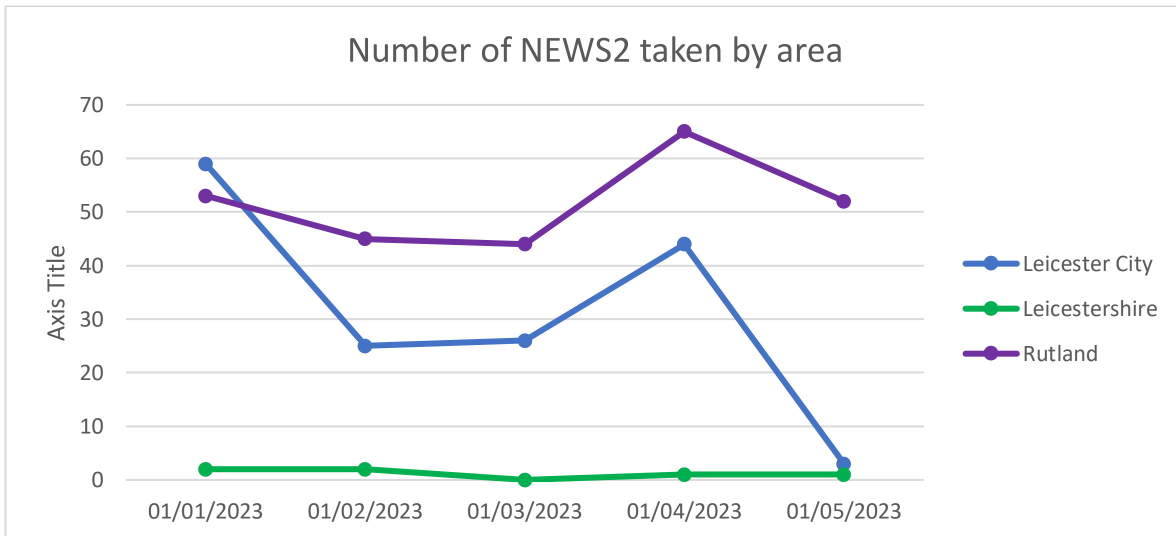


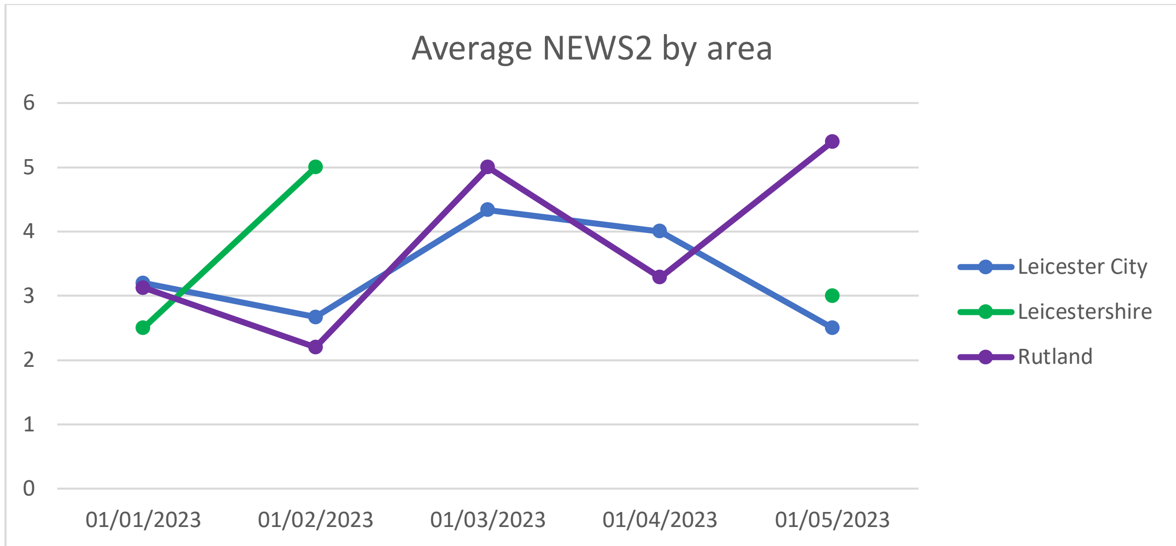
The Whzan tablet orders the observations to be taken offering the choice to perform a NEWS2 score part way through the system, whilst this allows for monitoring of one parameter such as blood pressure for medication changes, it can discourage the completion of a NEWS2 score.

Ordering the NEWS2 score on the front screen would resolve this whilst maintaining a general baseline.

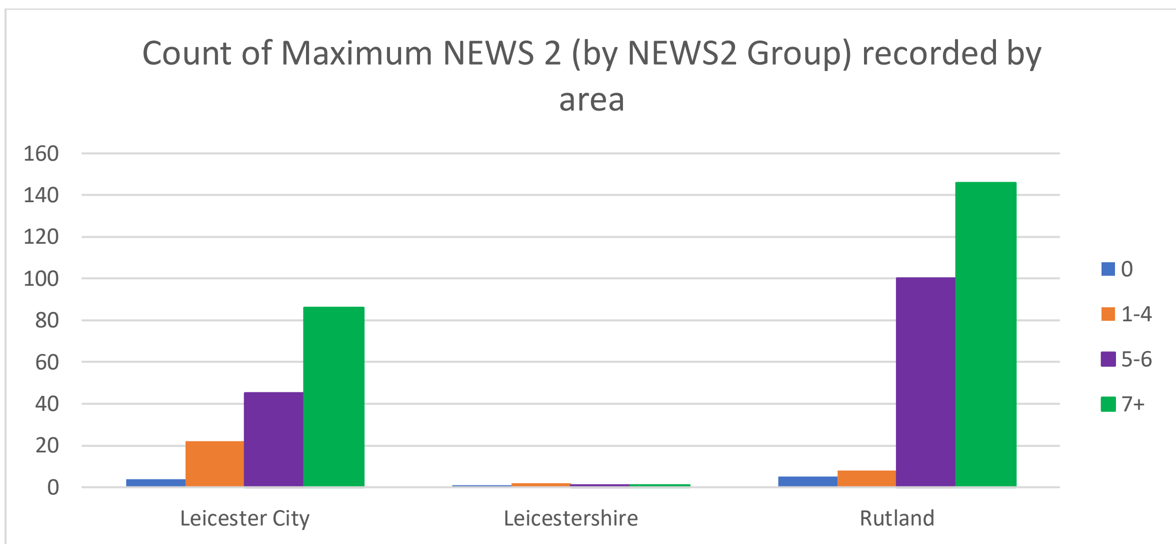
Also reflected in activity are the county homes, without designated time to connect with the homes in the early stages prevented usage.

NEWS2 data





As mentioned above this does not represent the whole data set as the NEWS2 score is not complete on all sets of observations, it does however provide an indication of wellness from within the walls of a care home.



There is evidence that there can be some poorly people living in care homes, deterioration tools clearly identify those, digital readings and supporting data captures it. There is an opportunity to align this with more centralised data to audit a timely response in escalation and response.

Recommendations

Training and Assessment

All staff should receive training and be competent in the use of deterioration tools, in addition to the equipment. Identifying a lead at each level in each home will support the transient workforce, equally those remaining in LLR will support adoption and spread. Whilst virtual and e-learning training offers further reach, embedding training through professional supervision would support ingoing competency and confidence.

Implementation

Fundamental to the success of wider roll out will include system wide understanding of current pathways, nuances, and operational insight of care homes in the region. Focus groups provide valuable insight to support wider understanding at each system level.

On-boarding clinical and operational leadership at programme level, collaboratively designing a standardised widely distributed escalation pathway that can be disseminated system wide that includes representation from EMAS, out of hours and local services in the design.

Consider a regional register of homes with a Whzan Blue Box, shared with EMAS enabling outside services to connect when needed to.

Duplication of data was noted as a time pressure, care homes have a plethora of systems in place. It's important that these are included in scoping prior to any scale to understand interface requirements. Scaling up also provide the opportunity to interface further than EMIS and Systm 1 into a central record and acute services, Nationally, there are already plans underway to resolve this, equally may have funding attached.

Creating a demand for the data by encouraging visiting teams to use the Whzan Blue Box for either recording information or receiving, such as secure photos supporting ongoing use and encourages best practice for data protection. During the pandemic, care home staff were noted to be using personal devices to connect with outside support, alternatives were not available at the time.

Establish a designated facilitation team supporting the implementation at care home level. Building relationships would be fundamental to scaling up to ensure challenges and ongoing priorities are met. Each home having a key contact or two to mitigate the transient nature of social care staffing, equally for those remain in the care sector will spread learning. The team will work with, engage, and facilitate the wider use of other assessments to support the EHCH framework, embed and create sustainability.

Consider a buddy scheme, connecting homes with high activity to those with low, keeping the programme as an agenda item keep momentum in the programme, when considering rapid roll out this group will then interface with the programme facilitators providing additional peer support. LLR

recently highlighted the top 16 admitting homes, there is an opportunity to buddy those remotely with those where we have seen reductions in admissions.

Pharmacy teams are heavily invested in care homes, paired with weighing scales would be advantageous to their work, equally aligned with long term care regimes and medication change monitoring, equally wider EHCH assessments, e.g., falls, oral health, aligning the project with “oral health matters” programme, connecting homes with training and community dental support, community AMR guidance[xiii] and end of life care.

Larger homes and those with more than 1 floor or bay should have more than 1 box to prevent unpairing of the equipment. Homes should be Wi-Fi assessed, identifying those that can use MESH to improve coverage. The Whzan Blue Boxes should also be SIM enabled to prevent data loss, providing emergency preparedness.

Whilst Whzan were very responsive to parts needing replacement in the pilot, consider adding a box to the equipment library and a selection of cuff sizes of which the facilitation team would manage alongside the consumables. This would support ongoing use and gauge future added costs.

Research

There is huge potential in involving research when exploring the data in more detail. In how we can design and provide services that are fit for our future needs. It is already understood that people are living longer with more co-morbidities, data such as this can go some way to designing personal care plans, advanced decision making and predicting workforce requirements.

Upgrades and Procurement

The homes would benefit from having NEWS2 on the initial home screen to encourage flow through the software, equally the implementation team would be able to relay first hand regular upgrades to the equipment. It would be of benefit if this could be on a regular review basis to understand those homes who haven’t either received or upgraded their devices to the latest software.

Procuring systems that interface using NEWS2 as a common language allows the use of several technologies by each clinical group, allowing for variance whilst maintaining a standardised process.

Whzan were very responsive to parts needing replacement in the pilot, consider adding a box to the equipment library and a selection of cuff sizes, other consumables via a register will support usage.

Long Term Budget

Almost all devices now require licencing over time, budgets should reflect this activity alongside facilitation, consumables, and analysis of ongoing outputs. Provision should also be made for

replacement over time enabling the facilitation team to transfer over with as little impact as possible on the residents who benefit from it.

This programme if scaled applies to both health and social care, as one ICS budgeting would need to have a collaborative approach ensuring all parties are involved in the conversation, whilst we can demonstrate the saving on admissions impacting health budgeting, equally we can realise the enormous potential in use across the LD homes supporting people to live well for longer based in Local Authorities, therefore and initial detail scoping exercise would be beneficial in terms of usage, costs and long term planning.

Each Whzan Blue Box cost £400 with a licence fee of £1 a day with VAT added depending on where the funding is coming from. Alongside this cost are the consumables, batteries, temperature probes, BP cuffs and broken equipment. To generate wider use and efficiencies, there is also the option to add other Bluetooth enabled equipment to them such as weighing scales, ECG's and stethoscopes raising potential use in cardiac and respiratory long-term monitoring.

Some homes require more than 1 box and this should be identified in the early planning stages, there is the opportunity to use them for pre and post operative care, or by the Home First teams and unscheduled care services as relay boxes which should also be considered in the initial budget.

Depending on the models used a core facilitation team would still be required for the initial programme scale, this cost would then become recurring as would analytics.

Over time there would be an expectation to replace rather than repair and the software will have reached capacity in relation to the hardware, on average every 5 years depending on supplier, this also needs to be included in sustainable planning. This equally maps out time to scope and readdress both health and social care requirements in this ever-changing world.

Abbreviations

AMR	Antimicrobial Resistance
DES	Network Contract Directed Enhanced Service
DPIA	Data Processing Impact Assessment
DSA	Data Sharing Agreement
DSPT	Data Security and Protection Toolkit
ED	Emergency Department
EHCH	Enhanced Health and Care Home Framework
EMAS	East Midlands Ambulance Service
GP	General Practitioner
ICS	Integrated Care System
LD	Learning Disability
LLR	Leicester, Leicestershire and Rutland
MDT	Multidisciplinary Team
NEWS2	National Early warning Score Version 2
NHS	National Health Service
PCN	Primary Care Network
SBAR	Situation, Background, Assessment, Response
SPC	Statistical Process Chart

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