Animation storyboard

Co-created by the public, Kohlrabi and UPD

NOTE: this draft resource specification is intended to be a jumping off point for further shaping by feedback from stakeholders and designers.

Summary of findings guiding the resource development

Design/format: Dialogue participants overwhelmingly preferred storytelling to bring health data security issues to life with relatable experiences. In response, co-creation workshop participants were provided with draft scenarios to develop into relatable stories, explaining security processes, breaches, and responses.

Information level: Many participants realised that they knew less about this subject than they had thought. They requested **basic information** about health data security upfront, with the option to access more in-depth information via signposting supplementary materials.

Visual presentations: A headline animation and interactive infographics were chosen to support the construction of visual understanding, and for accessible, self-paced exploration.

Honest: All participants reported their need for clearer, more honest information about health data security to empower and restore trust. They particularly wanted honesty about what the risks are when breaches occur.

Presentation of risk: There was understanding that risk is everywhere, that it is hard to put a number on breaches or clarify individual impacts. Acceptance of this must be balanced by clear evidence that those responsible for protecting data are present and take their duties seriously.

Key information: What is health data and why is it collected; Access: who is allowed to access; Sharing: How is health data shared within and between direct care staff and health services; What is a breach, who defines it and how to be aware that one has occurred; What are the harms of a breach; Steps to take in case of a health data breach

Summary of design decisions:

Overall, it's important that it's a story, relatable, moving through someone's journey, not a PowerPoint brought to life

- **Tone:** Serious. It’s a serious issue, so not too playful. Realism- Not just a PowerPoint , properly moving through the story
- **Character design:** range of demographics to ensure relatable, 2D, no. 8. on real scale below, show emotions in expressions, all clearly different people. Healthcare workers wear calming, trustworthy colours (blues/whites), patients wear colours.
- **Detail cues:** Realism whether hospital or home, but muted to remove clutter and put focus on central characters
- **Sound:** Natural noises to accompany the visuals, for example the sound of a keyboard tapping, or ‘data’ whirring, or a whoosh of an email. No strong feelings about light background music either way, but it would need to fit the principles of staying relatable, while balancing between honesty, i.e not playful or upbeat, and conveying a sense of safety, reassurance, and gravitas of the topic.
- **Narration:** No final absolute steer for accent or gender but agreement that diversity is important (include a couple of voices), and suggestion to range Britain e.g. Welsh, English etc to ensure accessibility and maintain interest through variety.
- **Script:** Anywhere that text can be chunked and broken down, do it!
- **Length:** No more than 3 minutes for animation, or moving through infographic.

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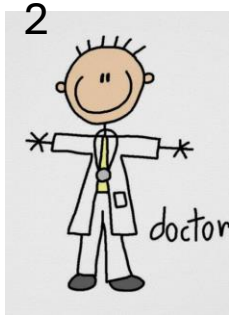

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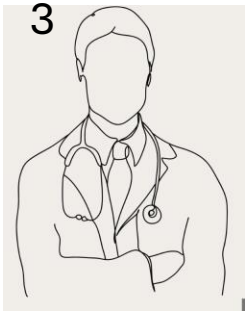

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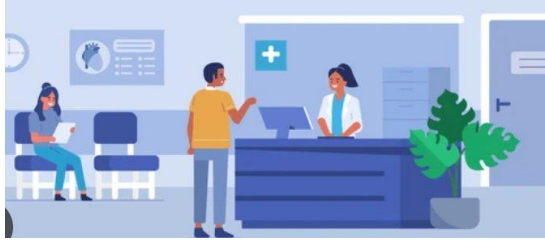
Animation Script & Storyboard

Notes:

- Each slide is 1 scene from the animation, with an example video script for the voiceover and description of visual animations.
- At times visuals are included in the slides. These were selected after the initial co-creation workshop, based on participants' suggestions and tested with following groups to ensure suitability. They are intended as jumping off points for the designers, not to be the exact visual.

Animated video script: Scene 1



<u>Voiceover</u>:
“Whenever we go to a GP, clinic, or hospital, information is collected about us and our medical history to support our care. We typically give our name, contact details, our health symptoms and lifestyle information. This goes on our patient record."

Animation visuals:

Checking in at the Hospital (for 'Whenever we go to a…')

- **Visual**: A patient (adult, child, or elderly person with a walking stick) arrives at large hospital with NHS sign, red cross
- **Background**: The entrance has automatic doors, a hand sanitizer station, and signs to different departments.

Reception Check-in (for 'We typically give our name…')

- **Visual**: Patient stands at reception desk speaking to receptionist (50s/60s, hair in a bun, pearls, headset, formal attire
- Over-the-shoulder shot from receptionist’s perspective as she types into a computer screen, which displays fields for name, contact details, and reason for visit. It has to feel like a lot of information. *Conditions such as mental health, gut, sexual or reproductive issues, cancer were all named as personal so one of these may be chosen by design team*.
- **Background**: The waiting room behind them is filled with a diverse group of people: a pregnant woman, a child with a cast, an elderly man with a cane, and a wheelchair user. Posters about hand hygiene and health awareness.

Animated video script: Scene 2

Voiceover:
“Depending on why we’re seeking care, information such as diagnoses, test results and treatments are ~~securely~~ added to that record.”

Animation visuals:

Consultation with a Nurse

- **Visual**: The same patient enters a consultation room where a female nurse in blue scrubs is checking blood pressure and temperature.
- **Background**: A computer on the desk logs the patient’s vital signs. The waiting room is visible through an open door with other patients waiting. Door closes
- **Animation Detail**: The additional data appears to "fly" from the nurse's tablet into the computer screen (with a soft "click-click" sound). Impression is of the volume and breadth of information, including information that seems more useful to you such as next appointment.

Expert feedback: suggested to remove the word “securely” to avoid a false perception of what’s happening with people’s information. It doesn’t really mean anything. They felt that although adding test results and diagnostic summaries onto a patient record is a manual process, the animation can remain the same. The research team agreed with this feedback, in line with the participants’ call for honesty.

Animated video script: Scene 3

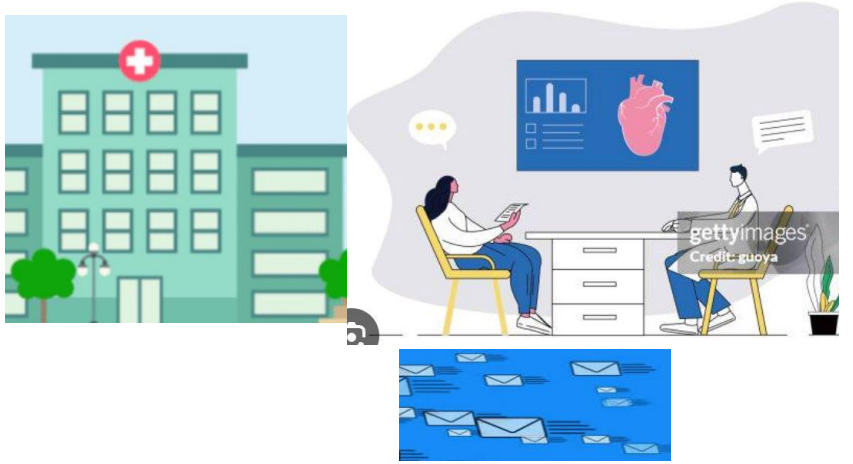
Voiceover: “Only people who need access as part of their job roles are able to access your patient record – this includes doctors, nurses and other health staff such as therapists and physiotherapists.”

“It also includes other professionals such as receptionists to support with appointments, making referrals, and securely entering test results.”

Visuals: Different Health Professionals and Staff Accessing Data

- Different health professionals accessing the patient’s record pop up as they are mentioned (some aren’t mentioned verbally but are still present), and then all are present together depicted as a strong wider team:
    - A GP, shirt, blazer, stethoscope, at their desk, checking the record
    - The same nurse writing the same patient's name on the board in the ward
    - A physiotherapist in casual uniform (scrubs/sporty/polo shirt type) looking at patient history.
    - A pharmacist in a lab coat reviewing medications on paper *(other health staff)*
    - Blood test professional (*other health staff)*
    - Receptionist (same as first one- all characters have continuity) accessing appointment to send letter
    - IT staff—smart like GP, glasses, clearly within hospital not external (visuals in top right tested and liked).
- **Security Emphasis**:
    - Variety of methods (e.g. paper, computers, smart phone, but consistent tone of reassurance)
    - For computer, add login screen with a password field, security badge inserted in keyboard, lock icons

Animated video script: Scene 4



Voiceover: “Information in your record may need to be shared within the health service to ensure you get the best care, such as between your GP and your local hospital”

Animation visual: Secure Information Sharing Between Departments

- A flow of secure emails, paper, conversations (phone, 1:1), and data lines moving from reception to doctors, to different hospital departments, to pharmacy buildings (cut outs inside showing staff). Showing different types of information flow with positive sentiment.
    - Each department is labeled: *Radiology*, *Surgery*, *GP Practice*, *Pharmacy*.
    - Secure data lines visually connect these departments. The golden thread of secure intention.
- **Security Emphasis**: Lock icon next to each data transfer line. They differ in format but not in intention for security.

Additional visual: Ending & Reassurance (of the data flow)

- The original patient, now smiling, leaves the hospital. The tone is positive because effective, safe care has been achieved with the safely stored and shared data.
- **Background**: Natural daylight, a calming atmosphere to show they feel reassured.

Expert feedback: suggested adding the *your* in the final sentence instead of ‘between GPs…’. The research team agreed that this was in line with the participants’ call for text to be personalised.

Animated video script: Scene 5

Voiceover:
“Many organisations play a part in looking after your data in line with the law”

Animation visual: Introduction to Data Protection in Healthcare

- This is the first scene of a number introducing the layers/breadth of security processes. The visual may be of a safety net/network of people and processes. The point is that, although they're all different, the golden thread of security flows right through to the hospital staff. After the initial view of some sort of network/ net of everyone, the animation zooms in on each person/service in turn (as the voiceover mentions them in next scenes).

- The aim is to be clear and correct and trustworthy, focusing on consistent frameworks/structures and not the titles.

Tone: The tone here is serious, not playful. The accountability and gravity with which security is taken is underscored. Although the staff are not "guards", there is the sense they are guardians.

Animated video script: Scene 6

Voiceover:
“Laws are updated to keep public data secure”

Animation visual: How Your Health Data is Secured

- **Visual**: This is the first zoom in from the "safety net". A large government building, inside parliament or judges in high chairs wearing black gowns and wigs. Showing that these issues are discussed and legislated on, there's paperwork icons, maybe the names of laws if they are obvious, or more recognisable concepts such as "data protection" as words flowing out of the room, becoming part of the golden thread.
- **Tone**: Reinforce how serious data security is, the sense that a breach is breaking the law.

- **Signposting:** each visual could have a link for trusted source with more information

Expert feedback: suggested that the original phrasing, "Laws are updated to promote greater protection of public data”, is odd as the purpose of laws are to keep data secure, not to promote the importance of doing so. Could it be instead: “Laws are updated **to keep public data secure**”. The research team again agreed that more realistic messaging would be appreciated by the participants, in line with their call for honesty.

Animated video script: Scene 7

Voiceover:
“The Information Commissioner's Office regulate and enforce those data protection laws. They regularly update their guidance for all organisations who are handling data, including the health service”

Visual: Introducing the ICO

- The flow of the laws in the previous scene to the enforcers. Participants suggest a courtroom with judges in high chairs, labelled *Information Commissioner’s Office* with a judge’s gavel hitting a desk. They wanted a person, even a generic member of staff, to depict that there is a human who is alert and enforcing breaches.
- Expert feedback from the ICO is that they can enforce and make decisions but are not a 'judge'. There could be a person wearing office clothes, and they could be depicted with a police officer (if it is a malicious breach- maybe save police officer for later scene).
- Focus on the ICO role as learning culture, with a "regulatory toolkit", shown cascading guidance to next layer of the safety net (health services) about compliance and best practice. Supportive, continuous improvement tone.
- Signpost: Statement on the public sector approach | ICO

Expert feedback: strong agreement with the feedback that the ICO should not be depicted as a judge/court. They also think it would be confusing to include the police here. Instead, graphics could show enforcement actions the ICO has taken, or depict the idea of regulation and enforcement in a more abstract way, such as a row of hospitals and a magnifying glass checking them and giving them a tick for good data security.

Animated video script: Scene 8

Voiceover:
“Health care services must appoint specific people who monitor and advise on data security, and report on the organisation’s data security practices in line with clear regulatory standards.”

Animation Visual: Data governance in hospitals
•Participants asked for this vague and dense information to be personalised and brought to life by having the relevant staff as three characters depicting monitoring, advising, reporting, and finally showing the checklist of clear quality standards. The titles of roles themselves were removed by co-creation participants they were too dense, confusing and obscured true meaning.

•**Layered additions:** Data protection toolkit - link to this here and provide a high level summary. Expert interviews suggested this could be used so viewers can see if their local surgery or hospital meets these standards.

Expert feedback: The wording “specific people” might be better than the original “specific roles” as it makes it easier to understand, and “quality standards” (in the final sentence) doesn't seem the right term, so perhaps opt for “regulatory” instead. These changes have been made. The research team again agreed that any shift to realism, and including more human aspects, i.e. people not roles, were very much in keeping with the participants’ thinking.

Animated video script: Scene 9

Voiceover:
“Health care services continue to invest in new technologies to improve security"

Animation visual: IT Security in Healthcare
•**Visual**: IT professionals behind computer screens, vault like, slightly dark room. These are the digital security team. They look serious, intelligent, male, glasses, professional dress.

•A checklist appears on an IT technician’s screen, ticking off:
✅ *Password Checks*
Add: multi-factor authentication (expert suggestion)
✅ *Firewalls in Place*
✅ *System Monitoring Active*
•Digital footprints appear on a screen, showing the IT team tracking who accesses patient data.

Animated video script: Scene 10

Voiceover: "All staff in health services with access to patient data must be provided with ongoing data security training"

Animation visual: Staff Training on Data Security
Participants were unsure what training looked like but suggested:
•**Option 1**: A healthcare worker sitting at a computer, with a supervisor leaning over, offering guidance.
•**Option 2**: A training room with a diverse group of staff (receptionist, nurse, doctor, IT technician) attending a presentation on data security. Reminding people that non health staff also access data.

Expert feedback: add the wording, 'with access to patient data', as the original "healthcare staff" will conjure the images of doctors and nurses in people's minds, not others such as receptionists. The research team again agreed that this brief revision was in keeping with the participant's wishes for both honesty and proactive assurance.

Suggested adding "all companies/suppliers who work with the trust are all required to comply with the regulations and NHS standards". This was thought to help address the lack of trust for private entities. Co-creation participants felt like this was a abrupt "cliff hanger", lacking contextualisation and reassurance. They recommended to focus on "staff", perhaps using the text, "all staff who work with the health services must be provided with ongoing data security training."

Added the word 'ongoing' to describe the training. Visuals and more wording updates might impart the sense that its *not* just one-off training, this training is or should be repeated at regular intervals, to stay up to date.

Animated video script: Scene 11

Voiceover:
“Despite many layers of security, things can go wrong that put your health data at risk”

Animation Visual: Layers of security go wrong

- Depicting this slide was a struggle as participants had little awareness of how things can go wrong or the extent to what 'risk' means. Experts consulted identified that in reality it can be tricky to depict the complexity of 'mistakes' or trace the outcomes of breaches and therefore "spell out" risk. They wanted it to be remembered that 'things going wrong' includes unavailability of data to staff, and it becoming available to the wrong person.

- Linking with the desire for transparency, the suggestion was to demonstrate that there are many moments of data being shared for direct care, and risk is inherent in them. The visual might therefore be to depict the original patient from earlier lying in bed, and that splits in two, showing another tableau moment in healthcare requiring data sharing, and that splits into three scenes, and so on. And the data, or patient records in each scene dissolve, depicting the risk that it is now not available or able to be used as it was intended.

Expert feedback: suggested that the original text,‘**“**Despite many layers of security things can go wrong in ways that put the security of your health data at risk”, could be made shorter and a bit more to-the-point. The research team agreed and made their suggested change for clarity.

Animated video script: Scene 12

Voiceover: "We use the term data breach' to describe when data is lost or stolen or looked at without authorisation. This might be through human error (accidental) or when it is intentional (malicious)."

Animation visual: How breaches may *happen*
Two visuals as voiceover changes. Could be linked to original scene – data or characters from some of 'the many moments'. (Participants didn't suggest an extra visual but expert stakeholders suggested adding an image that depicts unavailability of data to staff

- **Accidental visual:** A healthcare worker at a computer (nurse from earlier?) trying to send a letter, but a glitch (shards of lightning) causes it to go to the wrong recipient. The worker looks worried, with a hand on their head. The wrong recipient (a confused patient) scratches their head, looking puzzled.
- **Malicious Visual**: A burglar sits at a computer, trying to hack into the system, with the IT team blocking the attempt. Red lights flash as an alarm goes off.

Expert feedback: it would be better to focus visually on the malicious breach here to make the next slide of police intervention realistic. The perpetrator could still be dressed in burglar clothes, and the graphic could show them entering into multiple records with an alert saying "unauthorised!". The IT team could still detect the attempt with red lights flashing. The research team summary was that it was more in keeping with the participants wishes to **keep both stories** to indicate the breadth of accidental- malicious breaches and to give a fuller, high-level picture, without which you would miss the training repercussion which comes next. Participants were very keen to be assured about the training and organisational practices.

Animated video script: Scene 13

Voiceover: **“**The impact on your data depends on what has happened, and there will be different repercussions for those who were involved”

Visuals: We see the characters from previous slides, those with roles keeping data safe + malicious external ‘burglar’).

- Training is redone for the accidental breach staff member. We're following the same character like a story. Reminder that participants wanted immediate reassurance once a breach was depicted.
- Participants suggested that 'the burglar' is handcuffed, and head down, with a police officer next to ICO staff (the words "ICO" on their shirt ,lanyard, or badge). Indicating that they are working together.

Note: There were initially suggestions that a burglar is seen standing before a judge at a court and sentenced with a gavel hitting the table. Judge is depicted issuing a fine and money is deducted from the healthcare organisation. However expert interviews said it is more realistic not to lead with fines for a healthcare provider as that is not the ICO public sector approach. The ICO is not a judge. ICO enforces the rules and regulations rather than the sentences.

Expert feedback: For clarity, the text should be simplified from “Different types of breach are associated with different risks to the data, and repercussions for those involved in it happening”, to “The impact to your data depends on what has happened, and there will be different repercussions to those who were involved”. The research team made this change. Improving clarity through wording is in line with the dialogue findings.

Further feedback was that it is not realistic to show an external cyber attacker caught. Cyber attackers are usually overseas and difficult to track. It's the supplier that's more likely to be fined by the ICO for not protecting their system. Perhaps as earlier feedback suggested, we see more of the range of tools in the regulatory toolkit, such as an ICO officer investigating (with a magnifying glass), a police officer near for gravity, and the internal team receiving training. It’s complicated but honest as the participants appreciated.

Animated video script: Scene 14

Voiceover:
“To understand more about the types of breach that could happen, and what to do about them, visit xxxxx”
(UPD website link for layers of info)

Animation Visual: Understanding more
Visuals: Empowered (original) patient character. They look happy, they have knowledge, they have gained a sense of empowerment with this information. They are pictured using their computer to type search terms into their search engine to be directed to more information (UPD add specifics). Participants felt that they wouldn't know what to type into a search engine to find more about different breaches.

They would find it helpful here to have a short visual overview—for example the webpage that comes up spells out the different headers of types and suggests you can follow links for more. You could click through to do the infographics from here.

Expert feedback: To fit in with the wording amendment in the previous slide, acknowledging that the word “breach” requires definition, they suggest to change wording to: “To understand more about the types of **data incidents** that could happen, and what to do about them, visit xxxxx”

The research team thinks neither this suggestion nor the previous version are in conflict with the participants’ vision. If retaining the existing version, then a lay person’s definition of breach could be seen earlier, e.g. on slide 16, scene 12.