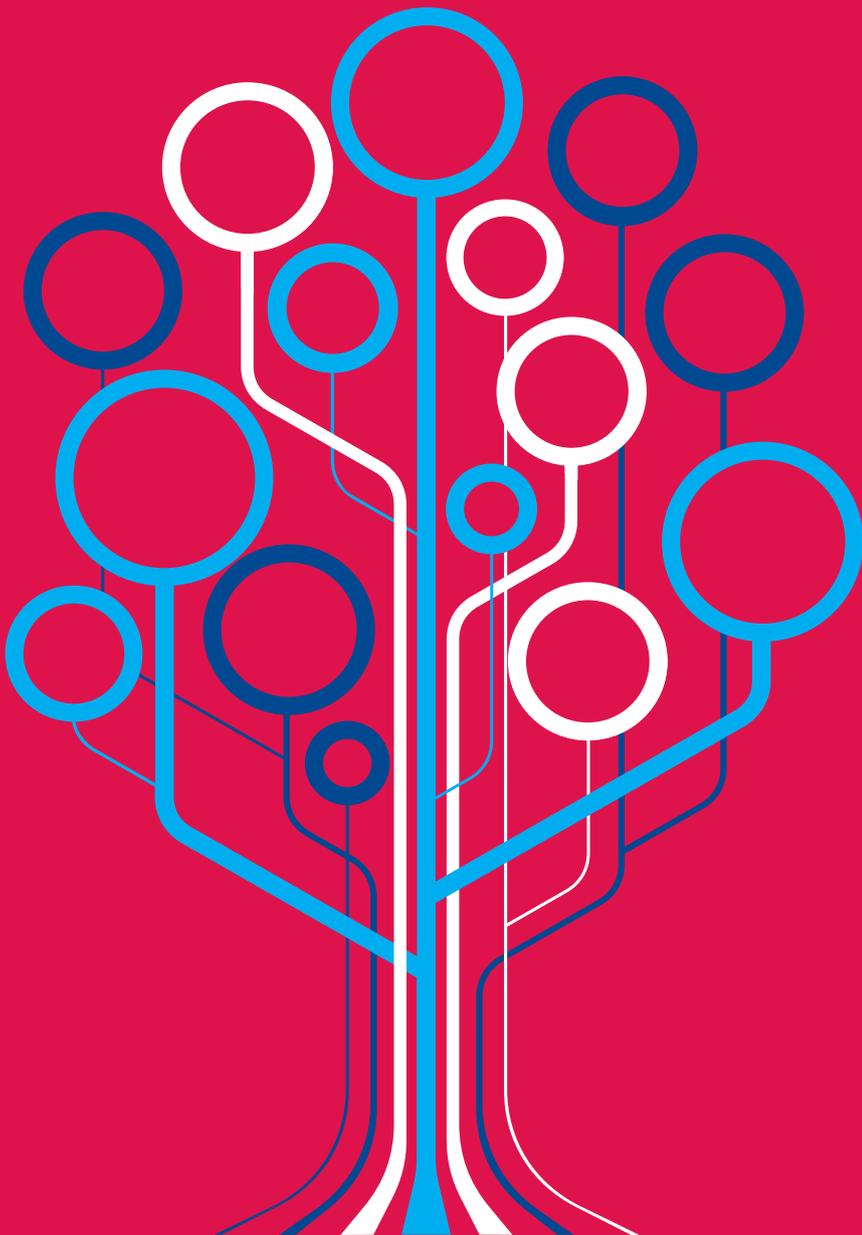




Royal College  
of Nursing

# Every Nurse an E-nurse

Insights from a consultation on  
the digital future of nursing



Every nurse an  
**e-nurse**

## Acknowledgements

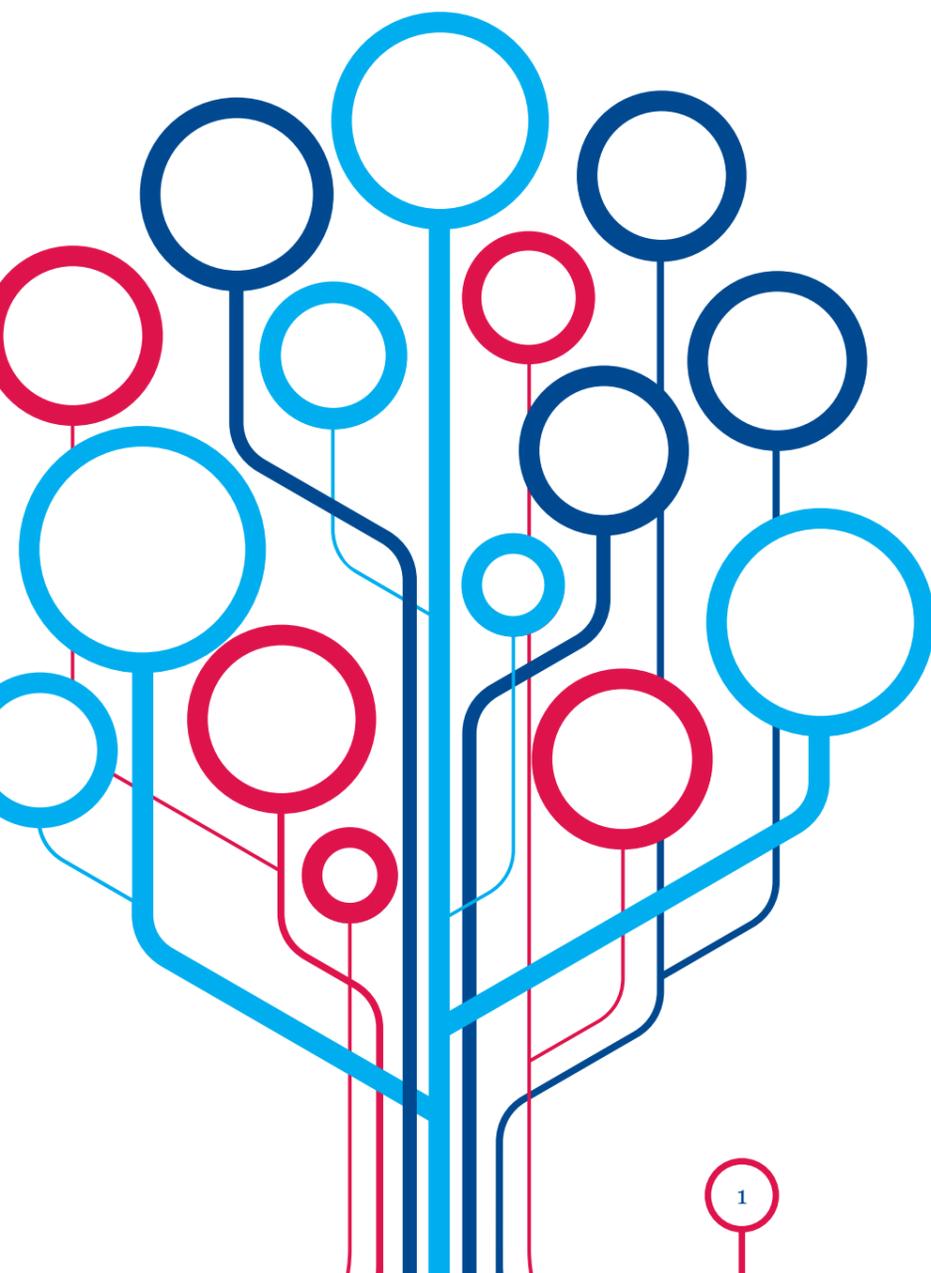
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# Every Nurse an E-nurse: Insights from a consultation on the digital future of nursing

In 2016, the Royal College of Nursing (RCN) celebrated its centenary. The College reflected on the stages in its history as it became the largest professional organisation for nursing staff in the world, and began to look forward.

In some ways nursing today still looks like the past: people are cared for, and the human connection is a vital part of what nurses do. But today the tools used by nurses are very different. Data and technology are becoming more commonplace. Some nursing staff already document all their work electronically and use mobile devices. Public health nurses use data to track the success of health programmes. Technology is pervading and influencing nursing practice.

Most people acknowledge that health and social care needs to change and modernise. Each country in the UK has plans for health and social care that promote the use of technology and data. They see them as ways to meet citizen's health care needs, with modern nursing care that is in step with the changes in everyday life and makes the best use of the tools available.

However, some practitioners find that technology is imposed without fair discussion. The RCN has heard stories over the years of how technology fails to meet the needs of nursing staff. In 2012, the RCN undertook a study (RCN, 2012) which discovered some of the barriers that prevent nurses from benefitting from data, information, knowledge and technology. Since then much has changed. Technology has evolved at pace, and organisations need to keep up with the rate of change as more technology is deployed across the whole system.

At the RCN Congress in 2016, it was agreed that the organisation should lobby for every nurse to be an e-nurse, able to use data, information, knowledge and technology to maximum effect for patients, carers and service users. These are no longer specialist issues but affect the whole nursing profession, who need to be supported to practise in new and modern ways.

## Data and technology are becoming more commonplace...some nursing staff already document all their work electronically and use mobile devices

This research report supports that priority, by exploring and sharing the experiences and views of nurses and midwives across the four countries of the UK. It sets out a shared vision of a digitally enabled health and social care service that creates improved outcomes for patients, better experiences for staff, and more efficient ways of working. It also surfaces some great examples from across the UK of how data, information, knowledge and technology are helping nurses and midwives to bring that vision to life. However, it also highlights the significant barriers to making that vision a reality, and how nurses and midwives are held back by inadequate technology, a mismatch of priorities with IT professionals, and organisations that do not prioritise the voices of nurses in providing digital leadership.

# About the consultation

Between 25 January and 23 February 2018, the RCN convened a four-week national online consultation and series of real-world focus groups, facilitated by Clever Together.

896 people participated in the online consultation. Of these, 365 people were active contributors, offering 2,122 ideas, comments and votes. Alongside these contributions, feedback captured in five focus groups in Belfast, Cardiff, Edinburgh, Leeds and London was translated into 331 ideas, comments and votes in the online consultation, enabling interaction between these online and real-world contributors, and allowing us to undertake a single analysis of all contributions.

People joining the online consultation or focus groups were asked three challenge questions:

### 1. A new vision for nursing and midwifery, in a digital age

What would nursing and midwifery look like if we used the full potential of data, information, knowledge and technology, and what impact would it have on the public we serve?

### 2. Enablers and barriers

In your experience, what things help or hinder us from realising the full potential of data, information, knowledge and technology in nursing and midwifery, and why?

### 3. Great examples

We want to share success stories across nursing and midwifery; please share any great examples of a) approaches used to help nurses or midwives embrace the potential of digital, or b) where the better use of data, information, knowledge or technology have helped to transform what you do.

## This report presents the analysis of what we heard from the nurses and midwives who took part

This report presents the analysis of what we heard from the nurses and midwives who took part. It extracts the key themes from the ideas offered by contributors and focus groups. Because of the collaborative nature of the consultation, compared to more traditional research methods, this also allows us to reflect particularly those ideas that were most discussed and which received the greatest support.

The conversation was also analysed to consider differences between each of the four countries of the UK. In their contributions about great examples, nurses and midwives from England, Scotland, Wales and Northern Ireland drew on their experiences of what was working well in their health and social care systems. However, across the four countries, a remarkably consistent vision emerged of digitally enabled nursing and midwifery, and the barriers and enablers to achieving that vision.

## A new vision for nursing and midwifery, in a digital age

Contributors collectively set out a vision for the way in which nursing and midwifery might be transformed by data, information, knowledge and technology. Their vision had three interrelated parts:

- Better outcomes for patients: that data, information, knowledge and technology had the potential to improve services for people receiving care, and for populations, so that they had better experiences and achieved better health and wellbeing outcomes.
- Better experiences for staff: that the working lives of nurses and midwives could be improved through data, information, knowledge and technology, enabling people to experience increased levels of satisfaction and empowerment in their roles.
- More efficient ways of working: that nursing and midwifery care could be delivered more efficiently, and that, in the best cases, a digitally enabled health service would free nurses and midwives to devote more time to the people and populations who need their services.

**In an ideal world, this would also result in better use of nurses' and midwives' time, and more time for people receiving care**

Some ideas spoke to two of these themes, some all three. Ideas that addressed all three themes deserve particular attention.

The most popular idea was that there should be one system for the whole NHS. Contributors suggested that it would be:

*"...much easier for nursing and medical staff to make decisions on a person's health if there was one system that every trust could access showing a full patient journey."*

Another contributor stated that this would bring significant benefits to patients:

*"Patients find themselves giving the same information to different health professionals, mainly because each professional is interested in subtly different aspects of that information ... It is essential that education, training, and expectations of practitioners include an ability to record digital information accurately, succinctly and in a way that promotes inter-professional use."*

Contributors also talked about the broader benefits of data being captured in this way, suggesting that:

*"Data analysis is key in the management of the patient in practice and the full utilisation of information, knowledge and use of electronic applications and systems help us."*

In an ideal world, this would also result in better use of nurses' and midwives' time, and more time for people receiving care. Contributors also highlighted potential benefits in relation to privacy, confidentiality, accountability and accuracy of information about people's conditions and care.

Contributors made practical suggestions about the importance of communication in improving outcomes for patients. They focused on how data, information, knowledge and technology could empower patients, for example by allowing them to book appointments and manage their digital health records. Contributors drew on their experiences both as clinicians and as patients:

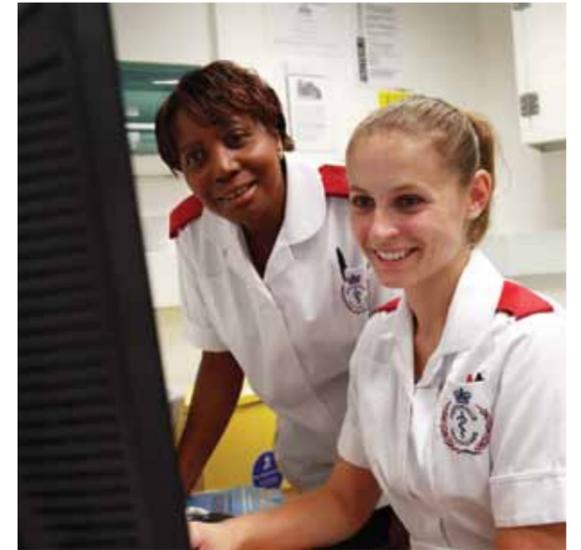
*"As a nurse, my dream would be to go online and see any patient's records that I needed to see. They would be together, well-curated, under that patient's name/identifier. It would include GP, acute, community interventions and interactions and all correspondence. There would be click-through contact points for details of other staff involved. As a patient, my dream would be the same..."*

Some saw how this approach could be beneficial to patient outcomes:

*"Patients will be empowered to contribute to their health care, and their outcomes will be improved due to more effective, individually targeted resources."*

As much as contributors articulated benefits for patients, they also focused on how data, knowledge, information and technology could improve their own experiences. These included being able to access relevant information about conditions and patients, with information at their fingertips:

*"There is so much information on best practice the internet. In our fast-paced health care settings, it is impossible to search and summarise it all. Smartphone apps could be the answer. However, they need to contain relevant information specific to context (eg, local referral or prescribing information)."*



Contributors also talked about how they were developing skills to be able to harness data at patient-level and across populations and improving research skills. They would also see gains in efficiency, as one contributor noted:

*"I believe nurses would be able to plan care around the needs and changes of those in their caseload. Issue reminders, and alerts when conditions change; give real-time information so responses are well informed."*

Overall, this vision is clear and compelling: a digitally enabled health and social care system that improves patient outcomes, enhances nurses and midwives working lives, and makes services more efficient. However, as the discussion on barriers and enablers revealed, there is a significant gap between the vision expressed by nurses and midwives and the current constraints on their ability to lead and deliver it.

## Barriers and enablers

Digital readiness is not the same as digital literacy. Digital literacy focuses on the skills of nurses and midwives, and may also encompass attempting to change underlying attitudes to data and technology. However, this thinking ignores the very significant barriers to the use of data, information, knowledge and technology presented by inadequate technology, and organisational contexts that do not support nurses and midwives in delivering a vision of digitally enabled health and social care services.

Much of the conversation on barriers and enablers focused on day-to-day problems with basic technology:

*“The single, most fundamental problem in our trust is the inadequacy of our IT systems. We are currently upgrading our PCs to run Windows 7 - an OS that is already nearly a decade out of date! Of course, not all of our computers can be updated - many of them are so old they can only run Windows XP. Why? Because computers have to be procured locally rather than centrally, so the responsibility for updating hardware rests with clinical areas - and obviously, there are always other priorities. I hate to think how much nursing time is wasted each day waiting for computers to switch on, load emails, bring up blood results etc. And that is if you can find one that is free. Since IT systems are now at the heart of day-to-day clinical practice, there are rarely enough computers to match demand...”*

Although additional funding for technology might begin to address these problems, contributors pointed to the barriers presented by more deep-seated problems in the health system, particularly understaffing:

*“The biggest barrier to any system, be it electronic or paper-based, is chronic understaffing. If staff haven't time to take a break, use the bathroom and are struggling to deliver patient care, they will find it difficult to engage with and learn new systems.”*

Some commented on a lack of confidence among nursing and midwifery staff about their



digital competencies, highlighting the role that digital technologies are playing in people's lives outside work, and suggesting that this can be a useful testing ground for people's general skills development and confidence building. Others expressed a degree of negativity about the impact of digital technologies on nursing, and reluctance to engage with technology. One contributor's views on this subject received the highest number of downvotes for any idea posted, suggesting that this is a minority view within the consultation:

*“Many of us have seen what a disaster computer use on the wards has been. It doesn't work effectively, it wastes time, it causes additional stress on staff, it makes liaising at the bedside with doctors, or relatives or patients more difficult especially regarding medication as it cannot be seen by all parties in a few seconds like paper copies can.”*

Whatever the attitudinal barriers to the use of technology, contributors also identified a lack of digital skills amongst nurses and midwives as a significant barrier. In a discussion on how to support people to become more confident in their use of technology, one contributor mentioned that many nurses and midwives had begun their careers before the widespread introduction of technology:

*“Let's not forget that some of the workforce started with pen and paper, and the support has not always been there to help them move along as new technology has been introduced.”*

Addressing this was seen as a challenge that could not adequately be addressed just through providing e-learning packages, where the technology to deliver training could itself be a barrier to learning. Instead, contributors noted the potential of champions and clinical systems facilitators to act both as positive role models, and to practically support the use of technology:

*“...they walk the wards every day, checking in with staff to ask if they have any issues with tech and systems, resolving issues on the spot when they can. It is a fixed term trial, but has gone down so well with clinical staff we are fighting to fund it permanently.”*

Contributors saw a vital need to train and support the current workforce, with suggestions that digital skills training should become a mandatory requirement, complemented by a human-centred approach to system design, to allow more intuitive interactions with technology.

Related to those entering the professions, contributors also noted the lack of health informatics training within undergraduate education. Some commented on practical barriers to this kind of learning, such as universities not being able to access systems in hospitals where they place their students, to make their simulation training more realistic.

Many respondents mentioned low-level day-to-day barriers. Difficulties with passwords, access to computers, lack of 24/7 support and duplication of effort across digital and paper-based systems were all discussed. As one contributor noted, overcoming these difficulties to ensure the effective use of systems should begin with considering the basics:

*“We need to look at some basics first like*

- 1) *reducing login times to under 10-20 seconds*
- 2) *ensuring high-quality wifi that works*
- 3) *easy to navigate systems*
- 4) *acknowledgement in workflows that time is needed to document and read*
- 5) *sufficient devices to allow contemporaneous work*
- 6) *interoperability with other applications*
- 7) *great analytical displays to aid our knowledge and decision making*
- 8) *adequate staff levels*
- 9) *training*
- 10) *continuous evaluation from frontline staff.”*

Contributors identified the inadequate nature of IT hardware and software provided in many parts of the NHS as a significant barrier to nurses and midwives. Contributors highlighted problems with old, slow or outdated operating systems, suggesting that to resolve these:

*“There would need to be a massive investment in trusts computers (far too many run outdated operating systems like Windows 7), spotty wifi (there are significant electrical interferences generated by a host of medical equipment and building construction materials) and lacklustre bandwidth...”*

As much as contributors highlighted problems within acute settings, they also flagged the practical difficulties with technology in community settings. As one contributor noted:

*“My Trust has set up the digital network, but as district nurses, we do not have access to*

*the mobile equipment. Therefore, we have to complete paperwork in the home, including full assessments, then take the information back to base and input onto the EMIS system. This is a waste of nurses' valuable time. I realise the financial implications for the employer but this is a false economy. If the focus of care is to treat patients in the home environment and every team working with low staffing levels, this increases the time we have to spend with each of our patients. The provision of mobile equipment would enable us to input the details in the patients' homes."*

Contributors also highlighted their experiences of a mismatch of cultures between clinical staff and those responsible for implementing IT solutions. Some suggested that involving nursing and midwifery staff in the delivery of new projects was vital to avoid failure. Others thought that the problem was more fundamental since decision makers:

*"...often do not know the extent of our work and have never walked in our shoes yet they make decisions on our behalf and bring in systems for us to use. They have no idea about workflows and how information is used."*

Contributors did not lay the blame for this mismatch of cultures solely at the door of those working professionally with data, information, knowledge or technologically. Instead, they called for nurses and midwives to be able to exercise greater leadership:

*"...we need nurses to lead and make decisions ... if we're not leading on the systems themselves as we can't make informed decisions if we don't really understand the impact. Too often it is realised after money has been spent that it's been on the wrong things..."*

Contributors discussed how nurses and midwives are moving into these leadership roles through working in informatics teams, particularly bridging the gap between IT professionals and clinical staff. This boundary spanning role was

felt to be vital in enabling the introduction of systems and process, managing change, realising benefits, and bringing the voice of clinical staff to decisions about technology. However, for nurses and midwives moving into leadership positions in this area, it was felt to be important that they should retain their professional identity:

*"E-nursing leaders need to be seen as just that, not as IT project or programme managers. They are nurses, they are leaders and they are driving improvement to quality, safety, evidence, research and patient and staff experience."*

They should also ensure their decision making was rooted in nursing and midwifery priorities:

*"I have seen eHealth nurse reporting to both the IT side and the nursing side and absolutely they need to report to nursing. This is the only way you get engagement from both nursing and IT leadership as both parties are involved in decision making and have a full understanding of expectations by equally influencing the digital agenda and be fully informed with clinical and technical requirements."*

Despite the success of these roles, particularly in improving the experiences of staff, some contributors noted the vulnerability of their positions, the lack of funding to continue their work, and the sense that these roles at a senior level were not universally valued. One contributor told their story of how their leadership role was downgraded, and now remains unfilled:

*"I was the clinical lead for informatics at a senior nurse level for two years. I devised templates, trained clinical staff (approx. 100 doctors, nurses, AHP users) networked with other hospices regionally and nationally ... The organisation wanted to change the role to staff nurse level - I retired. Now there is no one in the organisation to continue to develop the electronic record, train staff with a clinical background - the team consists only of IT and data personnel."*

## Great examples

Compared to the discussion on barriers and enablers, which mostly focused on problems, the final challenge question yielded positive cases of data, information, knowledge and technology benefiting patients, nurses and midwives.

### Examples that specifically identified improvements in patient outcomes included:

- A digital photography app and accompanying database to improve the assessment and management of wounds following cardiothoracic surgery
- The introduction of telehealth to support patients with long-term conditions, enabling remote nursing triage
- Digital patient diaries in critical care, empowering families visiting patients to document their comments and concerns
- Texting services and websites for young people to discuss health issues
- An app to help inpatients manage their diabetes

Others shared practical examples of initiatives to improve the experiences of nurses and midwives and introduce more efficient ways of working, such as the introduction of handheld devices for over 6,000 staff in an NHS acute trust, reducing the burden of administrative tasks, and allowing the rapid collection of data and other information. One contributor described the benefits of a shared system between GPs, community nurses and discharge planning nurses, allowing a smoother transition from acute to community settings, and better communication. Another described the practical steps they had taken in their hospital to remove cluttered notice boards and replace them with screens and rolling presentations.

Contributors also shared positive stories about their involvement in projects:

*"I was the project lead on the use of a theatre system. The system had already been implemented by the IT department but it wasn't being used efficiently or effectively by the staff. It was clear early on that the system did not reflect the practices and processes within this environment, also staff were not fully trained in its use. Discussions with the supplier about changes needed and further training for staff resulted in a system that met the requirements of theatre staff... Moral of this tale: include nurses in the procurement and every stage of implementation if they are going to be expected to use the system."*

**"Include nurses in the procurement and every stage of implementation if they are going to be expected to use the system."**

Others agreed with this view, highlighting the positive impact for patients when nurses and midwives are supported to take leadership roles in health improvements centred on data, information, knowledge and technology, for example through the NMAHP eHealth leadership programme in Scotland.

## Conclusion

The vision that emerges from this consultation is one that any nurse or midwife would be able to support: digitally enabled health and social care that creates better outcomes for patients, enables better experiences for staff, and offers opportunities to make working practices more efficient. The three elements of the vision provide a useful guide to whether a technology or data project should go forward:

- Will this initiative result in better outcomes for patients?
- Will it enable better experiences for staff?
- Will it result in more efficient ways of working?

Given the importance of these questions, it should be of great concern that few nurses and midwives seem to be working in environments where the answer to those questions is a wholehearted 'yes'.

Looking at the consultation as a whole, it becomes clear that there is a significant difference between the nature of the barriers to the use of data, information, knowledge and technology that nurses and midwives experience, and the types of innovations that they put forward as examples.

Many of the barriers that nurses and midwives experience are mundane from a technological point of view: difficulties with passwords, inadequate computers, lack of support and even overly complicated systems should be within the gift of any IT department to address.

The vision of a single system across health and social care may be utopian, but its underlying principles are critical to any potential solutions: interoperability, a shared common language and access to information to support decision making. These may require political will to resolve at a national level.

While the consultation surfaced examples of these issues being tackled at a local level to

### Many of the barriers that nurses and midwives experience are mundane from a technological point of view

improve service integration, the majority of innovations presented only addressed particular aspects of care. These improvements seem to happen as if the basics of technology in health and social care, such as access to shared records, already worked. From what we heard in this consultation, it is clear that they do not.

Three priorities seem to emerge from this consultation:

#### Ensuring adequate technology

There is a common perception that nurses and midwives are reluctant to engage with data, information, knowledge and technology in their work. Initiatives to address this focus on improving skills, promoting digital literacy and changing attitudes. Our findings from this consultation suggest that this approach, while necessary, is insufficient. Most people engaged in this consultation were digital enthusiasts, but even they shared complaints about the lack of adequate technology in many parts of health and social care. To continue to suggest that nurses and midwives lack enthusiasm about technology or skills for using it, while failing to ensure they have the tools to do the job day-to-day, unfairly lays blame at their door and does them a great disservice.

#### Aligning priorities for future development

The gap we see in this consultation, between the lack of adequate technology and the types of technological innovations introduced in health and social care, suggests that priorities are misaligned. Developments in data, information, knowledge and technology will naturally tend to focus on areas which are exciting and innovative, but the examples we heard were relatively small scale, in specialised areas and did little to address



the day-to-day challenges faced by nurses and midwives. Projects and programmes that do not address the fundamental difficulties should not be given a high priority, and attention should be paid to getting the basics right.

#### Supporting and protecting nursing leadership in data, information, knowledge and technology

We heard about the significant benefits of nurses and midwives taking leading roles in the design, development and implementation of projects and programmes in data, information, knowledge and technology. We also heard about the effects of mismatched priorities in nursing and informatics. One way to address this is to ensure that nurses and midwives are empowered to take leading roles, maintaining their professional identity and focus on outcomes for people and populations, but bridging the gap between two different worlds. It is no longer sufficient for either side of the debate to complain about being misunderstood. Nurses and midwives must step into the breach and facilitate the better communication of priorities and will rely on the support of their organisations to do this.

**Nurses and midwives must step into the breach and facilitate the better communication of priorities and will rely on the support of their organisations to do this**

# Appendix A: Methodology

## About crowdsourcing methodology

No single factor or combination of factors will provide the key that unlocks our understanding of complex social phenomena. We should, therefore, acknowledge the limitations of the quantitative and qualitative tools we have to explore them.

Quantitative research can be useful in identifying the ‘what’ of a phenomenon and can be helpful to understand and track the experiences of a population over time. However, because they are abstracted from lived experience, quantitative measures can fail to adequately reflect complex, dynamic and nuanced experiences, limiting our ability to derive actionable insight.

**We aim for research that is both informative, in that it answers questions, and is transformative, in that it engages individuals in the co-creation of new knowledge**

Where quantitative research can allow us to understand whole populations through extrapolating from smaller samples, qualitative studies do not allow for the statistical generalisation of findings. Their focus on depth rather than breadth can also lead to concerns about saturation, that is, how we can be sure that we have heard everything that there is to say on a particular subject. Despite these limitations, well-designed qualitative studies should allow for the discovery of insight and are particularly useful in generating theories that can be transferred to broader populations. Moreover, especially over recent years, new technology has allowed qualitative researchers to expand the numbers of people engaged in studies.

Based on the practice of co-operative inquiry (Heron and Reason, 2001) our approach is to

conduct research ‘with’ rather than ‘on’ people, positioning them as experts and co-researchers, and fully acknowledging their vested interests in improvement and the development of solutions. We aim for research that is both informative, in that it answers questions, and is transformative, in that it engages individuals in the co-creation of new knowledge.

Clever Together uses crowdsourcing as a qualitative research method, which allows us to harness the scaling potential of technology and the co-creative potential of co-operative inquiry.

Crowdsourcing provides a model for participative problem solving by blending an open creative process with a traditional, top-down, managed process (Brabham, 2013a). It is particularly useful for local knowledge problems, where the information required for action is spread among individual actors and sits outside the knowledge of any central authority (Kietzmann, 2017). Crowdsourcing has three core elements: an organisation that has a task to be undertaken; an online community voluntarily willing to do the work; and the potential to create results that are of mutual benefit for the organisation and the online community (Brabham, 2013b). Unlike the Delphi technique, which relies only on the opinions of a small number of specialists, crowdsourcing can harness the views of a broader range of people to address “messy problems which require diversity of opinion” (Flostrand, 2017). It can, therefore, be useful in supporting management decision making (Chiu, Liang and Turban, 2014), through generating intelligence, ideas and solutions, evaluating alternatives, and even recommending the best course of action. Importantly, when exploring subject matter that may draw critical responses, crowdsourcing enables a cooperative style of engagement, acknowledging employees’ interests in improving their organisations and their own working lives (Purcell and Hall, 2012).

Like any methodology, crowdsourcing has its challenges. Compared to a survey in which opinions are expressed in isolation, crowdsourcing facilitates the exchange of ideas. This creates the potential for crowd think,

where minority opinions are ignored, and crowd hijacking, where the crowd uses an initiative to push its agenda. Anticipating the worst, being transparent, and working with rather than against participants have been identified as ways of avoiding these problems (Wilson, Robson and Botha, 2017).

**Clever Together uses crowdsourcing as a qualitative research method, which allows us to harness the scaling potential of technology and the co-creative potential of co-operative inquiry.**

To ensure the validity and reliability of our qualitative research (Noble and Smith, 2018), we acknowledge biases in sampling. We engage in ongoing critical reflection on our methods to ensure sufficient depth and relevance of data collection and analysis. Through the way in which we moderate conversations, we seek to establish comparisons and seek out similarities and differences across accounts to ensure different perspectives are represented. Participants can comment on their contributions, allowing them to develop their thinking. Our reporting includes verbatim descriptions of participants’ accounts to

support findings, and our analysis is conducted by a group of researchers, allowing us to reduce the potential for bias.

### Generating interest

In advance of the launch of the online consultation, a tweet chat was hosted by @wenurses on 11th January. There were 99 contributors and 795 tweets over the hour. The RCN promoted the online consultation through their national and regional Facebook pages and professional forum group, and their UK, country and regional Twitter accounts, including short videos to promote the consultation. Paid for social media also took place on Facebook, Twitter and Instagram.

There was a news story on the RCN website, which featured on RCN website homepage and a further news story in RCN Bulletin, the RCN’s membership magazine. A guest blog about the digital future of nursing also appeared on NHS Managers.

The RCN also helped to coordinate and promote focus groups in Belfast, Cardiff, Edinburgh, Leeds and London.

Clever Together tweeted about the online and face to face consultations and created digital assets for use in promoting the online consultation. In addition, Clever Together coordinated an email campaign:

Date	Activity
18 January 2018	Warm up email sent to 99,962 RCN members
25 January 2018	Invitation email sent to 334,237 RCN members
13 February 2018	Reminder email sent to 576 people who had logged on but not contributed
15 February 2018	Reminder email to 27,973 RCN members
20 February 2018	Final email to 718 participants



### Gateway questionnaire

Potential participants who wanted to join the online consultation registered using their email address, to prevent multiple registrations, and were invited to complete a gateway questionnaire. An analysis of these responses is included in this report.

To preserve the anonymity of individual participants in our analysis, we do not combine all the data from the gateway questionnaire directly with data from the online consultation. However, we used the data to compare contributors to the consultation with all those who participated.

### Coding and analysis

For those joining the online consultation, seed ideas were used to get the conversation started and to set the tone for the quality and breadth of the discussion. Seed ideas and other contributions to the consultation by facilitators have been excluded from this analysis, although responses to those prompts have been included.

Ideas and comments contributed to the online consultation were coded thematically.

The first coding frame emerged from an analysis of contributions about the vision, highlighting three interrelated areas: better outcomes for patients, better experiences for staff and more efficient ways of working. Some ideas were given multiple codes to reflect how they addressed these different themes.

### The first coding frame emerged from an analysis of contributions about the vision, highlighting three interrelated areas: better outcomes for patients, better experiences for staff and more efficient ways of working

Alongside the three themes identified through analysis of the vision, a second coding frame was used to help us analyse the barriers, enablers and great examples proposed by contributors. Our analysis of the conversation suggested that there were issues to consider beyond those of nurses' and midwives' digital literacy, where efforts to improve digital readiness have been mainly focused to date - for example, Kennedy and Scott (2016). The picture that emerged from the data suggested that being digitally ready is not merely about having the right skills, but is a combination of being digitally willing and digitally able. Being digitally willing can be seen to encompassing a combination of having the right personal attitudes, and having a supportive organisational context while being digitally able is not just about having skills, but critically, having access to technology.

## Quantitative data analysis: gateway questionnaire

Each consultation participant answered a short survey to help us understand more about them and their professional background and their digital experience. We found:

- More than half the participants (58.3%) reported using technology or data all the time in their everyday practice.
- Nearly two out of five (39.6%) described themselves as digitally leading, compared to the rest of the nursing community.
- More than four out of five (81.4%) felt that data, information, knowledge and technology would make a large positive contribution to nursing and midwifery.
- More than seven out of ten (72.0%) agreed or strongly agreed that they felt satisfied with the level of responsibility and involvement at work, and a similar proportion (71.4%) looked forward to going to work and felt enthusiastic about their job.
- However, fewer felt their organisation was doing a good job of supporting its nurses and midwives to develop their digital capabilities, with fewer than half (45.9%) agreeing or strongly agreeing.
- More than half of the participants (58.8%) identified themselves as registered nurses or midwives working in a practice setting. Less than one in five (18.9%) was in a non-practice setting. Smaller numbers of participants identified themselves as educators, students, and support workers. Participants came from all the branches of nursing and midwifery, and from a wide variety of practice settings.
- Three-quarters of participants identified England as the country in which they were substantively employed (76.0%), with smaller numbers from Scotland (10.7%), Wales (7.0%) and Northern Ireland (4.4%). These proportions are broadly similar to the nurses and midwives registered with the Nursing and Midwifery Council (as at 31 March 2017) in each of these countries: England (79.1%), Scotland (9.8%), Wales (5.0%) and Northern Ireland (3.5%).
- Over one-third of participants (36.5%) had been in their current organisation for less than three years, but more (41.5%) had been in their current organisation for ten years or more.
- Four out of five participants (83.3%) identified themselves as female. Participants tended to be older, with those aged 50-54 presenting almost one in five (19.4%) of all those taking part in the online consultation.

The following tables show in detail how individuals responded to the gateway questionnaire, which they were required to complete to join the consultation. The tables below present results for all 896 participants alongside results for the subset of 365 contributors, who actively engaged in the online consultation through posting an idea or comment or by voting.

**1. How often do you use technology or data in your everyday practice?**

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
All the time	522	58.3%	213	58.4%
About 75% of the time	176	19.6%	69	18.9%
About 50% of the time	112	12.5%	55	15.1%
About 25% of the time	69	7.7%	23	6.3%
Not at all	17	1.9%	5	1.4%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.0%</b>

**2. Which of the following statements most closely describes how you feel compared to our nursing community?**

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Digitally leading	355	39.6%	159	43.6%
Digitally ready	350	39.1%	130	35.6%
Digitally worried	173	19.3%	68	18.6%
Digitally lost	18	2.0%	8	2.2%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.0%</b>

**3. What kind of contribution will data, information, knowledge and technology make to nursing and midwifery?**

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Large positive contribution	729	81.4%	300	82.2%
Small positive contribution	117	13.1%	44	12.1%
No difference	21	2.3%	11	3.0%
Small negative contribution	19	2.1%	5	1.4%
Large negative contribution	10	1.1%	5	1.4%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.0%</b>

**4. To what extent do these statements reflect your views**

a. My organisation does a good job of supporting its nurses and midwives to develop their “digital capabilities”, i.e. better using data, information knowledge and technology.

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Strongly agree	116	12.9%	46	12.6%
Agree	296	33.0%	114	31.2%
Neither agree nor disagree	251	28.0%	98	26.8%
Disagree	180	20.1%	79	21.6%
Strongly disagree	53	5.9%	28	7.7%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

b. I am satisfied with my level of responsibility and involvement where I work.

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Strongly agree	223	24.9%	88	24.1%
Agree	422	47.1%	167	45.8%
Neither agree nor disagree	143	16.0%	54	14.8%
Disagree	95	10.6%	50	13.7%
Strongly disagree	13	1.5%	6	1.6%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

c. I look forward to going to work and feel enthusiastic about my job.

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Strongly agree	258	28.8%	105	28.8%
Agree	382	42.6%	150	41.1%
Neither agree nor disagree	166	18.5%	66	18.1%
Disagree	72	8.0%	36	9.9%
Strongly disagree	18	2.0%	8	2.2%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

d. I am able to make suggestions to improve my work and the work of those around me, of my team, department or organisation, and have frequent opportunities to show initiative and make improvements at work.

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Strongly agree	249	27.8%	100	27.4%
Agree	362	40.4%	159	43.6%
Neither agree nor disagree	167	18.6%	58	15.9%
Disagree	96	10.7%	44	12.1%
Strongly disagree	22	2.5%	4	1.1%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

5. How would you describe yourself?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Registered nurse or midwife working in a practice setting	527	58.8%	209	57.3%
Registered nurse or midwife working in a non-practice setting	169	18.9%	71	19.5%
Nurse educator in a higher education setting	34	3.8%	16	4.4%
Nursing/midwifery student	29	3.2%	6	1.6%
Health care assistant/health care support worker	21	2.3%	8	2.2%
Nursing researcher	8	0.9%	6	1.6%
Retired	3	0.3%	-	-
Trainee nursing associate	3	0.3%	2	0.5%
Assistant practitioner	2	0.2%	0	0.0%
Other	100	11.2%	47	12.9%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.0%</b>

6. What is your primary field of nursing?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Adult	594	66.3%	240	65.8%
Children and young people	75	8.4%	32	8.8%
Learning disability	20	2.2%	8	2.2%
Mental health	27	3.0%	13	3.6%
Midwifery	11	1.2%	5	1.4%
A mix of fields	121	13.5%	43	11.8%
Other	48	5.4%	24	6.6%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

7. In what setting do you primarily work?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Acute hospital	369	41.2%	155	42.5%
Management, leadership and support services	109	12.2%	49	13.4%
Community	99	11.0%	35	9.6%
Care home settings	62	6.9%	21	5.8%
Independent sector	54	6.0%	21	5.8%
General practice	53	5.9%	21	5.8%
Nursing education	46	5.1%	22	6.0%
Public health services	38	4.2%	11	3.0%
Primary care	31	3.5%	11	3.0%
District nursing	28	3.1%	15	4.1%
School nurse	7	0.8%	4	1.1%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.0%</b>

8. How long have you been in your current organisation?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Less than a year	108	12.1%	47	12.9%
1 - 3 years	219	24.4%	83	22.7%
4 - 6 years	127	14.2%	43	11.8%
7 - 9 years	70	7.8%	31	8.5%
10 years plus	372	41.5%	161	44.1%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

9. In which country are you substantively employed?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
England	681	76.0%	282	77.3%
Scotland	96	10.7%	36	9.9%
Wales	63	7.0%	25	6.8%
Northern Ireland	39	4.4%	16	4.4%
Ireland	6	0.7%	3	0.8%
Other	11	1.2%	3	0.8%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

10. What is your gender?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
Female	746	83.3%	306	83.8%
Male	146	16.3%	56	15.3%
Transgender	2	0.2%	1	0.3%
Prefer not to say	2	0.2%	2	0.5%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

11. How old are you?

	Participants (no.)	Participants (%)	Contributors (no.)	Contributors (%)
21 or under	3	0.3%	1	0.3%
22-24	7	0.8%	3	0.8%
25-29	46	5.1%	19	5.2%
30-34	44	4.9%	15	4.1%
35-39	87	9.7%	30	8.2%
40-44	127	14.2%	43	11.8%
45-49	168	18.8%	74	20.3%
50-54	174	19.4%	76	20.8%
55-59	152	17.0%	65	17.8%
60-64	75	8.4%	35	9.6%
65 or over	13	1.5%	4	1.1%
<b>Total</b>	<b>896</b>	<b>100.0%</b>	<b>365</b>	<b>100.00%</b>

# Coding: themes emerging from the consultation

## Challenge question 1:

**A new vision for nursing and midwifery, in a digital age what would nursing and midwifery look like if we used the full potential of data, information, knowledge and technology, and what impact would it have on the public we serve?**

The table below shows a count of ideas in response to this challenge question, coded against the three themes:

Theme	Ideas
Better outcomes for patients - Better experiences for staff - More efficient ways of working	4
Better outcomes for patients - Better experiences for staff	9
Better outcomes for patients - More efficient ways of working	4
Better experiences for staff - More efficient ways of working	7
Better outcomes for patients	15
Better experiences for staff	17
More efficient ways of working	8
<b>Total</b>	<b>64</b>

## Challenge question 2:

**In your experience, what things help or hinder us from realising the full potential of data, information, knowledge and technology in nursing and midwifery, and why?**

The table below shows a count of ideas in response to this challenge question, coded against themes emerging from the vision, and four aspects of digital readiness:

Theme	Attitude	Context	Skills	Tech	Total
Better outcomes for patients - Better experiences for staff - More efficient ways of working	-	-	-	-	-
Better outcomes for patients - Better experiences for staff	-	1	1	1	3
Better outcomes for patients - More efficient ways of working	-	-	-	1	1
Better experiences for staff - More efficient ways of working	1	1	2	2	6
Better outcomes for patients	2	1	-	-	3
Better experiences for staff	3	4	5	9	21
More efficient ways of working	2	2	1	13	18
<b>Total</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>26</b>	<b>52</b>

### Challenge question 3:

We want to share success stories across nursing and midwifery; please share any great examples of a) approaches used to help nurses or midwives embrace the potential of digital, or b) where the better use of data, information, knowledge or technology have helped to transform what you do.

The table below shows a count of ideas in response to this challenge question, coded against themes emerging from the vision, and four aspects of digital readiness:

Theme	Attitude	Context	Skills	Tech	Total
Better outcomes for patients - Better experiences for staff - More efficient ways of working	-	-	-	1	1
Better outcomes for patients - Better experiences for staff	1	-	-	1	2
Better outcomes for patients - More efficient ways of working	-	-	-	-	-
Better experiences for staff - More efficient ways of working	-	-	-	1	1
Better outcomes for patients	1	-	-	11	12
Better experiences for staff	-	1	4	8	13
More efficient ways of working	-	1	-	4	5
<b>Total</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>26</b>	<b>34</b>



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# Appendix B: Comparing the experiences of informaticians and nurses

This report on the digital experiences of nurses and midwives follows similar research with informaticians working in health and social care, undertaken by Clever Together and commissioned by Health Education England working in partnership with NHS Digital and NHS England.

In late 2017, Clever Together facilitated an online consultation for over 1,000 NHS informaticians, which discussed perceptions of the digital capabilities of the health and social care workforce, and the potential for digitally enabling health and social care. Holding these two separate consultations has allowed us to validate and test findings, comparing the views of informaticians with those of nurses and midwives, who represent the biggest professional group within the NHS.

Both reports contribute to the development of the Building a Digital Ready Workforce programme, hosted by Health Education England (HEE) and drawing on expertise from across the system, including through the involvement of the RCN. The findings of these consultations will help shape the priorities for investing £6m over the next three years to improve the digital capabilities of the health and social care workforce.

### Competing visions of digitally enabled health care

In analysing our first consultation with informaticians, a vision emerged of data and technology enabling the health and wellbeing of people. Four priorities supported this: innovation and efficiency, empowered patients, empowered staff, and integration of services. From a nursing and midwifery perspective, that vision takes on a different shape. At its core, it appears to be the same, focusing on better outcomes for patients, better experiences for staff and enabling more

efficient ways of working. However, the focus of the vision is at a much more fundamental level. Nurses and midwives talk about wanting working computers, straightforward systems, integrated records and better training. Nurses and midwives struggling with day-to-day practical technology challenges, such as being able to log on to a system quickly, are ill-served by grand visions of a health and social care system transformed by innovative technology.

The difference between the two conversations could almost be an object lesson in why top-down visions do not work. Informaticians have a view of data, information, knowledge and technology that is sweeping, broad and outwardly focused. Nurses effectively respond, “That is great, but can I have a computer that works, please?”

### Mismatched priorities

To enable comparison between the two consultations, we used a third coding frame in our analysis of the online consultation for nurses and midwives, beyond the two frames we used in the main body of this report. This third frame is based on a simplified and expanded version of the approach to digital literacy set out by Kennedy and Scott (2016). It was used alongside the digital readiness frame in both consultations so that we could assess the themes that appeared to be most relevant for informaticians in the first consultation, and nurses and midwives in the second consultation.

Comparing coding from both consultations highlights the differing priorities of each group, showing that, when it comes to the role of technology in health care, informaticians and nurses may be talking at cross-purposes. Where learning and skills dominated the discussion with informaticians, the conversation with nurses and midwives was strongly weighted towards technology and its use.

	Attitude	Drivers	Skills	Tech	Total
Collaboration	6.0%	3.3%	2.0%	4.0%	15.3%
Data literacy	1.3%	0.0%	8.0%	2.7%	12.0%
Innovation	2.0%	0.7%	0.7%	0.7%	4.0%
Leadership and culture	4.7%	2.0%	0.7%	3.3%	10.7%
Learning	1.3%	1.3%	15.3%	0.7%	18.7%
Professionalism	2.7%	3.3%	8.7%	2.0%	16.7%
Using technology	2.7%	1.3%	8.7%	10.0%	22.7%
<b>Total</b>	<b>20.7%</b>	<b>12.0%</b>	<b>44.0%</b>	<b>23.3%</b>	<b>100.0%</b>

Consultation with informaticians: all ideas coded as a proportion of total conversation

	Attitude	Drivers	Skills	Tech	Total
Collaboration	2.3%	1.2%	1.2%	18.6%	23.3%
Data literacy	0.0%	1.2%	0.0%	1.2%	2.3%
Innovation	0.0%	1.2%	0.0%	14.0%	15.1%
Leadership and culture	0.0%	10.5%	3.5%	1.2%	15.1%
Learning	5.8%	0.0%	8.1%	1.2%	15.1%
Professionalism	0.0%	0.0%	1.2%	0.0%	1.2%
Using technology	2.3%	0.0%	1.2%	24.4%	27.9%
<b>Total</b>	<b>10.5%</b>	<b>14.0%</b>	<b>15.1%</b>	<b>60.5%</b>	<b>100.0%</b>

Consultation with nurses and midwives: all ideas coded as a proportion of total conversation

This comparison supports the observation from our comparison of the visions of these two groups, underlining the extent to which inadequate technology is a significant barrier for nurses and midwives. The day-to-day challenges they face are effectively blocking their view of how the health and wellbeing of people might be digitally enabled. Informaticians may believe the most significant problems relate to staff attitude and skills, but attempting to address those issues, while failing to get the basics right, does a disservice to nurses and midwives, unfairly casting them as Luddites and reinforcing a narrative that lays blame at their door.

Contributors to both consultations shared detailed and specific examples of innovations they have been involved in, such as the introduction of apps for particular conditions, and digitally enabled services. While these appear

to have had some positive impact in the areas in which they have been introduced, too little effort appears to be focused on resolving the day-to-day challenges faced by nurses and midwives.

Like someone installing a high-end sound system in a car that is about to fail its MOT, those who are enthusiastic about the potential of technology have looked for the shiniest new toys, rather than fixing the engine and bodywork. Ultimately what keeps a car roadworthy is the same thing that keeps a health and social care system safe – a commitment to getting the basics right. It may not be exciting, but for the sake of the health and wellbeing of the public, it is essential.



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