The Queen's Nursing Institute

Nursing in the Digital Age
Using technology to support patients in the home

The Queen's Nursing Institute

The Queen's Nursing Institute is a charity dedicated to improving nursing care for patients at home and in the community.

We work with nurses, managers and policy makers to make sure that high quality nursing is available for everyone in their homes and communities. Our aim is to ensure that patients receive high quality care when and where they need it, from the right nurse, with the right skills.

Today we improve nursing in the home:

✚ By funding nurses' own ideas to improve patient care and helping them develop their skills through leadership and training programmes.

✚ Through our national network of Queen's Nurses who are committed to the highest standards of care and who lead and inspire others.

✚ By influencing government, policy makers, and health service planners, and campaigning for resources and investment in high quality community nursing services.

✚ By supporting community nurses working with people who are homeless through our Homeless Health Programme which provides news, guidance and workshops.

✚ By listening to nurses and developing resources and guidance to support them.

✚ By offering financial assistance to community nurses in need and providing grants for community nursing courses.

✚ By encouraging social interaction between current Queen's Nurses and retired Queen's or community nurses through our telephone project, 'Keep in Touch'.

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Foreword

Most of us recognise that the digital agenda has accelerated in the six years since The Queen's Nursing Institute (QNI) published 'Smart New World' in 2012. The changes are experienced by all of us in our day to day lives and are evidenced by recent statistics that show that almost 9 in 10 people say that they have recently used the internet. We know in our personal lives things are changing but what is happening in the provision of community nursing services?

In this report the QNI seeks to assess how community nurses, and the services they work for, are responding to the opportunity that this fast-paced digital agenda offers. As you might expect, the things community nurses told us are mixed and reflect a wide range of views, but there are no real surprises.

They told us that there is even more potential to lever the opportunities that technology creates but it will take investment and leadership. Technology done well can create more efficient services but takes up-front investment. To implement technology well it takes great leadership from nurses and the system is slow to create the Chief Nursing Information Officer (CNIO) role in community settings. If we are to lever the benefits of technology, leadership from practitioners who understand the unique challenges of providing care in the home and community is essential.

The nurses gave us evidence that things are positively changing with around 75% of community practitioners using electronic systems, but of course once the systems bed-in, nurses rightly ask for more developments, citing the need to be able to share information across care settings as a real and current issue for them; the need for interoperability of systems being evidenced in the voices of the nurses who responded to the survey.

I was surprised by the number of different systems used by the community nurses who responded to our survey – 67 different systems were mentioned. This leads me to reflect that we need data and system standards for community nursing that support consistent approaches to the recording, coding, entry and viewing of information about community care.

After reading the report I reflect that we are at the cusp of a great opportunity to use technology to really accelerate the contribution of community nurses to the wide system changes we need. The possibilities of managing caseloads alone, to free resources, and to ensure we have the right practitioners, in the right place, at the right time, to meet the needs of patients, seems to have great potential.

Some things, however, don't change and as in 2012, we still need to focus hard on culture changes to see the real integration of technology and data into nursing practice. We also need to see patients' involvement as key; they are an untapped resource that community nurses should actively seek to engage in the digital agenda.

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#DNTech

Information technology presents one of the greatest opportunities to make services more efficient and help manage patient need in a sustainable and equitable way.

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In the last generation, information technology has transformed our society; from purchasing commodities to managing our finances and accessing entertainment, our lives have undergone a technological revolution that continues to accelerate. This has created enormous opportunities for those swift to adopt new technologies, but it also poses serious and fundamental risks for those left in their wake. For various and complex reasons, health services in the UK have found it challenging to keep up with the pace of change. Information technology is transforming care, as new treatments and diagnostic tools become available, procedures are undertaken in a less traumatic way, communication between professionals is easier than ever before and geography is less of a barrier, patients both own health equipment and are increasingly accessing their own records.

There is still, however, resistance or reluctance when it comes to utilising the full range of new information technology in the healthcare environment. Some parts of the health service still display reliance on older forms of technology, such as fax machines and paper-based records, which have largely been superseded in other sectors. With information communicated by relatively slow and sometimes unreliable means, some providers are not taking advantage of the efficiencies that new IT systems can bring. In addition, patient care is more susceptible to becoming disjointed and risks are amplified.

Information technology presents one of the greatest opportunities to make services more efficient and help manage patient need in a sustainable and equitable way. This is an area in which NHS bodies and the Department of Health have shown leadership. The Five Year Forward View sets out plans to embrace technology and 'exploit the information revolution[1]' and Secretary of State for Health and Social Care, Jeremy Hunt, has called for a 'Paperless NHS' by 2020.

In 2012, The Queen's Nursing Institute (QNI) published 'Smart New World', a review of information technology (IT) in community nursing provider services. This presented ways in which IT was used in the community to empower patients and complement the expertise of nurses. The report highlighted the significant diversity that existed at that time between different NHS employers and even different teams. Six years later, this new report illustrates how IT is being used in community nursing services now, from the perspective of the staff at the point of care. From a survey of 534 community health professionals, the following was identified:

- 67 differently named IT systems are used in community healthcare;
- 74% of community nurses find IT systems a more reliable way of working, compared to paper;
- 29% of community nurses are still working largely with paper based systems;
- 41% of NHS trusts do not use telehealth systems;
- 28% of services utilise a text messaging facility to remind patients of their appointments.

Overall, community nurses are willing to engage with information technology recognising that this is a new way of working will eventually enable better patient care and increase productivity. The survey, however, also identified barriers to IT being utilised in the most effective way:

- The systems used in community healthcare are sometimes outdated and often do not always represent the most efficient solutions.

- Information technology has not been tailored to community nursing. Limited consultation has taken place with practitioners about their use of IT at the point of care. Systems have been adapted and applied to community nursing without fully considering the complexity and different needs of this sector.

- Poor connectivity hinders efficient ways of mobile working. A lack of and/or limited connectivity means that some systems do not update, synchronise or function. This leads to nurses spending time duplicating information as paper records are transferred onto systems back at base.

- A multiplicity of IT suppliers has led to the use of databases and systems which are incompatible with one another.

Recommendations

In order for information technology to facilitate more productive ways of working in the community, the QNI makes the following recommendations:

To funding organisations:

- Provide appropriate levels of funding that is ring-fenced for the purpose of digitising community health services. Long-term, funding should be provided to enable information technology to be fully implemented and supported.

- Standards should be developed to support consistency across the health and care system. There is a recognition that it is not possible to implement a single system; the use of standards means that staff will recognise and understand the information to be recorded whatever the system they are working in.

- Systems are developed specifically for staff that work in community settings, working with staff who deliver care, in order to ensure they are fit for purpose.

- Systems must be interoperable to permit information to be shared securely to support the care of patients.

To service providers:

- Consider appointing a Chief Nursing Information Officer who leads on the implementation of information technology and works collaboratively with IT support and system developers to ensure clinical needs are reflected.

- Commission only systems that are designed in collaboration with their users.

- Work with the appointed clinical leads to support employees to receive training in using information technology. This should be tailored to the individual and/or team and regular updates should be provided.

- Actively involve clinicians in the re-design of systems and any decisions regarding information technology.

- Include patients in telehealth initiatives and formally risk assess every patient to ensure the new way of working is suitable for them and their needs.

- Recognise and report on the value of mobile working to service users and the workforce.

Digital tools are now an integral part of our personal daily routine, with mobile phones and the internet now deemed to be essential to our everyday lives.

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Digital tools are now an integral part of our daily routine, with mobile phones and the internet now essential to our everyday lives[2]. For businesses and service providers also, information technology is indispensable in every aspect of customer service and relationship management. This is the environment in which the NHS is now operating. NHS England's 'Five Year Forward View' set out plans to embrace technology and 'exploit the information revolution[3]' and the Secretary of State, Jeremy Hunt, has called for a 'Paperless NHS' by 2020. There has been significant investment in 'Global Digital Exemplar' Programme with a focus on the hospital sector and on mental health services but no direct investment on community settings. Furthermore, 2017 saw the launch of the 'NHS Digital Academy[4]' , which will train and support Chief Information officers, senior clinicians, and aspirant digital leaders to drive the NHS' digital transformation. In August 2017 NHS Digital launched e-nursing week, which advocates for a digital workforce and supports the Royal College of Nursing's 'every nurse an e-nurse' campaign[5].

Attempts to digitise the health service are not new; in 2005, the UK's National Programme for Information Technology (NPFIT) was introduced. Whilst this bolstered some success, particularly with regard to implementing a secure email and GP record transfer, the community and hospital sectors failed to digitise[6]. When the programme ended in 2011, it was stated that 'little clinical functionality has been deployed to date[7]'.

In 2012, The Queen's Nursing Institute (QNI) published 'Smart New World[8]'. This report highlighted the ways in which technology was being utilised to provide patients with a sense of involvement and control in their care, alongside the ways in which nurses could deploy information technology to complement their expertise. It was evident from this study that implementation of information technology is inconsistent.

Six years later and amid a growing awareness of the role technology can play within the provision of healthcare, the QNI set out to explore how information technology was currently being utilised in community nursing services. This new report presents the views of community healthcare professionals, explores how technology is currently used in a professional context and identifies the barriers to a full-scale adoption.

Methodology

Unless stated otherwise, all information in this report was generated by the QNI.

Utilising a core group of community nurses, a survey was designed and piloted; following which it was sent to all QNI contacts (c. 8500) via SurveyMonkey. The survey was open for three months during which 534 responses were received from a broad range of professionals including advanced nurse practitioners, clinical leads, community matrons, district nurses, community staff nurses, directors of nursing, service managers, specialist nurses and team managers.

As Figure 1 shows, most respondents worked in England, Wales and Northern Ireland, with some in Scotland and other parts of the United Kingdom[9].
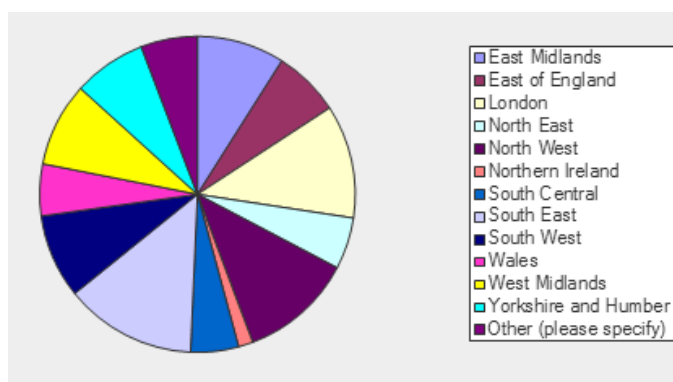

Figure 1. In which area do you work?

The survey consisted of twenty-three questions, each giving the opportunity for comments to be made. The concluding question of the survey also provided respondents with an opportunity to share their general perspectives on the role of information technology in healthcare.

**Chapter 1 - The use of information technology in community nursing**

The opportunity for patients to actively engage with their health and care has never been greater.

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Healthcare in the 21st century offers one of the most dynamic environments for the development of information technology. It offers huge potential to clinicians, including community nurses, who deliver care in a wide variety of settings including people's homes, in outreach work, in clinics and in GP practices. Equally, the opportunity for patients to actively engage with their health and care has never been greater. Advice is only a click away using 'NHS Choices', which averages around forty million views each month[10]. In turn, technology has permitted a more preventative self-managed approach to health, averting unnecessary contact with services. Information technology is also increasingly being utilised in initiatives seeking to manage demand, support patients and professionals and prevent ill-health.

The QNI's survey reflected that information technology (IT) is used in all areas of community healthcare. As Figure 2 illustrates, IT is used widely, from more long-established tools to newer platforms, such as social media.

Figure 2. Thinking of your professional role, in what way do you use technology?
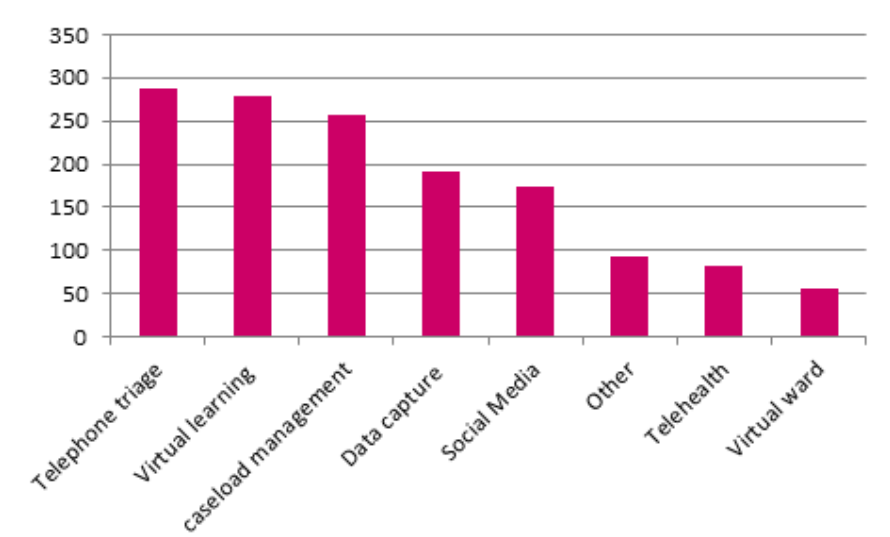
Nurses use IT to communicate both with patients and other health professionals. The survey found that technology was used to contact patients directly, by text or email, about their care, but was also used as a way of engaging with and educating the public more widely. This included video content and websites to provide education and advice, whilst social media was used as a way for services to be contacted and advice to be accessed by service users. IT was also used to facilitate communication between health professionals, with email and conference calls cited most frequently. However, older means of communication, such as fax, were still reported to be frequently used in a professional context.

Respondents described diverse ways in which IT supports service delivery, including electronic prescribing, diagnostic tools, data collection, updating patient records and referring patients to specialist services. The study also identified more innovative ways in which technology was utilised, such as monitoring wounds through photography, eClinic instant messaging and virtual consultations. Furthermore, a number of services utilise technology to provide triage and single-point-of-contact services to ensure the most appropriate health professional was responding to a patient's needs.

'Telephone triage I find efficient and a good way to prioritise care.'

'SPOC [single-point-of-contact] service increases productivity, as calls to the DN [District Nurse] service are filtered and signposted to the appropriate professional.'

Community health professionals are also using IT for education and professional development. Whilst some respondents reported that they incorporated a range of devices and programmes through teaching, others specified opportunities for research and learning, such as remote apps or e-learning.

In addition, information technology plays a significant role in the administrative side of community healthcare, with respondents citing its use in terms of processing expense claims, financial recording and recruitment.

Telehealth and workforce planning are two areas in which information technology has significant potential to drive change in the provision of community healthcare. However, the study has identified that the degree to which these are currently used is very mixed.

Telehealth

Over fifteen million people in England are thought to have a long-term health condition, with this figure expected to rise significantly over the next ten years[11]. When it comes to ways in which long-term conditions can be managed by patients in their homes, telehealth is of growing importance. Telehealth is essentially any means of monitoring physical metrics and supporting health interventions remotely. This involves patients having devices or applications that monitor their health condition and permit health professionals to oversee patients' progress without having to arrange face-to-face appointments.

The survey found that telehealth was used to varying degrees within community nursing service providers. As Figure 3 illustrates, 41% of respondents said that telehealth was not used within their organisation and of the 59% who said it was used; only 16.3% used it on a regular basis.

Figure 3. How widespread is telehealth in your organisation?
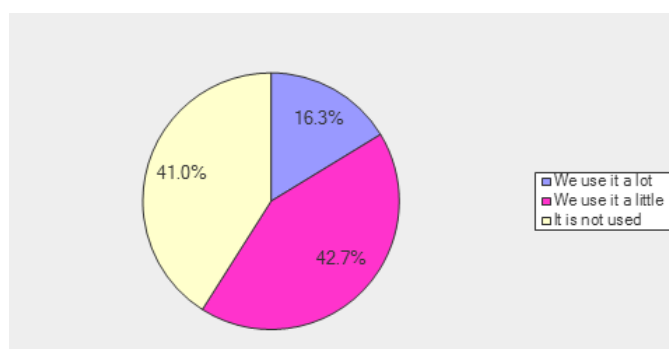
Whilst those respondents whose organisations regularly utilised telehealth were in the minority, they did report that it had become an essential component within their service.

The survey found that 'use' ranged from individual members of staff, to whole teams. Telehealth was also used to support patients with particular conditions, for example Chronic Obstructive Pulmonary Disease and those receiving treatment related to wound care. Respondents also reported that geographical location often determined the degree to which telehealth was used, with higher rates of use in rural and more remote areas.

In cases where telehealth was utilised, the survey identified that patients' conditions were often monitored by a wide range of health professionals. This included nurses, practice managers, specialist services and commissioned teams.

Figure 4. Where telehealth/remote monitoring is used, who is responsible for monitoring the patient's condition/health status?

District Nursing Service	28.9%
General Practitioner	15.7%
Community Matron	32.1%
Specialist service linked to a long term condition	47.4%
Secondary care	6.3%
Other	17.4%

As Figure 4 shows, almost half of respondents (47.4%) reported that specialist services were responsible for monitoring a patient's condition. The survey also identified that community matrons and district nursing services also had a significant level of responsibility, 32.1% and 28.9% respectively, with general practitioners (GPs) cited less frequently (15.7%). Nurses often perform a gatekeeping and triage role, liaising with GPs as necessary.

The survey also highlighted the use of 'health hubs' that provide a wealth of services from a central point. The way in which these were administered varied. Some were run by frontline staff, while others said that their health hub was administered by a dedicated team who would alert community nurses to any changes in a patient's condition. Several respondents considered that health hubs were a more efficient way of monitoring conditions.

'We think a hub might also work better with alerts sent to the matrons, so they don't have to keep checking the systems.'

In contrast, as Figure 3 shows, a significant proportion of respondents (41%) reported that telehealth was not used at all by their organisation. In some cases, the necessary hardware was simply not available. Some respondents indicated that although their organisations had utilised telehealth previously, it had since been discontinued. The reasons cited for this ranged from poor evaluations, cost, to improper use.

'It was used three years ago and abandoned as the data collected was not then acted upon. This fell onto primary care, GPs etc. who didn't want that responsibility.'

'We used to be very involved with local telehealth, and were encouraged to enable patients to access this. However, this has diminished by the loss of community matron function.'

'[Telehealth] was used initially within the long-term conditions team but evaluated poorly so no longer in use.'

'Tried in the past but then withdrawn. Not targeted at the right patients in my opinion. Telecare e.g. fall sensors, bed sensors, heat smoke, flood sensors often more useful for frail elderly patients.'

Where telehealth was available, it was not always being utilised fully. Respondents stated that support and training was not sufficient and this hindered its use.

'I think it is available but I do not know how to access it and what they can do.'

'… due to redesigning and restructuring, in my opinion, nobody is able to monitor the patients, as they do not know how to.'

Workforce planning

A significant amount of NHS activity is attributed to community services, with approximately 100 million patient contacts taking place each year[12]. Current policy envisages an increasing move towards to care delivery in the community and primary care, leading to growing pressure on community nursing teams. Efficient workforce planning and caseload allocation is vital if services are to respond to increasing demand.

The term 'patient caseload' is attributed to a specific group of patients to whom a service is provided. Staff are allocated a caseload in accordance with local workforce plans, ensuring those with the right skills are in the right place at the right time – so that individual patient needs are met by staff with the right skills and experience.

Information technology presents new and unique opportunities for workforce planning and the survey identified a plethora of systems that seek to do this. These ranged from widespread tools such as Emis, Systm One and RIO to bespoke in-house systems. However, only 32.7% of all respondents reported that workforce planning tools were used in their teams.

Figure 5. How is staff allocation undertaken in your organisation?
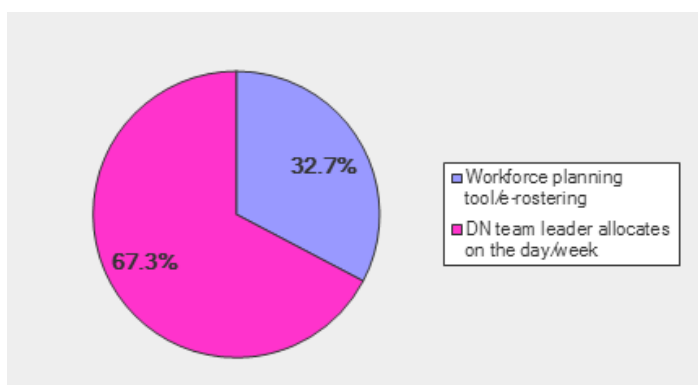
Respondents had mixed views when it came to using an e-roster. It was seen as a tool that had the potential to yield real benefits in allocating and planning work, but implementation was hindered in some cases by a lack of investment.

'I find electronic allocation of work … to be useful and [it] speeds up the process.'

'We would love e-rostering, but investment funds are not there and we need a major change programme to prepare the ground, as we are struggling with the capacity of frontline teams and support staff.'

Those working in teams where e-rostering was used, considered that its implementation was not as effective as it should be. Whilst some respondents believed its introduction had been too slow or patchy, others thought it had been established too quickly, leading to further problems.

'This has just been rolled out within a ridiculously short-time and with inadequate support, manpower and no staff training.'

Others felt that it was not suitable to their local service context.

'The dreaded e-rostering is coming. As we have various means of delivering care in our area, the e-rostering is not suitable but as it is a national requirement, we are being forced to implement it.'

As Figure 5 shows, 67.3% of respondents said that workforce planning was undertaken manually by a member of staff. The member of staff responsible varied from one locality to another and included team leaders and dedicated admin staff. Where e-rostering was used, team leaders usually retained primary responsibility for its management.

The survey identified a range of ways in which workforce planning was undertaken. This included: setting caseloads for those working permanent shift patterns, staff meetings and individual caseload management.

In some cases, staff allocation was shared by the team as a whole, while in others it was determined by locality and geographical boundaries.

'Now workforce modelling is based on [levels of social] deprivation and city council boundaries.'

Despite an abundance of workforce planning tools and systems, the study found that these were often overlooked by service providers. As with many aspects of new technology, resistance to IT may be connected to perceptions regarding its reliability. Some respondents were openly sceptical and believed more patients were missed with electronic allocation systems.

It was also the case that electronic forms of workforce planning were often not utilised, or not used to full effect, due to workloads being dependent on the reality of staff availability and numbers.

'E-rostering will be coming to us soon; at present it's done by a mixture of team leaders, district nurses and clerical staff and it is chaotic – mostly because we are haemorrhaging staff and have to staff early and late shifts, triage new referrals, staff the leg ulcer clinic, the rotas for those can be sensibly planned but need rearranging weekly due to changes in staffing.'

'We just get our heads down and get through the visits as best we can.'

Chapter 2 - Data management

While the survey identified a range of devices currently being used, many respondents felt that some were better suited than others.

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One of the most significant consequences of the use of information technology is the generation of accessible data. In theory, this permits information to be shared amongst health professionals, enabling care to become more coordinated, clinical decisions to be better informed and timely and for patients to experience a more joined up provision of care. This wealth of data also permits new insights. On an individual level this allows preventative action to be taken and helps make referrals to more specialist services. At a local and national level, information can provide insights about population health, helping to inform decisions about resource allocation.

Capturing information

As illustrated in Figure 6, community health professionals use a range of devices to capture information. The study identified that devices such as laptops are more frequently used compared to compact devices such as tablets, iPads and smartphones. 31.9% of respondents used a combination of paper and IT methods.

Figure 6. Which device do you use to capture information data?

Tablet	9.5%
iPad	11.1%
Laptop	44.1%
Paper then transfer to IT system back at base	29.0%
Mixed - paper & tablet/PA laptop/other	31.9%
Smartphone	14.7%
Other (please specify)	17.9%

While the survey identified a range of devices currently being used, many respondents felt that some were better suited than others. Often, devices currently being used in community nursing services were perceived as being unsuitable with little, if any consultation, having taken place with those actually using these devices prior to their introduction.

Laptops
44.1% of respondents used laptops to capture information (see Figure 6). However, some found them outdated and cumbersome. Challenges also arose because software on these devices was often inadequate and connectivity could be difficult. Work done on laptops in the patient's home often needed to be duplicated later onto another system at the office.

'Most DNs [District Nurses] use paper even though laptops are available. They are heavy and Wi-Fi is not available at the team base.'

'I prefer to wait until I'm back at the desk and use the desktop as the laptop is so slow; it is quicker to drive back.'

'Really effective when it works adequately but substantial amount of time wasted due to inadequate equipment. I.e. Laptops are not fit for purpose due to issues with signal, memory etc. which is frustrating at times.'

Several respondents felt that newer devices were better. However, just 11.1% reported using iPads and 9.5% used tablets, with rollout cited as being slow, either in its infancy or just piloted in select teams. One of the most significant factors limiting the use of these devices was the financial pressures NHS trusts are facing, hindering the integration of these devices into care.

A number of respondents did not feel that tablet devices were suitable for mobile working. This was in part due to improper versions being provided (particularly the case for iPads), limited connectivity, cumbersome set-ups and difficulties inputting information.

'We have to struggle with an iPad mini with no keypad docking station to make typing easier. Instead of being able to type properly, it takes ages longer stabbing away at the small screen with one finger.'

'iPad minis were purchased before they were adequately tested …. By the time I log onto the electronic record system I am almost done with my visit. If I sat waiting for it to load through all the screens and it actually connected, I would be three times longer with each visit. The iPad is too small to be able to input information accurately and caused neck and eye strain in users.'

Paper backup
The survey identified a continuing reliance on paper record keeping. In some cases paper records were manually transferred onto IT systems at a later time. This duplication of work is time intensive and also increases the possibility for information to be entered inaccurately or incompletely entered.

'Paper records and IT records are not identical … I have concerns about this.'

Software
The study also identified a wide range of different software programmes used to capture patient information. Respondents named 67, with these ranging from more commonly used programmes, to locally developed 'in-house' programmes created by NHS trusts. It is recognised too that the same programmes may have been given different names by different respondents to this question. The degree of variance in the programmes can, in part, be attributed to the differences in patients' conditions and needs, in addition to those of the services themselves. The study also found that programmes were susceptible to change, with updates rolled out frequently.

A number of respondents felt that the systems currently being used were too complex, with the view that: 'life has become more complicated as a result of technology'. In turn, complex systems led to work being duplicated and capturing information accounted for a significant amount of time. It was also considered that some systems were not safe or accurate enough.

'Not a safe system. Too time consuming, more time spent on the computer rather than seeing patients.'

'…it is not possible to fully capture what we precisely do for patients …, and this is causing some disagreement within the Commissioning team, as they would very much like to know exactly what we do/ how we should be funded.'

Sharing data

There is a growing opportunity for accessing and sharing of information, both for health professionals and patients. However, this comes with a range of concerns, centred around data protection regulations. The ability of health professionals to share information requires three key factors to be in place: patient consent, professional governance and compatible systems. Respondents reported a degree of variance when it came to their ability to access information from other agencies, as Figure 7 shows.

Figure 7. Are you able to access information from other information systems?

GP records	79.7%
Digital hospital discharge letters/summaries	56.5%
Social care records	10.9%
Care home records	7.8%

'It is very dependent on how the systems are set up, the access rights of the clinicians/nurses and the provider organisations. There are many issues with communication and having access to records when the relevant information is not available.'

In cases where information was being shared amongst health professionals, it was cited as being 'invaluable' to both services and patients. For community nurses, this access provided up-to-date information about a patient's condition, allowing clinical decisions to be made quickly and often remotely.

'Regarding sharing of information this process is greatly sped up through technology and more reliable.'

'When it works efficiently, you can email a summary of your visit directly to the GP from a patient's home, so communication is excellent.'

'Our systems allow us instant access to our consultants and clinical colleagues 'at the touch of a button'. Working with chaotic and vulnerable groups means we need to act now and making appointments, waiting to be seen and attending clinics is not always an option.'

'If consent to share records has been agreed and the GP is on the same system, being able to access their records can be invaluable to the treatment of a client.'

One respondent said that information sharing had permitted partnership working with organisations outside of the health service. This had permitted underlying needs, which extended beyond health, to be addressed and preventative measures put in place.

'We have policies in place to allow us to provide information to the police should they require it for investigations, as well as the fire service to provide vulnerable adults with their assistance in checking smoke alarms and fitting them when applicable. We also work alongside social services and hospitals in externally referring patients and sharing vital information that they or we might need to provide excellent care for our patients.'

System compatibility
There is a plethora of different systems used across the health and care service. However, the incompatibility of these systems remains a huge obstacle. As Figure 12 shows, 32.7% of respondents felt that systems' inability to 'talk' to each other is one of the biggest challenges when working in the community.

'It would be much more effective if all organisations used the same system. There are still large parts of the organisation that do not use the same system, let alone separate agencies.'

'NHS needs to get shared IT systems as a matter of urgency, to aid communication, reduce medication errors, improve patient care, reduce duplication etc.'

'We need to communicate more nationally and integrate systems. We need to share good practice and have more common systems … Primary and secondary care need more robust links to enhance continuity of care.'

As Figure 7 shows, 79.7% of respondents were able to access GP records. However, challenges still remained in accessing and sharing information:

'Ongoing issues with lack of records with GPs and primary care services and data sharing with secondary care which creates significant duplication of workload.'

'This is disastrous as the GPs cannot see our records either and we have to duplicate/write on their systems. Very inefficient!'

In the case of social care, just 10.9% of community nurse respondents were able to access those records.

'Although the model of care in this trust is now an integrated care team approach, we are still unable to use social services IT systems and they are unable to use our Systm One.'

'With patients admitted to care in two counties, we can only access records from one of these.'

The survey also identified that access to other information systems was not possible for all health professionals. Instead, it was limited to certain individuals or particular roles within a team. Whilst a significant number of respondents were currently unable to access information from other services, as a result of incompatible systems, overcoming such barriers would lead to positive outcomes.

'It will be great when our services are more 'joined-up'. There are times when we need information to provide a good service. If we had access to GP records, this would save us time and the need to constantly talk to a GP. Access would save us time having to obtain information. Also we could provide GPs with our notes and information.'

Keeping information secure

In general, the principles of data protection appear to take precedence over the advantages of sharing data. This highlights the need for protocols to ensure that sensitive information is shared in a secure manner. Patient consent is imperative and formal protocols must be put in place to allow data sharing with other agencies. Respondents reported differences in the degree to which patients provided consent, with some asked to sign forms and others verbally agreeing that their information could be shared.

'Patients are always asked on first contact if they are happy to share their records with services that are on a need-to-know basis.'

'The system we utilise has a record/consent sharing pre-set. This has to be addressed before inputting any records, thus needs to be discussed with the client. This also acknowledges mental capacity.'

Respondents highlighted the importance of nhs.net email accounts as a secure medium by which to share information. The survey also highlighted the diversity of national and local policies that apply to data sharing and indicated widespread adoption and knowledge of the Caldicott Principles[13].

'We have clear procedures and policies regarding sharing of information – especially regarding safeguarding as well as support from Caldicott Guardian. Transferring of information is well managed and we have clear policies regarding this too.'

Respondents stated that differing policies, protocols and systems, alongside high levels of security, could serve as barriers to information sharing.

'We're not allowed to unless password protected, but social services will not accept password protected emails.'

'But these [protocols] are not effective – they do not communicate with each other so I can access other systems but not one record in one place.'

'Due to the high level of IT security there are limited sharing records as it is so difficult to get into that place.'

Figure 8. How confident do you feel in being able to keep data secure?

Very Confident	37.3%
Confident	45.8%
Somewhat confident	13.7%
Not very confident	1.7%
Other	1.5%

As Figure 8 illustrates, almost all of the respondents (96.8%) felt confident about their ability to keep data secure, with 37.3% feeling very confident. Of these respondents, the majority felt this confidence was generated at an organisational level.

'If you adhere to correct recommendations, then data is secure.'

'Information governance and data flow is considered at all times and the information governance leads ensure that data security is maintained at all times.'

Respondents also cited the security systems that organisations had implemented, including the use of passwords and smartcards. A number of respondents stated that third party organisations operated their technology services and this provided a level of security which, in turn, instilled confidence.

'We have end-to-end encrypted with two-point log-ins that are accepted by the CQC [Care Quality Commission] as totally secure. The data is stored off site by a company used to the encryption of health data and its security. The tablets are totally secure as it has a three stage entry point.'

'Now notes are electronic and encrypted – much safer than carrying paper notes.'

'I am sure that there will be some hacker somewhere that will eventually get through the system if they really wanted to – but I do feel that it is much more secure than paper records ....'

Knowledge is Power - barriers to confidence
Just 1.7% of respondents (see Figure 8) lacked confidence in their ability to keep data secure. However, a number of concerns were raised around the complexity of systems used, staff capacity, and the potential for user error.

'I'm ok as computer savvy, but most colleagues struggle.'

'The problem is that too much security means many people cannot remember all the passwords required for access and this is why there are security breaches.'

'The concern for data safety and integrity is vastly increased when records are computerised because of the potential access numbers. Paper notes do not generally allow for such widespread access although they of course create other security concerns.'

Furthermore, the implementation of IT across the health service has been patchy, with hardware and systems not used to full capacity. A number of respondents reported that it was not information technology itself that impacted upon their confidence; rather, it was the way in which devices were used and transported when working remotely.

'I worry about taking the laptop home to home and keeping it in my car.'

'The storage of data on personal laptops is an issue.'

Chapter 3 - Information technology and effective working

It enables decisions regarding treatment to be made instantly, as health professionals have access to the appropriate information regarding patient conditions, treatments and appointments.

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With increasing emphasis placed on primary and community healthcare, efficient ways of working are imperative in order to meet demand. IT is one way in which this can be facilitated as health professionals can save time, communicate both within and across disciplines and access all the information needed to provide care. As Figure 9 illustrates, the majority of respondents felt that the information technology used in their area was effective

Figure 9. How effective is the technology system in your area?

Very effective	10.5%
Effective	32.0%
Somewhat effective	31.6%
Not very effective	12.8%
Other (please specify)	13.1%

Respondents reported that being able to access information and data, as a result of IT permitted more efficient ways of working. Having information to hand allowed community nurses to quickly access relevant information - even when working remotely.

'I find having immediate access to the ability to order equipment, check lab results and refer onto other nursing/AHP [allied health professionals] extremely beneficial.'

'It means I don't have to call the surgery to ask for details which is very time consuming. I have all the information at my fingertips.'

Respondents considered information technology beneficial to patient care, as it enables better communication and sharing of information. Not only does it enable patients to experience more holistic and joined-up care, it enables decisions regarding treatment to be made instantly, as health professionals have access to the appropriate information regarding patient conditions, treatments and appointments and in turn can share this with others involved in their care.

'I have instant access to patient's nursing and medical records. Shared care enables sharing of information between GP surgeries and community based nursing teams. This means that you have access to all the medical information that the GP holds regarding patients, including hospital letters and treatment plans, out-patient clinic letters, repeat medications, drug allergies etc. Using mobile working devices enables me to be able to access this information whilst in the patient's home reducing time spent fact finding to enable me to make an instant clinical decision.'

Telephone triage

The survey identified that IT gave more scope for health professionals to reach and engage patients, but also gave patients the opportunity to have more involvement in their own care. As Figure 11 shows, 84.5% of respondents also felt that IT saved them time and increased productivity, at least some of the time. One way in which this was achieved was through averting potentially unnecessary patient visits. Additionally, a number of respondents reported that information technology had increased patient safety, with a reduction in the number of patient safety incidents.

'Using telehealth means we are not visiting patients regularly to check observations. Telephone triage means we can allocate new patients when they need care rather than urgently in order to assess due to a lack of information on discharge summaries.'

'It may mean that a consultation can be done without a face-to-face consultation being required.'

Figure 10. Do you find technology more reliable than previous diary or paper-based approaches?
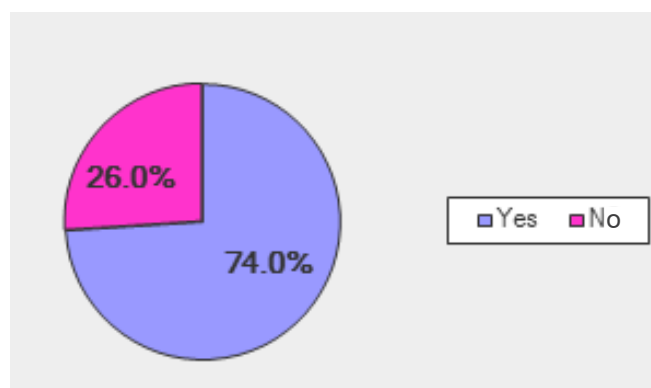

Figure 10 shows that, when compared to paper-based ways of working, the majority of respondents (74%) felt that information technology was more reliable.

This was largely determined by the increased communication and access to information, but also the time that could be saved. This was in part a result of being able to update records while carrying out a visit, reducing the need to travel back to the office base to compare records and referrals.

'I can send referrals when I am with the patient rather than returning to the office and faxing them.'

'When mobile working is up and running properly we can complete documentation in the patient's home, it will save time. At present we still use paper documentation.'

In addition, several respondents reported that systems permitted time to be saved when performing standard processes. This was enabled by the use of pre-set 'options'.

'Pre-populated information and statements can be utilised, the user just has to click on it saving time.'

Figure 11. Do you find that technology saves you time and increases productivity?
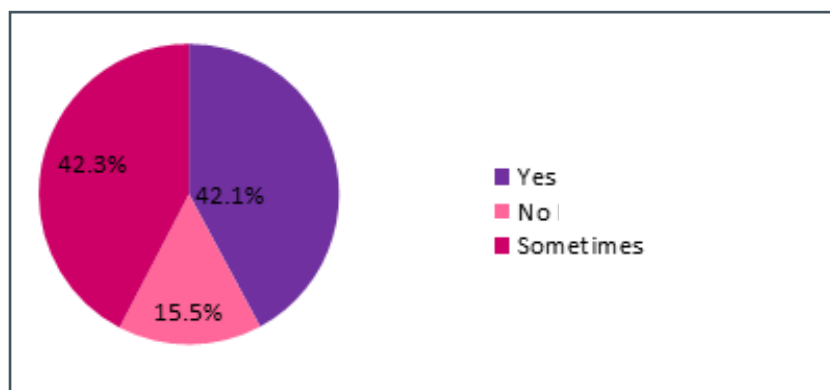
What are the barriers to effective information technology?
The majority of respondents considered that IT permitted more efficient ways of working. However, some barriers were identified that prevented it from working as efficiently as possible.

Figure 12. When in a patient's home, what are the challenges that prevent effective mobile working?

Poor connectivity when in patients home	85.1%
Cannot access GP electronic record	56.8%
Limited or no training to use devices	20.8%
Mobile device not compatible with other software	21.1%
Limited battery life of mobile device	29.5%
Uploading onto systems that do not talk to each other leading to multiple data entry	32.7%
No consultation on suitability of device before implementation	22.9%

Poor connectivity

For those providing healthcare in the community and particularly in patients' homes, internet access and network coverage was considered to be imperative. As Figure 12 illustrates, 85.1% of respondents identified that poor coverage and Wi-Fi connections were a significant challenge to working effectively in the community. This is particularly the case for rural areas where coverage is difficult - just 59% of properties in rural areas having superfast broadband coverage, 25% unable to achieve download speeds of above 10Mbits and only 37% of rural areas covered by 4G[14]. Respondents felt that poor connectivity impacted upon care, due to an inability to access patients' notes or through appointment changes failing to synchronise.

Respondents cited that poor connectivity served to create additional time pressures due to systems running slowly, information having to be entered at a later time or through duplication of work.

'Internet connection causes delays and often, if work allocated can be accessed via the mobile device, it's trusting that it hasn't changed and you haven't accidently missed a patient if the list changes.'

'As our day is so unpredictable and signals so intermittent, we are lost if we get asked to visit a patient who was not in our diary the last time we synchronised our diary.'

'Unable to access live patient notes via laptop System is not live, only care plans downloaded, not able to nurse prescribe and not live system.'

'…we do have access to a back-up system that can be downloaded before you go out and work remotely but this is not widely used by staff. This also relies on the staff working in those areas already knowing about issues with poor connectivity.'

'Poor connectivity is hindering services from developing and engaging with patients in more innovative ways. We could do virtual consultations using skype to assess those in hostels etc., but the connectivity is so fluctuating and the IT systems do not support our clinical databases'.

'Can be time consuming because all notes have to be input at the end of the day. We have been given laptops to enable mobile working but this is not up and running as yet as no WI-FI available and 3G cards are not activated due to issues with reception.'

Software systems

Another issue of concern is that software systems could be slow, prone to crashing and not user friendly. Community nursing lacks support from a bespoke software system: often these are adapted from other fields of practice.

'The systems in place are severely slow and crash continuously. They … take hours to complete overall rather than minutes. I am a person who enjoys technology, however in this case I find it reduces productivity and causes a handicap rather than making life easier.'

'Systems are not always available, when systems work time is saved, when not working efficiently then time is wasted and staff are frustrated.'

'System used cuts out too frequently meaning that you have to keep signing on again, which interferes with patient contact and assessment.'

'The computer was not a true reflection of what was happening. Morale was stuck, as more and more work piled on, as the computer appeared to show gaps in our schedule, where in fact we were completing other tasks. The system was slow and meant we spent time typing up notes in our own time to try and finish visits often eating into our off-duty times.'

'Needs of hospital based and community based technology are different and this was not considered before implementation in the community.'

Hardware

In some cases, issues with computer hardware are causing frustration to users. Respondents believed that some of their equipment was outdated, contributing to poor connectivity and poor software performance. Short battery life was often cited as a problem.

'The notes we need to write are too complex for the teeny iPad mini screens and we have to flick back and forth and open additional screens where a paper file would be quicker to use – especially when the patient/or family continues to speak to you.'

'Currently I have a tablet computer which is supposed to get rid of the need for paper notes and increase productivity. In theory this is fine, however it… is completely non-functioning/unsafe in my role and therefore I only use it as a docked computer and use [it] live – i.e. a rather expensive replacement for a previously perfectly functional computer system.'

Level of financial investment

Many respondents reported that financial constraints were a major challenge to effective implementation of IT.

'We miss so many opportunities to save time and money by not investing in the right hard- and software: often the cheapest option if the most expensive in the longer term as it is not future proofed and needs replacing more frequently. The result is that staff end up working around the system and thus we lose the full benefits of IT.'

'Financial cut backs seem to have significantly impaired technology services, technology purchased often not fit for purpose. Reliance on community staff to use own smart phones to support services due to poor network coverage in rural areas to phone/email.'

'I have requested smart phones & iPads to enable us to be more efficient but have been told there is no money as Trust is overspent. We are managed by acute trust, which does not understand what we do in the community and does not invest in community services.'

IT support

When problems did arise, respondents felt that support services were often inadequate. With systems intermittent and susceptible to crashing, nurses said that poor IT support hindered productivity and required them to work additional hours to catch up. In addition, communication between IT support and nursing services was often inadequate, with problems not being fed back from the front line.

'Timely IT support is needed and that is my biggest issue… We could advance our use of technology if we had that support.'

'Any IT problems can take hours to sort, reducing productivity at the time.'

'There is no expertise within the trust or within the contracted IT support companies to resolve this and no feedback when issues are raised.'

'I find the IT support is inadequate for our needs. It is not their fault, they are the most patient, helpful group of people, but our demands exceed their availability.'

'… the IT providers do not really understand what we need.'

Increased workload

A number of respondents said that the introduction of new IT systems had resulted in an increased workload and placed more time pressure onto nurses. Whilst IT had made it easier for health professional to communicate with one another, this had resulted in an increasing number of enquiries and demands being directed to staff. A number of respondents felt that the demands of IT systems reduced the amount of patient facing time in the working day.

'Email communication, whilst very useful, has taken over one-to-one communication and we are inundated with messages containing attachments with the expectation of having to read and respond to said messages. This technology is fast taking over the working life of nurses in terms of time expended on going through all emails and accounts.'

'I used to see four or five families a day and maintain the paper record, I now only manage three families in one day as the e-record takes so long to complete. However, I do feel that my record keeping has improved as a result of E-Systems.'

20.8% or respondents stated that lack of training was an issue. Having an understanding and confidence in using IT is significant in determining efficient ways of working. However, the lack of familiarity and comprehension of IT served as a barrier and hindered productivity. Respondents felt that they needed more time to become familiar with the systems being used and that more training was often required.

'Everyone has different skills around IT and there are lots of assumptions on people's skills rather than support in teaching and developing.'

'It will depend how good a person is when dealing with IT, if they are good then it is time saving, if they are not then it is not time saving and in fact takes more time.'

'Once everyone is familiar with systems then it does increase productivity.'

Working environment

The survey highlighted that patients' homes were not always the most conducive environments for mobile working. Some respondents felt that their technology skills were lacking and this meant they were too slow when using technology, whilst others needed a quieter environment to ensure they were correctly entering information.

'I work in shared environments – if I try to access the patient's records in the home, there would be a risk of others looking over my shoulder – also accessing a computer record is slow, taking about five to eight minutes, clients would get bored and wander off – and I cannot input and concentrate on what the family are saying, what is going on in the room and being aware of others in the room that may pose a threat.'

This need for a quieter working environment was one reason that some community nurses chose to input information in their car rather than in a patient's home. However this also has a consequence for the user's health and safety.

'Electronic data is not always accurate or meets the needs of the challenging health environment/patient individuality.'

Respondents reported that the use of social media in a professional context was hindered by organisations themselves, with many prohibiting its use, or not as actively engaged as they might be.

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Perhaps one of the biggest and growing forms of information technology is social media. In the UK alone, 63% of adults report that social media is an integral part of their everyday lives[15].

The survey found that social media was largely used in a personal capacity (see Figure 13). When used professionally, a range of platforms were utilised such as Facebook, Twitter and YouTube. Respondents also cited ResearchGate, LinkedIn and professional apps.

Figure 13. Do you use social media in either a personal or professional capacity?
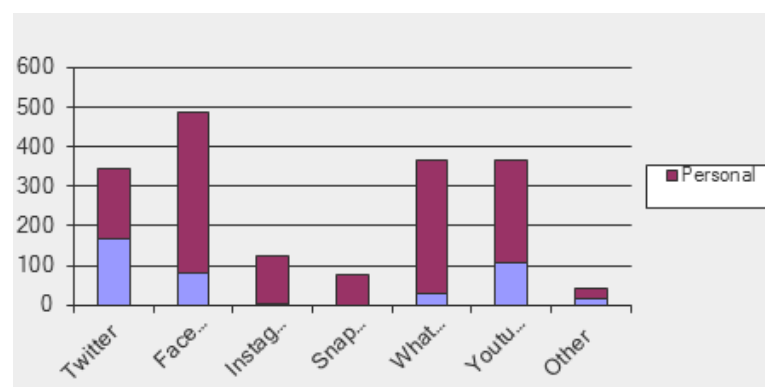
The majority of respondents did not use social media in a professional context in community healthcare. However, where social media was utilised professionally, it was most often used as a tool to facilitate communication. This included communicating and engaging with other health professionals, and for staff recruitment.

'Clinical Placement Teams are considering Twitter as an option to connect with students who are out in practice.'

'We are considering using WhatsApp to communicate key messages to staff members and teams due to end-to-end encryption, although there are no protocols in place yet.'

Several respondents reported that whilst their trust used social media, this was handled by dedicated staff, such as the communications team. Respondents reported that the use of social media in a professional context was hindered by organisations themselves, with many prohibiting its use, or not as actively engaged as they might be.

'The trust's IT policy does not allow access to social media for professional use.'

'We cannot use social media due to confidentiality and protecting staff.'

'My professional use of Twitter is self-engineered, not via my trust.'

'I use Twitter a lot and find it helpful. My organisation does not do enough to encourage the use of Twitter amongst staff.'

However, some respondents indicated that they chose to keep their personal and professional life entirely separate, in the virtual as well as the real world.

Leadership role of senior nurses

When it comes to the use of IT, senior nurses often have a key role to play in leading innovations in practice. Senior nurses are in a unique position to drive up engagement and in turn advance implementation. However, the survey found that few senior nurses were given this responsibility. Whilst some organisations had created a new role with sole responsibility for leading on the development of IT, others had incorporated the responsibility into the existing role of a senior nurse. Several respondents advised that whilst a senior nurse had initially been appointed to lead on IT, the role had since been cut.

'Initially appointed when the systems were being set up, however this was a secondment post and ceased following its implementation'.

When it was felt that a senior nurse had generated broader engagement, this was attributed to the character of the senior nurse, their role and how this filtered down amongst teams. Coming from clinical backgrounds, senior nurses have a first-hand understanding of the context in which staff work, alongside their concerns around IT.

'Nurses need to have an inspirational lead on this so that they see the potential for systems and understand that their input would advance systems more effectively'.

'Enabled us to understand it better and gives us someone who speaks the same language/does the same job to explain it to us without making us feel inferior, stupid and also enhances it by relating it to patients and how we can use it to improve patient outcomes'.

'We do have a team of senior nurses who have worked with IM&T [information management and technology] on technology to improve systems and we do feel we have pushed for advance and improvements that we otherwise wouldn't have'.

Respondents also mentioned that increased engagement had derived from the senior nurse's ability to provide training and support, alongside translating complex language associated with IT. Senior nurses gave their own perspectives:

'Staff have reported an increase in usage and that they feel more supported. I cover the training for new systems to make sure that staff have a familiar face to teach them and have more engagement with staff because of my ability to discuss technology with a format that clinical staff can understand rather than being bombarded with technological terminology, they know that if they require additional support that I will provide them with group sessions or one-to-one training, whichever they prefer to support them'.

'Staff need to feel supported with change, when using technology it is important to remember that the majority of nurses are visual based when training because of the nature of the person and the role they do … e-learning is something that can be overly relied on when changes are initiated … they appreciate the face-to-face discussion with a person where questions can be asked … they engage more with change when they understand it and when language is used that is not IT jargon'.

Likewise, having a senior nurse leading on information technology had permitted systems and tools to be implemented that were more suitable in the community healthcare setting. This in turn, had diminished the potential for staff frustration with the systems used.

'I believe having someone from the frontline of district nursing, such as myself, has aided the transformation changes in moving the service in to paperless working because of my understanding about what works and what doesn't with the roles the nurses have and the pressures they are under, this has reduced new ideas being implemented that have not been properly trialled by staff to see if it is of benefit to them before implementing on a wide scale. It has reduced staff frustrations with constant changes, prevented false information from being passed around teams and staff have taken more ownership of the changes so when implementation occurs staff are more engaged'.

Several respondents, who did not have a senior nurse leading on the development of information technology, believed that such a figure was imperative and something that organisations, services and teams needed.

'Having worked in an informatics role as a clinician, I feel it is important that clinicians are fully involved, lead developments in technology'.

'I consider that this [senior nurse lead for IT] would be a great asset to school nursing and all nursing in the community and public health'.

Several respondents, however, believed that senior nurses were not best placed to influence their organisations. Instead a team approach from frontline clinical staff was seen to be a more beneficial way of influencing an organisation's approach to information technology.

'The nurses involved are in managerial roles, not clinical roles. I think that this can lead to decisions being made that are not clinically led. The frontline staff using the technology should be the main influence.'

'Having named leaders in a hierarchal way doesn't work. Engagement and ownership of innovation needs to be driven from the bottom up, not top down.'

'I think a closer relationship with IT and nursing at the development stage would be better and a more economical solution. Decisions are often made by those who are uncompromised by the use of IT.'

Barriers to engaging community health professionals

The survey identified that a proportion of community nurses were resistant to the use of information technology, even where significant efforts had been made to improve engagement. Various reasons were cited, including heavy workloads which left little time to utilise such tools, concerns about patient perception and a general reluctance to use IT.

'Has enabled nurses who are more resistant to technology to engage with it and giving them the confidence to use technology. However, there are some nurses who continue to feel resistant to the use of technology'.

'Many staff members are reluctant to use mobile working devices stating reasons such as back pain, that patients dislike the devices (feedback from patients is largely positive) or that they simply don't like using technology.'

Concerns about impact on patient care

A number of respondents felt that information technology in the provision of healthcare detracted from the role of being a nurse. The implementation of electronic records had resulted in nurses spending additional time documenting all the information onto systems, which one respondent said, *'feels less like being a nurse and more like being an admin/IT person'*. In this sense, information technology was seen as replacing and/or limiting nursing time.

'A huge number of community nurses spend a significant part of their time (usually following home visits) sitting typing into computers/laptops …A tick-box mentality is created that can discourage creativity and analysis. There is a danger that a limited computer system controls professional activity rather than supports it.'

'I am an advocate of mobile working and the use of telehealth but have been disappointed by the reality of using mobile working technology. The tick box only mentality does not reflect the holism of the individual being cared for and quality of record keeping has reduced. Care has become task focussed rather than individualised centred and person.'

'New technology has caused many of us professionals to want to leave nursing because it is taking us away from what we do best, and that is providing care for people. Documentation is part of patient care however, there are no notes left in a house, so other professionals do not know what we are doing/when we are visiting/who is seeing them.'

Some respondents felt that IT negatively impacted upon the care patients received. Some felt that technology had depersonalised care, excluding patients and causing staff to fail to record or action patient interaction. One respondent also felt that IT had resulted in managers becoming more data focused, at the expense of patient care.

'I strongly believe that it has adversely affected health care. A visit to a GP is now a visit to a person who spends three quarters of their time staring at a screen and / or typing rather than speaking and examining the patient. It has not saved time and has led to a rather depersonalised system of record keeping that captures data ineffectively.'

'Electronic care plans cause laziness amongst staff, they are not looked at and very rarely followed. When completing care plans on the system some nurses do not feel added documentation is required e.g. how patient felt, what stage wound is at, any concerns etc. This makes a hard job as a DN [district nurse] to establish the patient journey electronically.'

'I don't feel telehealth improves patient care. I don't feel you can diagnose some things over the computer with a camera'.

'Continuity has become worse since technology. Care plans not updated. Nursing models have disappeared. Nurses less informed about patient than when paper records in houses.'

'Many staff struggle to embrace technology because they don't feel it adds value to the quality of care delivered.'

The successful adoption of information technology is dependent on the perceptions and buy-in of individuals. Those who lack confidence in using IT are more resistant to adopting it compared to those with greater confidence and enthusiasm. Heavy workloads and time pressures are a contributory factor, as it takes an investment of time in order to become familiar with any new technology. Ironically, this survey has identified that the sheer burden of work facing community nurses actually serves as a barrier to the update of IT, which in theory should make service delivery more efficient.

'Due to restructuring of services, those of us who were heavily involved in telehealth now do not have the time to manage telehealth.'

51% of 65 to 74 year olds and 30% of over 75s now own a tablet, whilst smartphone ownership has increased by 39% and 15% respectively.

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Approximately 89% of adults in the UK have used the internet within the previous three months[16] and whilst technology was previously thought of as being more important to younger generations, this is no longer the case. 51% of 65 to 74 year olds and 30% of over 75s now own a tablet, whilst smartphone ownership has increased by 39% and 15% respectively[17]. When it comes to incorporating information technology into our daily lives, healthcare is no exception. Technology is increasingly being used when it comes to our health, with approximately 75% of the UK population searching for health information online[18] and over 165,000 health apps currently available[19]. Technology has provided opportunities for patients to actively engage with their health, encouraging self-care, preventing ill-health and potentially averting avoidable contact with services.

Generating engagement through information technology

Patients are integral to the success of IT in healthcare. The increasing levels of responsibility and knowledge that technology provides have the potential to empower patients. Supported self-care is imperative in managing the demand facing our over-stretched health services. Those with long-term conditions spend approximately 1% of their time in contact with health professionals and account for 70% of the health services budget[20]. Respondents emphasized the important role that IT plays in engaging patients and permitting opportunities for them to take a more active involvement in their care.

'Co-creating notes in conjunction with patients is a brilliant way of performing care planning and helping patients to self-manage.'

Additionally, engaging patients can reduce demand on services. Missed appointments have a significant impact on the health service.

As approximately 95% of the UK population owns a mobile phone[21], this presents an opportunity to engage with patients in a timely and cost-effective manner. The opportunities IT presents in reducing missed appointments has been realised by many NHS services, with the implementation of appointment alert texts. In such cases, the number of missed appointments has decreased by up to 65%[22].

Despite the benefits that a text messaging service can yield, Figure 14 shows that this is under utilised by the majority of service providers. The survey found that when communicating with patients, text messaging facilities are often overlooked, with preference for emails or more established forms of communication such as letter, phone or face-to-face contact. In addition, whilst many IT systems do have the capacity to incorporate a text messaging service, the study found that this tool was often not being utilised.

Figure 14. Do you use text messaging to inform patients of visits and times?
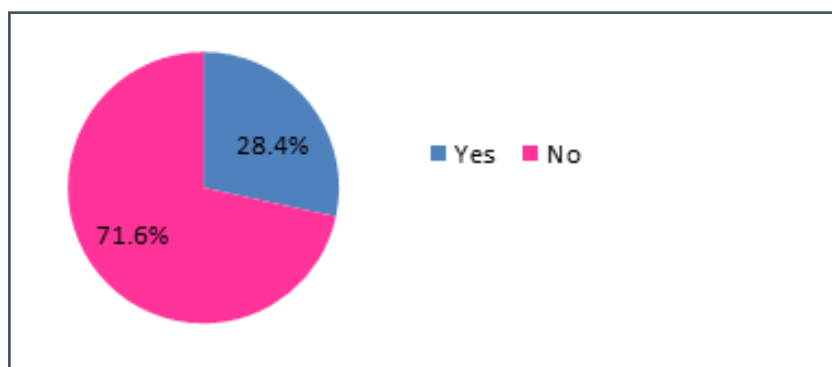
Just over a quarter of respondents (28.4%) used a text messaging service to advise patients of their appointments, administered by either IT service providers, the reception team or community nurses themselves. In such cases, this tool had become integral to service delivery.

'This is standard for our service and we could not function effectively without it.'

'This is an excellent way of reminding patients of their visits. When we started to use this, our DNA [did not attend] rates went down to less than 1% overnight.'

One respondent reported that their service not only used text messaging to advise patients of their appointment times, but also sent reminders on the morning of the visit. Another felt that contacting patients about their visit was a matter of professional courtesy, especially if running late, and text messaging provided a quick and efficient method. Utilising information technology in this way has resulted in higher levels of patient engagement. This was particularly the case for young people (16-24 year olds), of whom at least 90% own a mobile phone[23].

'I work with young parents and this is the best forum to engage with them and help to keep them engaged.'

Several respondents reported using text messaging to communicate with patients with certain needs or impairments, such as hearing and sensory needs. Others reported that use was dependent on the patient's capacity and technological ability, whilst others stated that younger patients who are not housebound were able to benefit most. In addition, a number of respondents advised that a text messaging service was available on request. One respondent stated that text messaging was used as a last resort to contact those patients who are difficult to engage. However, as Figure 14 shows, 71.6% of respondents reported that they did not use text messaging to inform patients of their appointments.

Barriers to utilising such services include a range of factors. As with many aspects of information technology, text messaging was subject to inconsistent implementation across services. The study found that one of the most significant barriers lies in text messaging not being available; this was either through changes in the employer's technology use having placed such facilities on hold, or through tools having simply not been implemented in community nursing. Implementing new technology always comes with an upfront financial cost and for financially struggling trusts, incorporating a text message facility into service delivery may not seem feasible, even if future cost savings will accrue. Additionally, respondents cited that outdated technology, alongside connectivity problems, hindered services from utilising text messaging.

'We do not have access to an electronic messaging service – own phone is a dated and basic model and is very difficult to text. There is no auto-reply facility if out of office etc. Therefore, texting is discouraged.'

'We are nowhere near this nirvana. Staff are completely run off their feet trying to cope with visits and our systems for mobile working are offline.'

Furthermore, several respondents reported that their employer's policy prohibited them from utilising a text message service when communicating with patients.

'There has been an organisational stance on this, that text messaging cannot be used for patients and/or clients. We are trying to get this reversed.'

'Our trust does not encourage this as it would mean patients have access to our mobile numbers.'

Heavy workloads also serve as a barrier to text messaging being utilised:

'That [text messaging] would require me to know what work I am going to be doing for more than an hour ahead. We are continuously picking up more work and therefore rearranging what team members are doing.'

Several respondents also commented on their patient demographic and felt text messaging would not be an effective form of communication. This was either as a result of patient conditions or perceptions about the way in which technology is used across age groups. In addition, some noted that the tone and context of a text message is open to being misunderstood and this could have impacts on care, patient relationships and workload. Others felt that they did not feel texting would be useful, as they knew their patients and their established routines.

'They [the patients] are given a window. They are housebound and therefore we usually expect they should be home.'

'Not generally suitable to district nursing caseloads as patients are often not using their mobile phones.'

'Generally most of the patients are elderly and do not have mobile phone but if they did I would.'

Barriers to patient engagement

In some cases, patient engagement had failed to find traction and innovative IT had been abandoned. This was particularly the case for telehealth.

'It [telehealth] has been tried previously for a pilot, and was not successfully utilised due to a lack of patient engagement.'

In delivering high-quality care, patients must be at the centre of the care planning process. Several respondents felt that if not handled properly, IT could detract from this, giving them less opportunity to participate in self-care.

'Little is left in the patient's home. They feel disconnected from their care, unable to review their record or share with their family and/or carers.'

'Patients do not like the focus on the tablets and feel that the computer system takes us away from patient contact; the assessments are lengthy and repetitive and time consuming, taking you away from patient contact. The data collected is then not visible for future health care staff and is instead kept separate, so assessment repeated unnecessarily.'

It was also perceived that IT created a communication barrier between community nurses and patients, and hindered the development of strong relationships between the two. Some respondents felt that information technology detracted from the quality of a conversation, particularly if sensitive issues were being discussed,

while others felt it was restrictive and appeared 'rude' to be on a device whilst with a patient.

'I prefer to write notes after leaving a patient, as I feel it is impersonal sitting with a laptop instead of having eye to eye contact with the patient. I feel that they may think that I am not giving them my full attention.'

'When visiting a client and developing a relationship with them, I will not use a laptop as I feel it is a barrier. Maintaining eye contact and active listening takes precedence.'

'Patients do not generally like staff using the laptop as it is a very closed method of communication that involves the nurse in private interaction with a computer. It limits eye contact and tends to exclude the patient and their families and caregivers.'

Respondents considered that patients did not feel comfortable with devices being used in their homes. This was in part due to concerns that time was being spent as a result of entering information on a mobile device and therefore seen to take up a significant amount of patients' time.

'Perceived or actual that patients don't like nurses using devices, so default to pen and paper with type up later.'

'Staff do not always feel patients want us using it in their homes, especially the first visit. We have lots of assessments to complete, care plans etc. Patients do not want us there one hour plus.'

Respondents also advised that some patients expressed concerns about the risk of cross infection when such devices were used whilst providing care.

'Some patients are concerned regarding infection, e.g. laptop key pads are known to be very dirty and research has shown that they are a source of infection. Several patients have expressed concern in this respect.'
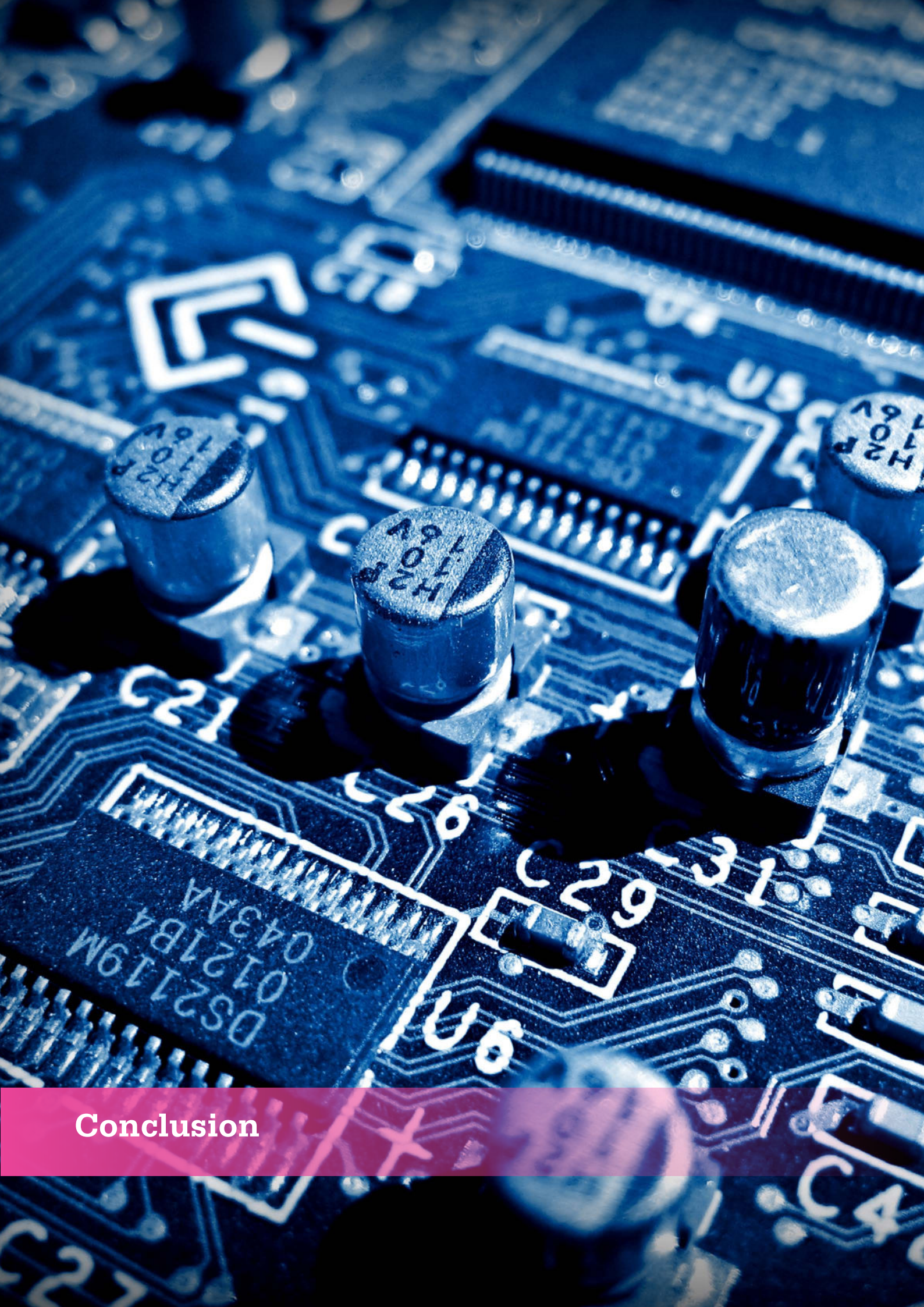
Conclusion

There is an overwhelming desire to embrace IT systems and that these should be fully utilised for the benefit of staff and patients.

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Information technology plays an integral role in alleviating pressures, but requires a balance between efficient technology and culture change. With patients already demonstrating high levels of engagement with information technology, the NHS is under pressure to adopt and maintain a leadership position. This report presents a rich picture of the ways in which information technology is currently being used in the provision of nursing care in the community. The intelligence from the experience of nurses delivering this care suggests:

✚ Community nurses welcome information technology. There is an overwhelming desire to embrace IT systems and tools and that these should be fully utilised for the benefit of staff and patients.

✚ There is significant diversity around the country and a range of approaches to the implementation of information technology. Whole systems have been introduced across trusts and/or services in some areas, and others incremental approaches which aim to build staff confidence and interest step by step have been introduced. It is not uncommon for neighbouring areas to be at very different stages of using technology in practice.

✚ The financial cost of implementing information technology serves as a significant barrier. This is due to potential IT savings being realised in the medium, or even long-term, rather than in the short-term or being immediate. The 'up-front' cost of IT in a tight financial climate serves to increase the risks of waste if technology is not fully used.

✚ There is some reluctance to embrace change by some community nurses where information technology was deemed inefficient and not fit-for-purpose. A lack of training impacted on confidence and some considered IT detracted from expert care delivery.

✚ A multiplicity of systems are in use across community services, with 67 different names given to the systems in use at the time of the survey. Systems used can be incompatible and whilst there are information sharing protocols, these were often not possible to use due to a lack of interoperability. In addition, systems are not always tailored to community nurses with unsuitable and ineffective systems from other parts of the heath service utilised inappropriately. Systems are prone to crashing and are slow, leading to frustration and compelling community nurses to work from paper.

✚ Connectivity is a significant barrier. Poor connectivity when mobile working hinders information technology from being used to best effect. Systems fail to update and/or synchronise, programmes used for recording information, fail to load and systems crash. This leads to nurses having to use paper-based methods of recording information and duplicating this onto IT systems back at base.

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Notes

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