Speech: Better tech will build better relationships between clinicians and patients

I want to talk about 3 things today.

I want to talk about:

- the problem we're trying to solve in digital healthcare
- the approach we've taken to solving it
- and what the future looks like if we succeed

And I'd like to start with a story that illustrates the problem.

In 1904 a catastrophic fire destroyed most of downtown Baltimore. The blaze was so bad that the local fire department was overwhelmed. Telegraphs went out to Philadelphia, New York and Washington DC, asking them to urgently send fire crews.

But when the crews from other cities arrived on the scene, they found their equipment was useless. Because their fire hoses all had different gauges. None of them had been designed to fit Baltimore's fire hydrants. The fire raged for 30 hours. Whole city blocks burned to the ground because the kit was not compatible.

When the embers finally cooled, 35,000 people found they were unemployed. Municipal officials in 1900s America would not have used the word 'interoperability'.

But, in the inquiry that followed, the lack of standardised, mutually compatible equipment was found to be at the heart of the disaster. At the time of the Baltimore fire there were 600 different types of fire hose in use across the USA.

People were well aware of the problem, but city authorities said the cost of moving to a nationally agreed standard was too high. There were always other priorities.

Sound familiar? The manufacturers were happy with their little, local monopolies and didn't want the competition. I hope you can see where I'm going with this.

Fast forward a century or so, when I arrived as Health Secretary almost a year ago, I found that technology in the NHS suffered the same structural problems.

Our patient record management systems were not – and are not – interoperable. Data does not flow to where it's needed. The fire hose does not fit the fire hydrant.

When a sick patient turns up in A&E at midnight, there's no reliable way for the clinical team to get all the information they need. Even though it's almost certainly held somewhere on an NHS system.

NHS clinicians want to be able to offer the best possible care, using the best possible information. The fact that they can't always reach that information is a source of huge frustration. I've seen it over and over again. It's also a source of unacceptable risk to patients.

Part of the problem is that it's been extremely difficult to switch to a different fire hose. In both primary and secondary care our patient record management systems are often 'full stack' contracts. The hosting, the data and the application are all built together as a single system.

It means that if you want to change that system in any way, it's like swapping a crucial block from a Jenga tower. You risk the whole thing crashing.

It also means that when better, faster, cheaper tech is developed, the NHS can't always use it, because we're locked in to something that was cutting-edge when I was at university. Sadly quite a while ago now.

And poor data architecture is unsafe for another reason too. As the WannaCry attack showed 2 years ago, poor data systems are open to cyber attack too.

So what's the solution? Last autumn, I set out my vision for technology in the NHS. I said I wanted our systems to be open and interoperable. Continually upgradeable. Innovating, iterating, always improving.

To extend the metaphor of the Jenga tower, we need to move from a Jenga world – where you can only build one way, very slowly and with great caution, to a Lego world – where you can build lots of ways, swapping new pieces in and out as often as you like, without breaking the underlying structure. You can tell I've got kids.

This is not some unimaginable tech utopia, by the way. It's how the internet works.

Your banking app works on any device. It's not tied to a phone or an operating system. Updating it is easy and happens in the background. You don't have to migrate the data because the data is in the cloud.

There is no technical reason why NHS systems can't work in the same way. The problem is organisational, not technological.

It's to do with legacy, with lack of skills and confidence, with a culture of risk aversion, with a belief that tech is the IT department rather than something fundamental to the way a modern organisation works.

I'm thrilled we're starting to make some progress. The biggest recent development is the creation of NHSX, our new tech transformation unit.

The purpose of NHSX is twofold. First, it's about cutting through the

bureaucracy used to stand in the way of tech transformation. When I came in to this role, one of the first things I wanted to do was make emails and not letters the default mode of communication between patients and the NHS.

Not too controversial, I thought. Surely this was low hanging fruit? It took me 7 months to get that decision agreed by all parts of the system. Seven months. Just to get to the end of the 20th century, let alone 2019.

So NHSX has brought together our scattered tech leadership into one decision-making point, giving them powers, the policy tools and the clout to get things done.

The second goal of X is to bring the mindset and practices of the internet to the way we deliver tech in the NHS. That means nationally agreed standards, locally-led delivery.

Commission what you want, but it has to meet our standards on cyber security, data access and interoperability. Otherwise we won't approve the spending.

It means being open, collaborative and user-centred. Agreeing our standards with our users. Publishing them on the web. Open sourcing any code developed in the NHS.

And we are moving health and care away from private networks like N3 and HSCN, so that we can run all of our services across the internet.

This will open the ecosystem, so that charities will be able to build apps for patients with specific conditions, and the NHS can run off-the-shelf stuff that works well everywhere else. We don't need everything invented here.

Today I can announce the next step on that journey. We're launching our new GP IT Futures contract.

I believe it should be as easy for a GP surgery to switch IT provider as it is for a small business to switch bank accounts.

Under the new contract, providers will have to follow our standards on interoperability and data access. Systems will need to be continuously upgradeable. Patient data will need to be securely hosted in the cloud. If not, they will not get contracts.

Sick patients should not have to explain 'why are you here' for the umpteenth time every time they meet a new clinician, or cart round bulging folders of notes from appointment to appointment.

It is not good enough. Your medical records should be accessible from wherever you are the NHS, just as you can get to your emails from any device.

The new contract will help us deliver on that goal and will be in force from January. It's an iterative process and we will continue to improve the approach to make sure it meets needs.

And we can only build the NHS of the future on safe, secure systems that we can rely on, and we can trust. Weak cyber security undermines that trust. We're in the middle of investing £150 million to put in place new protections.

I can tell you that: over 100 NHS boards have now received training from GCHQ-accredited experts on cyber security threats and the actions they need to take to protect their organisations.

And, from today, we've launched a new data security and protection toolkit that everyone in the NHS who deals with patient data must use: a single set of standards to help health and social care providers improve cyber security and carry out self-assessments to measure how well they're doing, and how much they still need to do.

Through the use of free and open standards we will be able to rapidly share cyber threat intelligence throughout the NHS.

All this is for a purpose. Digital technology will fundamentally alter our relationship with the physical NHS. Remote access will change clinicians' relationship with patients for the better. Technology won't be at the expense of humanity.

By contrast, technology will put more of a premium on the human ability to explain, reassure and contextualise. It will mean more time with patients, not less.

For patients, digital transformation will mean less time hanging around in waiting rooms, more care at home.

In Surrey, NHS clinicians are providing monitoring and support for dementia patients in their own homes, in real time. Patients and carers spend less time making stressful trips to the emergency department.

Previously it's where they'd go if the patient was having a bad night, because staff in hospital were a source of trusted advice. Now carers can get that advice at home – with clinicians able to remotely monitor the patient's vital signs. It's just one example. There are hundreds more.

One final point. The NHS is a 1.3 million strong team of the most dedicated public servants in the world.

And this technology is going to change relationships. Build better relationships between colleagues working in different parts of the NHS. Build better relationships between NHS clinicians and patients.

Because, ultimately, that's what it's all about: people.

So that's how I see the future of digital health in the NHS:

- greater choice

- more innovation
- systems that work, and systems that can talk to each other
- tech that saves time
- tech that makes life better
- tech that lets the NHS do what it does best: care for people

So let’s make it happen

Press release: Court winds-up asset investment company

Asset Backed Management Limited was wound up on 7 May 2019 by Judge Barton at the High Court in London following an investigation by the Insolvency Service. The Official Receiver has been appointed as liquidator.

The court heard that Asset Backed Management, incorporated in January 2017, sold asset investment opportunities to members of the public, including corporate bonds and alternative bonds.

The company would contact prospective customers by cold-calling them, as well as promoting its business through the website www.assetbackedmanagement.com.

Asset Backed Management was paid commission by the issuers of the bonds, ranging between 27.5% and 40%, deducted from the customers’ investments.

Following complaints, however, the Insolvency Service conducted a confidential investigation into the company’s activities.

Investigators were able to establish that Asset Backed Management is not, and has never been, regulated by the FCA. Additionally, it hasn’t employed an FCA-authorised person or had its marketing materials approved by an FCA-authorised person.

Additionally, the FCA carried out a regulatory enquiry into the company and it was agreed with Asset Backed Management and its director, Amir Damoussi, that they would not promote or invite investments in bonds or other controlled investments without approval of an FCA-authorised person.

The company’s methods of attracting new customers, which included cold

calling and targeting people who were not sophisticated investors, in some cases even vulnerable individuals, were in breach of financial regulations.

Although the company failed to provide its books and records, investigators examined Asset Backed Management's bank statements and revealed that income via commission received on the bonds amounted to £260,000. As a result, investigators have suggested that the company introduced unregulated investments to people in the region of £650,000 to £940,000.

Asset Backed Management failed to file any accounts, and had failed to preserve, maintain and/or deliver up any accounting records. The company also suddenly left its registered office on Threadneedle Street in November 2018 without informing its landlord, despite continuing to market itself as based there.

Helen Cosgrove, Chief Investigator at the Insolvency Service, said:

> Asset Backed Management traded in wilful breach of FCA regulations that exist to protect investors. Many members of the public have been impacted by their actions.
>
> This behaviour will not be tolerated. The Insolvency Service will investigate any reports of such conduct and petition the court to wind-up companies found to be trading to the detriment of the public interest.

All public enquiries concerning the affairs of the company should be made to: The Official Receiver, Public Interest Unit, 4 Abbey Orchard Street, London, SW1P 2HT. Telephone: 0207 637 1110 Email: piu.or@insolvency.gov.uk.

Asset Backed Management Limited, company registration number 10586993, was incorporated on 27 January 2017. The company's registered office is at 32 Threadneedle Street, London, EC2R 8AY, the address of an office services provider.

The petition was presented under s124A of the Insolvency Act 1986 on 29 March 2019, at which time the Official Receiver was appointed as provisional liquidator by Judge Barber. The winding up hearing will take place in the High Court on 7 May 2019.

Company Investigations, part of the Insolvency Service, uses powers under the Companies Act 1985 to conduct confidential fact-finding investigations into the activities of live limited companies in the UK on behalf of the Secretary of State for Business, Energy & Industrial Strategy (BEIS). Further information about live company investigations is available here.

Further information about the work of the Insolvency Service, and how to complain about financial misconduct, is available here.

You can also follow the Insolvency Service on:

News story: Vehicle Checkpoint Screening Conference to take place at Aerospace Bristol

Seven projects that are looking at new ways to prevent explosives, weapons and other threats hidden in vehicles from accessing the airside of an airport will be revealed for the first time on Thursday 13 June 2019.

The developers behind the low and mid-level Technology Readiness Level (TRL) proposals will present their novel concepts to experts from industry, academia and government against the backdrop of one of the finest examples of British innovation – Concorde.

Taking place at Aerospace Bristol in the heart of the South West's aerospace industry, the Vehicle Checkpoint (VCP) Screening Conference concludes the first phase of the VCP competition that was announced by the Defence and Security Accelerator (DASA) in June 2018.

To mark the occasion, all seven of the proposals that each received a share of the £1 million funding pot provided by the Future Aviation Security Solutions (FASS) programme will offer an exclusive look at the progress they have made since they were successfully awarded contracts in January 2019.

In addition to learning more about the science and technology behind some of the new screening techniques being developed, attendees will be given the opportunity to understand how existing technologies are being adapted to work within the VCP setting.

They will also be invited to engage in question and answer sessions with the individuals behind these novel ideas to help shape the future of airport vehicle security screening. Attendees will also have the chance to network and hear from representatives working in the aviation and security fields in an exclusive panel discussion.

This Vehicle Checkpoint Screening conference is free-to-attend. Please register your interest on our Eventbrite page where additional information is available.

Press release: New UK aid funding to tackle violence against women and girls in Syria

Girls and women at a safe space in Syria run by UNFPA. Picture: UNFPA

Baroness Sugg calls for urgent action to prevent gender-based violence in humanitarian crises – as she announces new support to tackle the issue in Syria.

Baroness Sugg will today (Friday 24 May) call for urgent action to prevent gender-based violence in humanitarian crises – as she announced new support to tackle the issue in Syria.

The International Development Minister will speak at the UN's first ever conference on Ending Sexual and Gender-Based Violence (GBV) in Humanitarian Crises in Oslo.

She will say that while internationally agreed commitments to protect women and girls have been made, meeting them should be a priority right from the start of humanitarian crises.

The new UK aid funding will aim to prevent violence against women and girls in Syria, by tackling its root causes, and provide safe spaces and support for survivors. The programme will also train midwives and medical professionals to treat and care for survivors of sexual violence.

International Development Minister Baroness Sugg will say:

> No girl or woman should live in fear, yet one in three women globally experience sexual or physical violence.
>
> In humanitarian crises, this can rise to more than two in three, and even then the evidence tells us that the most dangerous place for women and girls is often within their own homes. However, UK aid research shows that this violence is preventable.

> Violence against women exists because gender inequality exists and because society can have damaging assumptions of what it means to be female. Failure to address this problem during crises undermines our humanitarian support for the very people it is designed to help.
>
> While the international community has made strong commitments on gender-based violence in crises, tackling this problem remains underfunded. Minimum standards are not in place and there is a lack of urgency given to preventing violence against women and girls.
>
> Preventing and responding to gender-based violence is everyone's responsibility.
>
> We need to prioritise the protection of women and girls from the outset of humanitarian responses. We must take a 'no regrets' approach to responding to violence. And we need to make sure that women and girls have access to the support they need in crisis settings, including vital sexual and reproductive health services.
>
> We must also stand strongly against the rollback of women's rights. That's why I'm proud UK aid will continue to champion, defend and support access to life-saving sexual and reproductive health services for the world's poorest women and girls and those affected by humanitarian crises.

The UK aid funding announced today will support a UNFPA (United Nations Population Fund) programme.

It will tackle the causes of gender-based violence through community programmes in schools and mosques, which will challenge harmful attitudes towards women that normalise violence, including child marriage and denying women and girls their independence. It will also raise awareness of the physical, social and legal consequences of violence.

Since the beginning of the crisis in 2011 women and girls have made a million visits to UK aid-supported safe spaces in Syria. Here, they can access sexual and reproductive health services, including voluntary contraception and menstrual health products, psychological support, counselling and medical treatment.

Notes to editors:

- The UK is a global leader in efforts to eradicate violence against women and girls (VAWG) in all its forms including intimate partner violence, sexual violence, female genital mutilation (FGM), and child, early and forced marriage.
- The UK is a world-leading investor in research on the prevention of violence against women and girls (VAWG).
- An estimated 26 million women and girls of reproductive age are living in emergency situations. Women and girls are affected disproportionately

by conflicts and crises and are at increased risk of all forms of violence, sexually transmitted infections, HIV and unintended pregnancy.
- Humanitarian crises heighten the risk of violence against women and girls, but even during emergencies the most dangerous place for women and girls is often within their own homes. For example, UK aid's 'What Works to Prevent Violence' programme found that in South Sudan, intimate partner violence was the most common form of violence reported by women and girls. It's critical we tackle the multiple forms of violence women and girls face.

On Syria:

- UK aid is committing £7 million this year to support UNFPA's humanitarian operations within Syria to reduce the risk of gender-based violence (GBV) for those most affected by the crisis
- This builds on UK aid's existing support to safe spaces in Syria run by the UNFPA. UK aid and UNFPA's previous programme (2016-2018) saw UNFPA create 137 women and girls' safe spaces.
- These non-residential centres are at the centre of UK aid and UNFPA's strategy to tackle GBV. They serve two purposes:
- to allow survivors to enter into a safe space with others where they may speak openly about their experiences, and
- to provide a gateway to other GBV services, including case management, psychological support and counselling, and referrals to health centres for rape survivors.

ENDS

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MMR vaccination call following high numbers of cases

Latest update

In England, 301 new measles infections were confirmed in the period between April and June 2019 compared to 231 in the first quarter of 2019. Cases were

reported in all regions except the North East. Most cases (266) were in unvaccinated individuals aged 15 years and over.

Continuing the increase seen between January and March, 2,028 cases of mumps were also confirmed in the second quarter of 2019, compared to 795 last quarter. The increase in mumps has been mostly driven by outbreaks in university students. Cases were reported across England, predominantly in young adults aged 15 to 34 years.

Dr Mary Ramsay, Head of Immunisation at Public Health England (PHE) said:

> Although it is normal to see mumps outbreaks in universities every few years, we are seeing a significant number of cases, the highest quarterly figure since 2009.
>
> Coupled with the continued measles outbreaks these figures clearly demonstrate the need for sustained high vaccination rates.
>
> We're urging parents and their children, no matter how old they are, to check they've had 2 doses of MMR. Measles is easy to catch and can kill. Vaccines are there to stop the spread of disease and save lives.
>
> It's never too late to protect yourself and others.

Nearly half of the mumps cases this quarter were unvaccinated. While the mumps component of the Measles, Mumps and Rubella (MMR) vaccine is highly effective at protecting young children, immunity can reduce over time. Therefore, older teenagers and adults who received two doses of MMR in childhood can still get mumps although this is generally mild compared to those who are unvaccinated.

One new case of rubella re-infection in a pregnant woman was also reported.

Previous update

24 May 2019

PHE is calling for all parents to get their children vaccinated against MMR when the vaccine is offered, or for them to take it up now if they didn't have it at the scheduled time.

In the first quarter of 2019, there were 231 confirmed cases of measles. This figure is slightly lower compared to the same quarter last year. As measles is highly infectious, anyone who has not received 2 doses of MMR vaccine is at risk, particularly unvaccinated people travelling to countries where there are currently large outbreaks of measles.

The recent measles cases are primarily occurring in under-vaccinated communities, particularly those with links to other countries with ongoing measles outbreaks. There has also been some spread into the wider population,

such as those who may have missed out on the MMR vaccine when they were younger.

In the final quarter of 2018, 94.9% of eligible children aged 5 received the first dose of MMR. To achieve herd immunity for measles, at least 90 to 95% of the population need to be fully protected.

One dose of the MMR vaccine is about 90 to 95% effective at preventing measles. After a second dose, the level of protection is around 99%.

Coverage of the second dose is at 87.4% for children aged 5, for this reason PHE is urging those who have only had one dose to ensure they are fully vaccinated with 2 doses.

This quarter, 795 cases of mumps have also been confirmed. No new cases of rubella were reported.

Dr Mary Ramsay, Head of Immunisation at Public Health England said:

> Measles can kill and it is incredibly easy to catch, especially if you are not vaccinated. Even one child missing their vaccine is one too many – if you are in any doubt about your child's vaccination status, ask your GP as it's never too late to get protected.
>
> There are measles outbreaks happening across Europe so if you are planning to travel, make sure you check with your GP and catch-up if needed.
>
> We continue to work with NHS England on how we can make it as easy as possible for parents to access vaccines so that they can offer their children the best possible start in life.

Seema Kennedy, Public Health Minister said:

> Over 30 years ago we introduced the MMR vaccine, and since then our world-leading vaccination programme is estimated to have prevented 1.8 million painful and potentially fatal cases of mumps. The vaccine was an enormous catapult for improving the health of children and young people and still is.
>
> No child or young person should have to suffer from mumps, measles or rubella, and we must curb this recent increase in cases so we don't see a return of horrible diseases of the past. By taking up the MMR vaccine parents and young people can prevent more cases and I would urge everybody to do so.

The MMR vaccine is given on the NHS as a single injection to babies, as part of their routine vaccination schedule, usually within a month of their first birthday. A second injection of the vaccine is given just before starting

school, usually at 3 years and 4 months.

The vaccine is also available to all adults and children who are not up to date with their 2 doses. Anyone who is not sure if they are fully vaccinated should check with their GP and those planning to travel to Europe should check NaTHNaC travel health advice.

Background

The latest UK quarterly data and commentary on coverage achieved by the UK childhood immunisation programme is available.

Measles signs and symptoms

Measles is a highly infectious viral illness that can be very unpleasant and sometimes lead to serious complications. It's now uncommon in the UK because of the effective MMR vaccination programme. Although usually a mild illness in children, measles can be more severe in adults.

The initial symptoms of measles develop around 10 days after a person is infected. These can include:

- cold-like symptoms, such as a runny nose, sneezing, and a cough
- sore, red eyes that may be sensitive to light
- a high temperature (fever), which may reach around 40C (104F)
- a few days later, a red-brown blotchy rash will appear. This usually starts on the head or upper neck, before spreading outwards to the rest of the body

Symptoms usually resolve in about 7 to 10 days.

Mumps signs and symptoms

Cases of mumps have increased significantly this quarter with outbreaks reported in some universities. However, numbers remain well below those seen in the past. Mumps cases tend to increase every 3 years in environments with close mixing such as festivals and universities. Although unvaccinated teenagers are at highest risk, mild cases can occur in those who are fully vaccinated.

The initial symptoms develop 14 to 21 days after a person is infected. These can include:

- fever, shivers, tiredness and painful swelling of the parotid glands. One side may be swollen initially but usually, both glands are eventually affected
- difficulty opening the mouth to talk, eat and drink
- children may complain of earache, difficulty eating and drinking, and, sometimes, abdominal pain

In as many as 30% of cases, symptoms are so minimal that the infection goes unnoticed. However, it can rarely cause unpleasant and painful complications,

especially in older children.

Rubella

No new cases of rubella were reported this quarter.