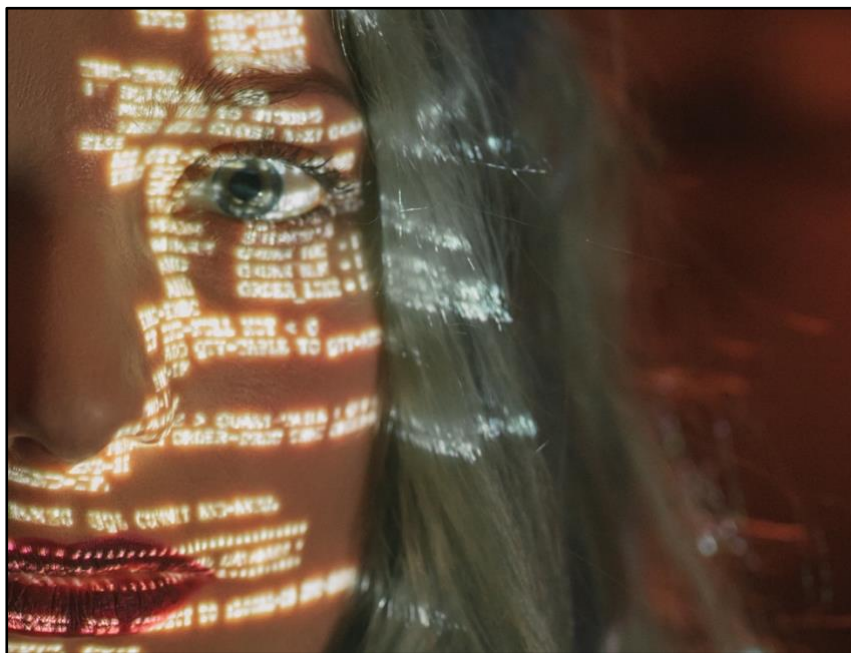


Sex and digital identities



How digital identities can solve the problem with sex and gender identity – and how getting it wrong will make the problem worse.

February 2022

Sex Matters is a human rights organisation campaigning for clarity about sex in law, policy and language

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About Sex Matters

Sex Matters is a UK-based not-for-profit organisation. We have a singular mission: to re-establish that sex matters in rules, laws, policies, language and culture in order to protect everybody's human rights. We campaign, advocate and produce resources to promote clarity about sex in law, policy and institutions.

Our priorities

- **Establish clarity about the law.** Sex is a protected characteristic, and the Equality Act 2010 protects single-sex services. Clear guidance for organisations is needed.
- **Support people to speak up.** It should not take courage to say that sex is real, binary, immutable and important – but right now it does.
- **Empower organisations.** We work to empower organisations to adopt sound, fair and transparent policies that reflect material reality and protect everybody's human rights.

About this paper

This paper on sex and digital identities was developed in the first instance as an input to the UK government's consultation on its digital identities trust framework. An earlier version of this paper by Sex Matters was submitted to the consultation on the first version.

It is also intended more broadly to spark discussion and thinking about how digital identities should deal with the attribute of sex.

This paper is based on UK laws and documents. However, the principles and challenges have wider application for other countries.

Comments are welcome and should be sent to info@sex-matters.org.

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Summary

Digital identities are a means for people to authenticate who they are, and to provide trusted information about themselves, when dealing with public services and businesses. A person's sex can be important in situations as diverse as healthcare, access to single-sex services, consent when in an intimate situation with other people, and equality monitoring for sex discrimination. It is an attribute which should be reliably and accurately recorded, although may be kept private in some situations.

While some people feel that their "gender identity" is more important to them than their sex, a single data field cannot play the dual role of accurately recording biological sex and validating a person's sense of their non-sex-based identity. These are incompatible goals for a single data field.

Currently many official documents conflate or replace biological sex with gender identity, or allow people to mis-record their sex. This paper outlines how this approach developed through a series of ad hoc solutions to accommodate people who identify as transgender.

The digital identities framework will rely strongly on official documents such as passports and driver's licences. The current approach of allowing people to mis-record their sex means that the government's core identity documents will not meet a robust framework standard for digital identities – and cannot be used as authoritative sources for validating *anybody's* sex. This is a risk for a system which has as its foundation the authority of those documents.

Ignoring this problem will result in critical failures in the digital identities system:

- people unable to validate their own sex
- people unable to establish the sex of others when necessary
- people able to fraudulently claim to be the opposite sex
- people who have changed their recorded sex being locked out of digital identities
- people who have changed their recorded sex being outed, embarrassed, or inconvenienced by fraud "red flags" in situations where their sex doesn't matter.

The shift to digital identities opens up an opportunity for a simpler, more coherent and non-medicalised system to ensure the privacy and dignity of people who do not want to reveal their sex in situations where that information is not needed. This privacy is a

feature of digital identity systems that was not possible with analogue, paper-based systems.

We propose **four characteristics of a good system for recording, sharing and protecting information on sex** within a trusted digital identity framework:

1. Every person is able to validate their sex (male or female) as an attribute.
2. Organisations are able to validate any person's sex when necessary, with their consent.
3. Every person should be able to keep information about their sex private when it is not needed.
4. People who identify as transgender are able to use digital identities without triggering "synthetic identity fraud" red flags.

In order to meet these criteria, the attribute "**biological sex**" needs to be defined and secured **for everybody**.

Key starting points for a solution which supports both accuracy and privacy are:

- the definition of biological sex
- an expectation of accurate self-reporting
- the identification of reliable evidence where confirmation is needed
- warnings and safeguards to avoid confusion with gender
- biological sex to be used as a functional attribute where needed (that is, when sex matters) and generally not as a "matching" criterion for a person's general identity.

We recommend that:

- the digital identity trust framework should include sex as an attribute, not "gender".
- the entity established to govern digital identities has this flagged as a critical risk and includes in its objectives the need for digital identity systems to accurately record sex and keep it private where necessary.

1 Introduction

A **digital identity** is a digital representation of an individual. It lets them prove who they are without revealing more information than they wish to at that moment. Digital identities are likely to replace the use of paper documents – in many situations where you might currently show a physical ID card, or a bank statement to validate your identity in applying for a job or a loan, for example.

Digital identities are more than simply digitised passports, driver's licences, password replacements or online profiles. They provide rules, protections and standards that redefine how that person's data can be used:

“[Digital identities are] grounded in a collage of data that defines the individual. This collage of data, when bound to the individual, verified, and made securely accessible while under a user's control, is the essence of digital identity. Its primary purpose is not just to identify somebody, but more importantly to confirm their entitlement to access a service or perform a particular task.”¹

The potential benefits of using digital identities include:

- save time and money
- reduce risk of identity fraud
- prevent users from giving wrong or incorrect information about themselves
- reduce risk of errors that come from managing data manually
- encourage innovation by helping organisations develop more services
- increase access to services by making it easier for people to prove their identity and entitlement
- reduce discrimination and increase privacy.

The achievement of these benefits depends on digital identities being underpinned by trusted standards, robust data validation processes, and certification of those providing identity services. Risks and potential for misuse of digital ID are also real and deserve careful attention.

¹ Mastercard (2019). *Restoring Trust in a Digital World*: <https://www.mastercard.us/content/dam/mccom/en-us/issuers/digital-identity/digital-identity-restoring-trust-in-a-digital-world-final-share-corrected.pdf>

In the UK, the Department for Digital Culture Media and Sport (DCMS) is developing a “digital identity and attributes trust framework” for providers and users of digital identities.² It aims to set out requirements so that digital identities provided by public or private providers are trustworthy and interoperable, safeguard people’s data and privacy, prevent fraud and ensure products are inclusive.

1.1 The problem of conflating sex and “gender”

The DCMS consultation documents did not contain the word “sex”, only “gender”. This is alarming. Gender is sometimes used as a synonym for sex, but it has other meanings and so causes confusion (see section 3).

In 2009, as part of a process to develop a common user Interface for clinical applications, the National Health Service (NHS) developed a data standard on sex, which stated:

“The term ‘gender’ is now considered too ambiguous to be desirable or safe because different locations and systems use it to mean different things.”³

In 2018, the Equality and Human Rights Commission (EHRC) issued a statement seeking to clarify the legal situation:

“The term [gender] is often used interchangeably with ‘sex’, partly in recognition that much of the inequality between women and men is driven by underlying social and power structures rather than by biological sex. Although the Equality Act protects people from discrimination because of their sex, other UK legislation (such as the regulations requiring employers to publish their gender pay gap) refers to gender. This may cause confusion in some circumstances.”⁴

² <https://www.gov.uk/government/publications/uk-digital-identity-attributes-trust-framework-updated-version>

³ NHS (2009). *Sex and Current Gender Input and Display User Interface Design Guidance*
<https://webarchive.nationalarchives.gov.uk/+/http://www.isb.nhs.uk/use/baselines/sexdesign.pdf>

⁴ EHRC (2018). Our statement on sex and gender reassignment: legal protections and language:
<https://www.equalityhumanrights.com/en/our-work/news/our-statement-sex-and-gender-reassignment-legalprotections-and-language>

The Office for Statistics Regulation in 2021 issued a statement on collecting and reporting data about sex in official statistics:

“Producers should be clear about definitions or terminology they use, and these should be harmonised to be consistent and coherent with related statistics and data where possible. The terms ‘sex’ and ‘gender’ should not be used interchangeably in official statistics.”⁵

Responding to a plea for clarity on single-sex services, Members of the Scottish Parliament voted overwhelmingly in support of an amendment to the Bill on Forensic Services (Victims of Sexual Assault) (Scotland) to allow survivors of rape and sexual assault to request the sex (rather than the “gender”) of the medical professional who examines them. In its stage one report on the bill, Holyrood’s Health and Sport Committee warned that:

“The definition of gender could be ambiguous... which has the potential to cause distress to individuals undergoing forensic medical examination.”⁶

The High Court has ruled that the Office for National Statistics should remove guidance from the census telling people they could answer the sex question with something other than the sex recorded on their birth certificate.⁷

The Sports Council Equality Group (SCEG) has published guidance for UK national governing bodies and sport-governing bodies. It found that providing a protected female sporting category is necessary for fairness and safety and that categorisation by sex is lawful “and hence the requirement to request information relating to birth sex is appropriate”.⁸

All of this is in response to the development over the past couple of decades of a mixture of legislated and ad-hoc shifts to allow recorded “sex” to be changed in official

⁵ <https://osr.statisticsauthority.gov.uk/publication/draft-guidance-collecting-and-reporting-data-about-sex-in-officialstatistics/>

⁶ Andrew Learmonth (2020) MSPs overwhelmingly vote to replace gender with sex in rape support law. *The National*, December 10 2020 <https://www.thenational.scot/news/18936441.msps-overwhelmingly-vote-replace-gender-sex-rapesupport-law/>

⁷ <https://sex-matters.org/posts/data-and-statistics/census-guidance-on-the-sex-question-ruled-unlawful/>

⁸ <http://equalityinsport.org/docs/300921/Guidance%20for%20Transgender%20Inclusion%20in%20Domestic%20Sport%202021.pdf>

documents and data systems.⁹ There is now intense debate about whether this is a proportionate means to accommodate people who identify as transgender, or whether it causes harm.¹⁰

This issue is notably absent in the digital identities framework that the government consulted on. Nor is it addressed in the wider body of work on digital-identity regulation internationally by organisations such as the International Telecommunications Union and the OECD.

To avoid the problem, the UK government's previous Verify framework made the "gender" field optional as a matching data set (that is, one of the pieces of data used to identify a unique individual).¹¹ But this workaround is not sufficient. The officially sanctioned misreporting of sex is something akin to the Y2K bug (where a problem with recording dates after 2000 threatened the workings of global IT systems at the turn of the millennium) for digital identities. Without a clear "sex" data field it is impossible to use digital identities to validate *anyone's* sex and people who have changed their recorded sex are exposed to risks of being excluded by digital identities altogether, or harmed by being treated as if they were the opposite sex in situations where their actual sex matters (such as in relation to medicine and health). Ultimately it undermines the operation of digital identity systems and the trust people place in them.

The lack of discussion about the problem of conflating sex and gender perhaps reflects the fear that has built up around any attempt at recognising and discussing concerns about the conflation between sex and gender.¹² Discussion on this cannot be avoided if digital identities are to succeed and to gain trust. The digital identity trust framework must allow service providers to meet their Equality Act 2010 obligations, in which both sex and "gender reassignment" are separate protected characteristics.

⁹ For example, the current status asks people for their "sex", but controversially, tells them in the guidance that this does not have to be the sex recorded at birth, or on their current birth certificate. <https://murrayblackburnmackenzie.org/2021/02/19/was-the-sex-question-in-the-2011-census-self-identified>

¹⁰ Jane Clare Jones and Lisa McKenzie (2021). *Sex and the Census* <https://thepoliticalerasureofsex.org/>

¹¹ http://eprints.lse.ac.uk/90577/1/Whitley_Trusted%20digital%20ID_2018.pdf

¹² See for example Alice Sullivan (2020). 'Sex and the Census: Why Surveys Should Not Conflate Sex and Gender Identity', *International Journal of Social Research Methodology*, 23:5, 517-524, DOI 10.1080/13645579.2020.1768346; Lucy Hunter Blackburn, Kath Murray, and Lisa Mackenzie (2021). 'Losing sight of women's rights (again): a response to Cowan et al', *Scottish Affairs* 2021 30:1, 96-121; and J K Rowling (2020). 'Statement from J.K. Rowling regarding the Robert F Kennedy Human Rights Ripple of Hope Award' <https://www.jkrowling.com/opinions/statement-from-j-k-rowling-regarding-therobert-f-kennedy-human-rights-ripple-of-hope-award/> for accounts of how extraordinarily difficult it is to talk about this topic.

2 What are digital identities and attributes?

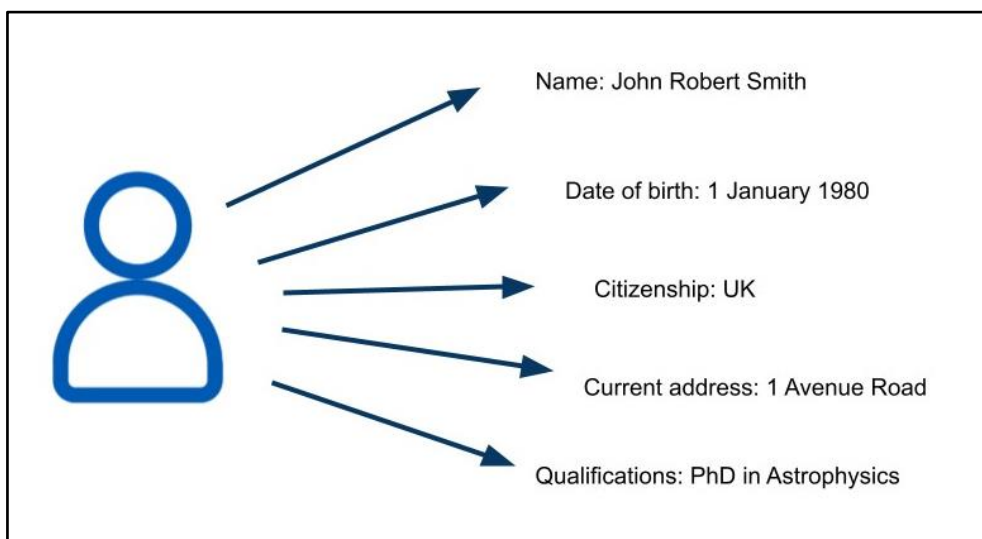
2.1 Digital identities

A digital identity is a secure record that holds various **attributes** about a person, which can be:

- **information from the government** – such as their date of birth, sex, right to reside, to work, or to study
- **credentials from other organisations** – such as qualifications, or an employment history, or a health condition vouched for by the person’s doctor.

Digital identities let us authorise the release of trusted information about ourselves. There needs to be a specific purpose and consent for each individual attribute to be revealed, checked or shared.

Figure 1: Digital identity



In practice a digital identity can operate as a **“wallet” of validated attributes created on a device**. For example, it might be used to generate a QRS code that can be checked by door staff at a nightclub to validate that a person is over 18, without revealing more information such as their name or date of birth, or their covid vaccination status.

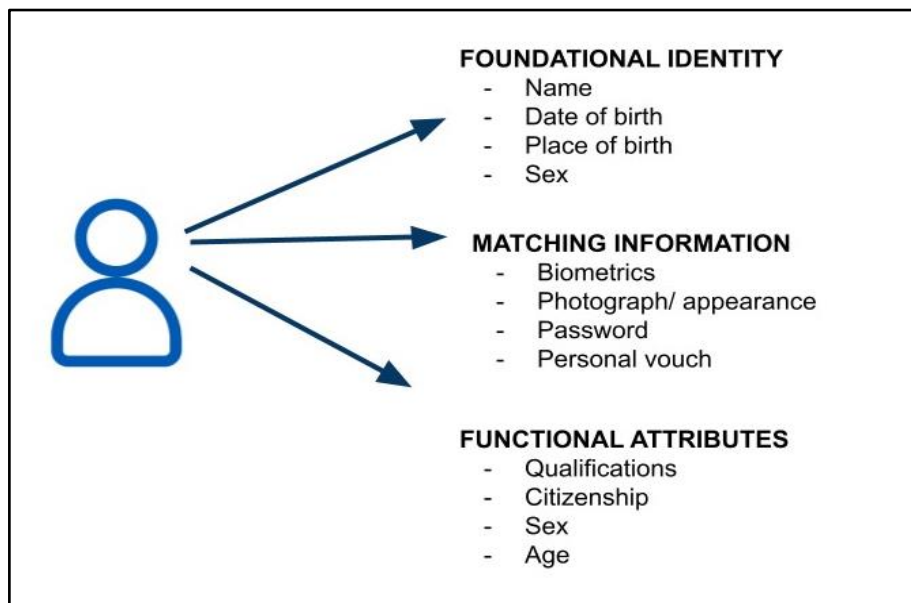
Another form of digital identity provides **user authentication as an online service**. It might be used for opening financial accounts online, registering to compete in a sporting event or renting a property. Another application could be directly linked to

biometric data, so that a person unlocks their data using facial or iris recognition or a fingerprint. All these types of digital identity can be used in relation to being a service user (such as a customer, patient, student, taxpayer or benefit recipient) or a provider of services or employee (including person-to-person services in the gig economy).

A personal digital identity can only be created for a real person, who has evidence to prove they exist and are who they say they are. This can mean a link to a “foundational identity” (usually details that link to birth details – name, date of birth, place of birth – that can identify an individual) or simply that someone is the owner of a particular email address or phone number (as demonstrated by a confirmation code).

Identity systems use information for three purposes: to identify a **unique foundational identity** (a person); to **match** that this identity belongs to an individual present at a point in time; and to link that person to relevant **functional attributes** that they wish to share (such as ownership of a bank account).

Figure 2: Different uses of attributes in identity



The key difference between a digital identity and a paper credential, database or register is that each attribute is separate. The user only needs to reveal the pieces of information needed for a particular interaction. Thus, there needs to be a specific purpose and consent for each individual attribute to be revealed, checked or shared. Except when the information is needed as part of a legal investigation or to save someone’s life, it remains private and controlled by the individual.

2.2 Attributes

Different types of attributes can be attached to a person's identity. Some will not change over their lifetime – for example, they will not be able to change their eye colour or their date of birth. Other attributes might change over time: for example, their address, name, qualifications, marital status or the number of children they have. Some attributes can be revoked, such as a driving licence.

In its framework, the DCMS gives examples of attributes that might be stored in a digital identity and used to check whether a person is eligible to do something:

- number of children
- bank account number
- National Insurance number
- National Health Service number
- nationality
- place of birth
- name at birth
- email address
- address
- phone number
- occupation
- income
- citizen registration number (for non-UK nationals)
- tax reference number
- biometric information
- passport number
- non-UK identity card number
- role in an organisation

Attributes are created, collected and checked by an attribute service provider. They need common standards. This is important, as attributes created for one purpose might be used for another. Different attributes can have different standard setters. For example, the definition of the foundational attributes held on a person's birth certificate is defined in law. The definition of athletic times for particular events uses standards set by relevant athletic associations. The definition and authorisation of professional qualifications is governed by relevant examination bodies.

The government consultation document states "gender" as an attribute. "Gender" is not defined in UK law and means different things to different people. It appears likely that the government is using "gender" as a vague synonym for "sex" without considering the implications. **Clarity about this is critically important, as this paper sets out.**

2.3 Assessing the validity of information

A common system for assessing quality of information in digital identity systems is critical, as different applications rely on the same piece of authenticated information. A bad piece of data introduced by one service provider and given overconfident authentication could proliferate throughout the system, either as an error or fraud. Error detection systems will raise alarms if information is recorded inconsistently and appears to be a fraudulent (a “synthetic identity”):

“Synthetic identities can be fictional or based on a real identity. For example, someone who gives a false date of birth to access a gambling site is using a synthetic identity, even if their other details are correct.”¹³

In order to prevent this and assure the quality of the data, attribute service providers are required to score the validity of each piece of information and record the scores in the attribute’s metadata. The same level of confidence is not required in all situations. For example, someone might give a false birth date to a restaurant in order to access the “free dessert on your birthday” promotion and the restaurant might not check this (indeed staff might informally encourage it). This is not a risk to the digital identity system as long as there are adequate quality criteria to ensure that the low-quality information in the restaurant’s records for that person is never used to confirm their birth date in situations where accuracy does matter (similarly, the fact that someone once gave a false birth date to get a free ice-cream sundae should not cause fraud alerts when they give their correct birth date elsewhere).

Thus, there is a hierarchy of information quality, which is ultimately underpinned by evidence provided by government or other authoritative sources, or physically confirmed. Official documents and records such as birth certificates, passports, driving licences and NHS records provide key anchor points to the system. The proposed system for scoring data validity of these records is based on checking whether the document is valid (does it refer to the person identified; has it been tampered with?). It does not consider that particular pieces of information within it could have been altered or mis-recorded at source as a matter of policy.

¹³ <https://www.gov.uk/government/publications/identity-proofing-and-verification-of-an-individual/how-to-prove-and-verify-someones-identity>

Figure 3: Summary of DCMS framework for scoring Information on attributes¹⁴

SCORE	CRITERIA
0	Information given to you by the person it belongs to and has not been checked or confirmed by other source.
1	Confirmed by 1 piece of evidence with a validity score of 1 (for example a scan or photocopy of an official document that appears to be valid on a basic check)
2	<ul style="list-style-type: none"> confirmed with 1 authoritative source, or seen 1 piece of evidence with a validity score of 2 (an original document where features such as watermarks and holograms have been checked by someone with training), or seen 2 or more pieces of evidence with a validity score of 1
3	<ul style="list-style-type: none"> confirmed it with 2 or more authoritative sources, or seen 1 or more pieces of evidence with a validity score of 3 (an original source where advanced security features have been checked) or seen 2 or more pieces of evidence with a validity score of 2
4	<ul style="list-style-type: none"> you are the authoritative source have seen 1 or more pieces of evidence with a validity score of 4 (an original source where advanced security features have been checked under controlled conditions).

3 Sex as an attribute

3.1 What is sex?

Sex is a physiological attribute about a person which is determined at conception and observed at (or before) birth. There are two sexes: male and female. Biological sex is a feature of a person that is immutable and is important over their lifetime.¹⁵

For people born in the UK, sex is recorded at birth by midwifery staff using the birth notification system¹⁶, which results in the allocation of a National Health Service (NHS) number. It is recorded in a baby’s personal child health record (PCHR), known as “the red book”, and is then recorded in the birth register, along with the child’s place and date of birth, their name, and details about their parents (their birth mother, and the second

¹⁴ <https://www.gov.uk/government/publications/attributes-in-the-uk-digital-identity-and-attribute-trust-framework/how-to-score-attributes>

¹⁵ Very rarely someone’s biological sex may be misdiagnosed at birth.

¹⁶ <https://digital.nhs.uk/services/birth-notification-service>

legal parent) usually using information supplied by the parents, who are given a birth certificate – a certified copy of the entry in the birth register.¹⁷

Figure 4: Newborn examination page from NHS infant health “red book”

Birth details & newborn examination

*** Please place a sticker (if available) otherwise write in space provided.**

Surname:

First names:

NHS number: **Unit no:**

Address: **Sex:** M / F

Post code: **D.O.B:** / /

G.P.: **Code:**

H.V.: **Code:**

Place of birth:

Date of birth: / /

Length of pregnancy in weeks:

Type of delivery:

Mother's NHS Number:

Problems in pregnancy, birth or neonatal period:
.....

Admitted to Neonatal Intensive Care Unit?
No Yes, fordays

Birth Weight:kg **Length:**cm **Head circumference:**cm **Date:** / /

Item	Guide to Content	Coded Outcome (ring one)	Comment/Action Taken
Examination of hips	Barlow and Ortolani tests on both	S P O T R N	
Testes	Ring 'N' for girls	S P O T R N	
Examination of eyes	Includes inspection and red reflex	S P O T R N	
Examination of heart	Colour, pulses, heart sounds, murmurs	S P O T R N	
Rest of Physical Examination	Including fontanelle, palate, spine, abdomen, urine system, passage of meconium	S P O T R N	

Date Performed: **Performed by:** **Signature:**

S = Satisfactory P = Problem O = Continue observation T = Treatment being received R = Referral N = Not examined
Top copy, remain in PCHR 2nd Copy, Health Visitor 3rd Copy, Child Health Department

contd...

¹⁷ Births and Deaths Registration Act 1953 <https://www.legislation.gov.uk/ukpga/Eliz2/1-2/20>

Sex is a fact of life acknowledged, recorded and used in law long before it was formally defined. This reflects the fact that sexual reproduction, the generation of offspring by fusion of genetic material from two different individuals, one male and one female, is foundational: it evolved over a billion years ago, long before humans, words or laws. It is the reproductive strategy of all mammals as well as other higher animals and plants. Like other mammals, human females produce eggs and gestate live young. Males produce sperm to fertilise the female egg. In accordance with their respective roles, females and males have different reproductive anatomies (“biological sex”).¹⁸

In the well-known case of *Corbett v Corbett* [1971] it was determined that for the purpose of marriage, the sex of a person was fixed at birth.¹⁹ The Human Fertilisation and Embryology Act 1990 also reflects this definition, making clear the linkage between females and the female germ line (eggs), and between males and the male germ line (sperm).

The Equality Act 2010 defines man/male and woman/female as the two sexes. It defines the protected characteristic of sex as being a reference to a man or to a woman. And s.212(1) provides:

“In this Act—
...‘man’ means a male of any age;
...‘woman’ means a female of any age.”

Under data-protection law certain categories of information are defined as “special category” data: data that is likely to be sensitive as it could create significant risks to the individual’s fundamental rights and freedoms. Information about sexual orientation, sex life, and health (diagnosis or treatment) are included in this category. Sex is not.²⁰

“Gender” has often been used as a synonym for sex. However, this creates confusion, since there are many different meanings of gender and some people believe that everyone has a “gender identity” which may or may not correspond with their sex, and which should be allowed to overwrite it.²¹

¹⁸ <https://projectnettie.wordpress.com/>

¹⁹ (*A v Chief Constable of West Yorkshire Police* [2005] 1 AC 51, para 30 per Lady Hale): <https://publications.parliament.uk/pa/ld200304/ldjudgmt/jd040506/chief-2.htm>

²⁰ ICO: What is Special Category Data: <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/special-category-data/>

²¹ *Gender and Sex: a beginner’s guide*: <https://sexandgenderintro.com/>

The Gender Recognition Action 2004 (GRA) allows a person to change the sex recorded for them in the birth register (and for a new birth certificate to be issued). It requires a diagnosis of gender dysphoria (with reports from two doctors) and two years' worth of documentary evidence of "living in the opposite gender". It does not require medical or surgical changes to a person's body, or a personal appearance before the panel for assessment. It is not an assessment that a person "passes" in everyday life as a member of the opposite sex.

Figure 5: Meanings of sex and gender

What does sex mean?	What does "gender" mean?
<p>Being biologically male or female</p> <p>Being legally recognised as male or female</p>	<p>Synonym for sex</p> <p>The broad patterns of behaviour and appearance of the two sexes</p> <p>Being perceived as a particular sex</p> <p>Self-perception as a particular sex</p> <p>The traditional social roles and expectations of behaviour of the sexes</p> <p>The clothing and appearance norms associated with either sex</p> <p>A means of self-expression</p> <p>Wishing to be perceived as a particular sex</p> <p>Wishing to be treated as a particular sex</p> <p>Making an effort through appearance to appear as a particular sex</p> <p>An internal feeling of being a particular "gender" (or both or neither)</p> <p>The words used to refer people by sex (for example, him/her)</p> <p>The words a person uses to refer to themselves</p> <p>The words a person wishes other people to use to refer to them</p> <p>The words other people spontaneously use to refer to someone</p>

3.2 Why should sex be included as an attribute in digital identity?

Sex is an attribute that people need to be able to validate about themselves in many different situations when using digital identities. In particular:

- **as part of information that is used for medical, safeguarding or health risk purposes** (including insurance)
- **in order to demonstrate eligibility to use a single-sex service** such as a women's refuge, a women's dorm in a youth hostel, or a women's changing room at a gym
- **in order to register in a sporting body or competition where there are sex categories**
- **in order to apply for or undertake a job where being a particular sex is a genuine occupational requirement** (such as a care worker providing personal care for a woman, or a volunteer or staff member in a rape crisis centre)
- **for equal opportunity monitoring purposes** (including "gender pay gap" monitoring and reporting)
- **in order to obtain the consent of another person** – for example when a patient has requested to be seen by a female GP, or in any situation where a person might request to know the sex of someone before meeting them, such as dating or having them stay in their home
- **applying for a job where it is important that the employer knows their sex** – in particular in safeguarding situations with vulnerable people.

Self-identified "gender" is not an alternative to sex in these situations.

There are two different possible questions being asked when a question is about sex:

- **Biological sex**, as observed at birth and recorded on a person's original birth certificate. This is relevant for healthcare and sport, for example.
- **Legal sex**. Sex recorded on a person's current birth certificate (which may have been changed via a "Gender Recognition Certificate". This is relevant for marriage, pensions and benefits.

Just as giving a false date of birth to access a gambling site is using a synthetic identity, so too is giving false information about sex when seeking to access a service where the entry criteria are based on biological or legal sex.

In some cases, having the wrong information about sex could result in criminal or civil legal risk and liability. As an extreme example, where penetration or other sexual activity takes place on the basis of false information, this can be a crime. A number of people have been convicted of having sex without their partner's consent through deception about their sex: see for example *R v Gemma Barker [2012]*, *R v Chris Wilson [2013]*, *R v Justine McNally [2013]*, *R v Gayle Newland [2015]* and *R v Kyran Lee (Mason) [2015]*.

3.3 Examples of how digital identities could use sex information

Communal space – privacy and consent

Rachel is booking a series of youth hostel beds for herself and a party of friends. They are a mixed-sex group. On some nights they stay in a private bunk room together, and on others they separate into the male and female dorms shared with others. Each of the party is a member of the Youth Hostel Association and when they joined they used a digital identity to validate their details, including their sex. The YHA'S online booking system uses this to make sure that only males are booked in the male dorms and only females in the female dorms.

Definition of sex that is relevant: **biological**

Bodily contact and consent

Mina is a self-employed beautician who provides intimate waxing services ("Brazilians") from her home. She advertises that she will only provide this service to women. As part of the booking process she asks clients to book with a digital identity which includes information on their sex, and she checks their identity using an app when they arrive. This helps Mina feel safe in providing her service and avoids any confusion or miscommunication.

Definition of sex that is relevant: **biological**

Relationships and consent

Jamila is a lesbian. She joins a dating app. On joining she validates that she is female using her digital identity. As part of the registration process she indicates that she is only interested in being introduced to other women (female people).

Saskia is bisexual. She joins a dating app. On joining she validates that she is female using her digital identity. As part of the registration process she indicates that she is interested in being introduced to both men and women.

Zile is pansexual and genderqueer. Zile does not wish to disclose sex as Zile does not believe sex is important. Therefore, on joining the dating app Zile does not submit this information. Zey will not be matched with either Jamila or Saskia but will be matched with others who indicate that they do not need to know the sex of people they may meet for dates.

Definition of sex that is relevant: **biological**

Shared space and consent

Laura rents out property to paying guests using an online service – she has a holiday cottage that she lets out and she also has guests stay with her in her home. While anybody can book the cottage, for those staying in her home with her she specifies female only, as they are sharing her kitchen and bathroom and she lives alone.

The service validates the identity of all guests booking but only requires information on sex from those who are seeking to book properties that are restricted on that basis.

Definition of sex that is relevant: **biological**

Bodily contact and consent

Denise and John are both carers who work for a care agency which uses an app-based system to match available carers and send them to people's homes to provide personal care. When they joined the agency, they validated their sex as part of the safeguarding and onboarding process. Many of the agency's clients are elderly women who have indicated that they only want to receive intimate care from female staff; others have indicated that this is their preference, but they will accept a male carer; others indicate that they do not mind either way. The care agency's app is able to match Denise and John with clients according to the client's preferences. The app sends a notification to the client that the carer has been allocated before the booking is confirmed, and includes their name, photo, sex and information about when this carer has visited before. A client is able to accept or reject that carer either permanently or on this particular occasion before they set off.

Definition of sex that is relevant: **biological**

Payroll records

Hannah has succeeded in getting a job at a firm and is enrolled as an employee, with tax and national insurance retained at source by her employer. Her Majesty's Revenue and Customs (HMRC) requires that employees are registered as their sex as recorded on their current birth certificate, therefore this is recorded in her HR files.

Definition of sex that is relevant: **legal**

Sporting categories

Selina is a keen athlete. She competes in her school team, trains with her local running club, competes at county level and is aiming to qualify for the youth national games. She hopes to go on to compete in the European and Olympic games.

She is registered with England Athletics through her local running club, and her running times in heats and competitions are recorded against her registration number. Her sex and date of birth were recorded when she first registered, based on showing her birth certificate to the registration secretary of her club. This allows her to enter races in her correct age and sex class. She knows that if she qualifies for the national team she will need to consent to and undertake a test by a cheek swab to confirm she has 46, XX chromosomes. She will also be observed when giving urine samples for anti-doping tests and these confirmations of her sex will be added to her registration to secure the integrity of women's sports competitions.

Definition of sex that is relevant: **biological**

Equality monitoring

Hannah is applying for jobs through an employment site. She creates a digital identity which includes details of her employment history, qualifications and personal details such as her date of birth, sex and ethnicity.

These personal details, including her name are not revealed or taken into account in shortlisting applications, but they are used for equality monitoring.

Definition of sex that is relevant: **biological** or **legal** (should be stated)

3.4 What kind of attribute is sex?

The primary *functional* attribute “sex” in a digital identification system should refer to a person’s biological sex, as this is an objective fact about them which needs to be known accurately in some situations.

The attribute has several general characteristics.

Figure 6: Characteristics of the attribute biological sex

Universal	Everyone has this attribute and should be able to validate it reliably, cheaply and easily.
Information authenticated by government	Sex is not a self-asserted characteristic. Sex is recorded at birth on the national birth register and given on a person’s birth certificate issued at that time.
Standard format	There are two values: male and female.
Consistent with material reality	The attribute “male” applies to people with male biology. The attribute “female” applies to people with female biology.
Immutable	It does not change over time.
Irrevocable	It cannot be taken away.
Not usually sensitive	Not classified as sensitive, except if someone has changed their legal sex with a Gender Recognition Certificate.

3.5 The risks if sex is incorrectly recorded

Allowing people to be recorded as the opposite biological sex in digital identification systems, whether by error, by confusion, or on purpose creates a “synthetic identity” which brings with it several risks of real harm and liability:

- **People being misdiagnosed or misprescribed and medical risks not being identified** because they are recorded as the opposite sex. The NHS 2009 data standard stated in relation to biological sex: “Patient Safety Assessments have revealed that this data is too important to leave in a default value, which could be misinterpreted as actual input.”

- **People being put in unexpected intimate situations** with members of the opposite sex, to which they have not consented, creating the risk of discomfort, humiliation and exposure; and accidental or at worst deliberate assault.
- **People unable or less likely to access services for their sex** (such as cervical and prostate screening services) and maternity benefits because they are recorded with the wrong sex.
- **People using self-identification to gain access** to opposite-sex services, undermining the privacy and dignity of users and providers of those services.
- **Inability to use official identify to prove eligibility for sport**, misuse of official identity to evade sex-based rules and undermine the fairness and safety of sport.
- **The knowledge that people can use self-identification to gain access** to opposite-sex services making those services inaccessible in practice to some users, particularly women from certain ethnic or religious groups and those traumatised by male violence.
- **Service providers unable to use digital IDs to develop services because they contain no reliable sex information.**
- **Relationships relevant to others' data obscured** – for example, an attribute may be the linkage between a birth mother and her children, where mother is defined (as it is in law) as the woman who gave birth to a child. This may affect the child's future healthcare.
- **People using self-identification fraudulently for the purpose of accessing, gaining the trust of and exploiting or abusing vulnerable people.**
- **Authorities with safeguarding responsibilities unable to robustly assess risk** related to the sex of children or vulnerable people or the sex of potential abusers.
- **Police and others aiding law enforcement being unable to identify people.**
- **Conflicts and misunderstandings** over rules which relate to sex, and to consent.

Where organisations confuse and conflate the idea of “gender identity” and “sex” they can no longer provide clear and unambiguous rules for single-sex services. Being faced with someone of the opposite sex in a space designated “single-sex” (such as women’s showers, changing rooms and dormitories) can be distressing, humiliating and frightening. Being forced to accept a male who identifies as a woman as a “female” healthcare professional when one is requested, or as a rape crisis counsellor or

personal care assistant, is considered by many women as a breach of trust and consent by institutions with a responsibility of care.²²

In addition to these real risks of human consequences and organisational liabilities there is the basic data integrity problem caused by specifying an attribute that is binary, immutable and important (sex, as registered at birth), and then populating that same attribute for some people with information that does not follow that rule. This results in people having conflicting data held by different identity providers in the same attribute. A digital identity system that allows different attributes to be authenticated by reference to other sources and includes a system for checking will lead to red flags that synthetic identities are being used. This could lead to transgender people being excluded from or disadvantaged by digital identities.

4 Digital identities protect the privacy of transgender people

It has been estimated that around 500,000 people in the UK are transgender or “gender variant”, that is, they “do not feel comfortable living as the gender that they were born with”.²³ Some may change their name and ask to be referred to by different pronouns. Some adopt a style of dress associated with the opposite sex. Some identify as “non-binary” (neither male nor female), or gender-fluid (shifting between male and female identities at different times).

Some take hormones, and some have cosmetic surgery to their breasts or faces; a small minority undertake genital surgery (what was traditionally thought of as a “sex change”). Very few are able to convincingly transition in appearance from male to female such that they are imperceptible in face-to-face interactions, although a transition from female to male appearance supported by testosterone supplements can be more convincing than male to female.

²² For example, when undergoing a medical examination – Forstater, M (2020) *Trans healthcare professionals and patient consent* at <https://a-question-of-consent.net/2020/09/16/doctors/> – or personal care: Cunningham, N (2020) *My body, my choice: privacy, consent and compulsion in personal care* at <https://legalfeminist.org.uk/2020/07/25/my-body-my-choice-privacy-and-consent-in-personal-care/>

²³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/721642/GEOLGBT-factsheet.pdf

Sex is not usually considered sensitive information. But if transgender people are forced to reveal their sex when using identification in the ordinary course of daily activities or transactions, they can feel uncomfortable or be exposed to intrusive and unnecessary questions. People who intermittently present in clothing associated with the opposite sex may also feel uncomfortable about showing a form of identification with a photograph that does not match their current appearance.

There have therefore been measures to make special accommodation for people who identify as transgender by allowing them to change the sex recorded in their official records and forms of analogue identification cards and documents.

Digital identity systems can, much more simply, accommodate anyone who wants their sex to remain private information in situations where it does not need to be disclosed, enabling people who feel uncomfortable being associated with their sex to navigate daily life in areas where sex is not a condition of entitlement without challenge or embarrassment.

In addition, non-validated self-asserted attributes such as honorifics (Mr/Ms/Mr), pronouns and chosen names may be added to a digital identity to indicate the “social gender” by which a person prefers to be referred without creating a new and confusing category of “gender”. One example of this is the Master Card “True Name” initiative which enables people to use their preferred name on credit, debit and prepaid cards, without compromising security.²⁴

Another good example was the recent removal of the “gender” attribute as required matching data in the NHS Personal Demographic Service API. This enabled the developers of the Covid vaccination booking service to remove the need for people to fill in a question about their sex when booking an appointment (while maintaining the link to their sex as recorded in their medical records).²⁵

Where sex does not need to be known, it does not need to be revealed.

²⁴ <https://www.mastercard.com/news/press/news-briefs/it-s-time-to-enable-people-to-use-their-true-name-on-cards/>

²⁵ <https://sex-matters.org/posts/updates/nhs-lets-talk-about-sex/>

Medical records

A doctor's office uses a digital ID system where people log in with their name and their date of birth. Their sex is not indicated on the front page of their digital medical records seen by the receptionist, only their title Mr/Ms/Mrs and so on.

Frank is a transman – that is, a female person who identifies as a man. Frank feels comfortable checking into the doctor's surgery. But Frank's medical records all show the correct sex, so that Frank is invited for the correct screenings and so that risk factors associated with being female (such as when undergoing an x-ray) are considered by Frank's medical practitioners.

ID to prove age

A digital ID system is available for people to validate their age at the supermarket or pub for the purposes of buying alcohol. This works through a digital identity "wallet" which is activated by a fingerprint scanner on the back of a phone. The app generates a QR code which can be scanned by retail staff to receive confirmation that the person is over 18 years old, without seeing any more details such as name, sex or photograph.

Stephanie is a transsexual, a male person who wishes to be treated socially as female and who has taken some steps to achieve that outcome. Stephanie is "visibly trans", and clearly male when speaking, but does not generally face hostility, as people are increasingly accepting of transgender people. While showing an ID that says male would not reveal any information that is not visible to a more-than-casual observer it nevertheless makes Stephanie feel uncomfortable and has led to unwelcome comments in the past. Using the digital app avoids sparking awkward conversations.

Workplace security

A workplace uses a digital ID system for entry and logging onto the IT system by a fingerprint.

John is “gender fluid”, sometimes wearing women’s clothing and using the name Joan.

While the employers’ data system includes details of John’s legal name and sex, this is not displayed routinely to security staff on entering the building. Joan/John is able to change the “name I am called by” field of their profile by logging in. This is self-asserted information.

Qualifications

Academic credentials can be stored as attributes attached to a digital identity.

Jasmine is a male person who identifies as “non-binary femme”. Jasmine was named James at birth and achieved GCSEs, A levels and a bachelor’s and master’s degree in that name, before legally changing their name to Jasmine. There is no need to reveal Jasmine’s old name when sharing details of Jasmine’s qualifications in job applications.

Note that in all these examples data in the attribute “sex” is not treated any differently whether a person is trans or not (and therefore nothing is flagged up, and no medical assessment is needed to obtain privacy protection). Nor is the fact that someone identifies as transgender recorded or assessed. Rather, in a situation where sex is not a condition of eligibility, consent or risk assessment nobody’s sex information is automatically shared, nor is a photograph visible.

The advantage for transgender people and for organisations serving them is that although information about a transgender person's sex is not displayed (for example to security staff on entering a building or to a doctor's receptionist), this does not mean that it is not available for use when needed for a different purpose, such as for a body search, or in someone's health records.

In situations where sex needs to be known (such as for medical assessment, or for other people's privacy and consent), this need relates to everybody, whatever their gender identity or feeling about their sex. Someone using such a service must therefore consent to others knowing their sex.

Sensitive policies can accommodate transgender people without requiring sex to be mis-recorded on identity systems. Practically, unisex services and other alternatives to separate-sex situations are often possible to ensure that transgender people are not excluded or forced into situations which make them feel uncomfortable.

For example, everyone travelling from an airport needs to follow security procedures and processes that take propriety into account so that most people are searched by someone of the same sex. But airports have developed policies to accommodate people who don't feel comfortable being associated with their sex, and to avoid exposing or humiliating those who may be wearing prosthetics or binders. This does not depend on what it says on their identity documents.

Gatwick Airport Policy

All passengers must provide proof of identity (such as a passport) when they check in for their flight. "It does not matter if your current gender presentation matches that given on your documentation or that of your photograph."

If passengers are required to be hand-searched at security, they can request to be searched by either a male or female officer and they may ask to have a private search in a side room.

"You will then undergo a full body search both by hand and by use of a hand-held metal detector. The officer conducting the search will be

accompanied by a second officer of the same sex who will act as a witness, and you may also take a witness with you (of any sex).”²⁶

Digital identities offer the potential to enable robust sex-based safeguarding and consent and at the same time protect the personal privacy of transgender people. This depends on having sex recorded accurately and consistently wherever it is recorded. The current system whereby self-identified gender and sex are conflated in official systems is a barrier to developing robust digital identities.

5 The problem: official data is already unreliable

The development of the treatment of sex in identity can be thought of in terms of three generations:

First generation – from the very first official records until very recently, “sex” was included in official documents and record systems, including birth certificates, medical records and official documents such as passports and driving licences. Sex and gender cues such as name, honorifics and appearance were expected to match, and a person had to reveal their sex whenever their ID was used.

Second generation – the discomfort this causes to transgender people was tackled by an approach which enabled the recorded sex to become unlinked from biological sex and match to honorifics and other gender cues, so that false information about sex was recorded in official documents and databases. The appendix to this report sets out in more detail how these ad-hoc decisions to allow mis-recording of sex were made. The wider implications of this were not considered.

Having a system of digital identity where information on attributes is not reliable and can disagree across different, apparently authoritative sources is a system of digital identity that will not work. It puts people who have used the second generation of solutions to transgender identity at risk of having their identity flagged as “fraudulent” and it removes the ability of people to simply and reliably validate their sex as part of a digital ID system.

²⁶ <https://www.gatwickairport.com/at-the-airport/flying-out/security-advice/>

Figure 7: Official ID systems: what does “sex” mean?

Record or document	Issued by	Can it be changed?	What the sex field tells you
Registration at birth/ birth certificate of a child	Registrar general	No	Biological sex
Identity associated with NHS Number	NHS	On request new number is issued	Nothing reliable
Passport	HMPO	With a doctor’s note	Nothing reliable
Biometric residence card	Home office	With deed poll and request and with change of “sex” on home country passport where possible	Nothing reliable
Driver’s licence	DVLA	On request	Nothing reliable
Birth certificate of an adult	Registrar general	With a Gender Recognition Certificate	Legal sex

Third generation (proposed) – digital identities and attributes secure personal information and keep it private where necessary. Biological sex should be recorded accurately as immutable but can be kept private where appropriate, and easily be delinked from mutable, self-determined characteristics such as a traditionally gendered appearance, birth name and gendered titles such as Mr and Ms that data subjects use in their day-to-day life.

The third generation would have been easy to build on top of the first generation: it ought to be simple to include sex as a robust and widely used attribute in a system of digital identity, since it is one of the key characteristics observed about every person at birth and included in their records held by the National Health Service and the Registrar General. Passports, biometric residence cards and driving licences also contain a mandatory sex field. These documents are regarded as “anchor” authoritative sources for information to underpin digital identities.

But the proliferation of unreliable information on sex in official documentation has created a barrier to the development of a robust digital identity system. It means that information provided as a key attribute on official documents by a register office, the NHS, Driver and Vehicle Licensing Agency (DVLA), Her Majesty's Revenue and Customs (HMRC) or Passport Office cannot be trusted by other identity service providers.

This can be thought of as something similar to the Y2K problem or “Millennium Bug” where an older technology solution caused unintended problems which needed to be fixed by careful and coordinated action.

The data in the sex field of official documents cannot be relied upon for authentication of anybody's sex.

Official documents and sources that do still authenticate a person's biological sex reliably are:

- the birth certificate of a person under 18
- HMRC/Department for Work and Pensions (DWP) records associated with the National Insurance number of a person between 16 and 18
- for a woman – being listed as “mother” on a child's original birth certificate
- a MatB1 form for a woman who is pregnant.

However, most people (those over 18 and those who are not mothers) do not have these documents.

Sex can also be validated by observation or assessment: a biological assessment – such as from a cheek swab, or a vouch by a physician or sports official. But these tests, while individually simple (and commonly applied to female athletes), would be costly and unwieldy if they had to be applied to the whole population.

Of course biological sex is something that is known to each individual and usually obvious in any face-to-face interaction with a person, and known by many people who have known the person over time, and is also fairly reliably assessed by facial recognition biometrics. But, as the examples have highlighted, there are many examples of remote interactions where having a person's sex accurately recorded and validated as an information attribute is necessary.

Giggle uses biometric data to validate sex

Giggle is a female-only social network aimed at young women. It advertises itself as a place to find new roommates, get emotional support, find freelance work or bond over a social cause.

In order to validate sex, it uses biometric analysis: each time a new user attempts to register on the app, they are asked to take a "selfie". It uses AI to recognise whether the face is male or female at a stated confidence level. This information is received as a percentage likelihood of the subject being either male or female, with a 95% likelihood required to join. Giggle does not use facial recognition and does not record the image itself.²⁷

6 Finding a solution that works for everybody

In a recent case before the Court of Appeal (*Elan Cane v SSHD 2020*) these issues were considered in the context of an individual who sought to have an "X" recorded on their passport instead of M or F. Lady Justice King said:

"I would respectfully agree with the judge [in the high court] that if there is no requirement for an individual to specify their gender on their passport application, it 'begs the question as to the utility of requesting gender information' at all. This in turn raises the question as to the purpose of requesting gender information across all official records. **The work now embarked upon by the Government will address these questions as part of their wider consideration of gender identity issues**, and in my judgment this work strongly supports the judge's finding that the Government was

²⁷ <https://joinagiggle.com>

entitled to take the view that it was inappropriate to consider the issue of passports in isolation.”²⁸

The government faces a challenge which is much broader than how to respond to the demand of Mx Elan Cane for a passport showing X.

It needs to find a way from the second generation of imperfect, inconsistent, ad hoc, analogue systems for providing and protecting information about sex, which creates risks and conflicts, to one that is compatible with digital identities. This is a challenge that cannot be avoided or put off.

The linkages between the identity attributes enabled by digital identities will make the previous generation of sex and gender data approaches unworkable, and if the problem is not addressed, they will make digital identities themselves unworkable and untrusted. Results will include:

- people unable to validate their own sex
- people unable to establish the sex of others when necessary
- people able to fraudulently claim to be the opposite sex
- people who have legally changed their recorded “sex” being locked out of digital identities altogether
- people who have legally changed their recorded “sex” being outed, embarrassed or inconvenienced by fraud red flags in situations where their sex doesn’t matter.

The interoperable cross-cutting nature of digital identities provides a framework and opportunity to solve this problem across government departments and use cases.

6.1 The requirements

We may draw lessons for solving this problem from the “Y2K bug” which required careful and coordinated action to unpick a previous generation of inadequate data recording, originally put in place because of a need to economise on expensive (at the time) computer memory. The practice of changing people’s recorded sex on paper documents in order to keep it private in some situations is similarly an artefact of an outdated technology: paper-based identification and records systems.

²⁸ <https://www.judiciary.uk/wp-content/uploads/2020/03/elan-cane-v-sshd-judgment-100320.pdf>

The first step in solving the problem is to agree on the goal. In 1997, the British Standards Institute (BSI) developed a technical standard defining “Year 2000 Conformity requirements” to solve the Y2K bug problem:

1. No valid date will cause any interruption in operations.
2. Date-based functionality must behave consistently for dates prior to, during and after year 2000.
3. In all interfaces and in all storage, the century must be unambiguous, either specified, or calculable by algorithm.
4. Year 2000 must be recognised as a leap year.

What similar set of rules might be defined for recording, sharing and protecting information on sex within a trusted digital identity framework?

An initial proposal might be:

1. Every person is able to validate their sex (male or female) as a functional attribute.
2. Organisations are able to validate any person’s sex when that information is needed, and they have consent.
3. Every person should be able to keep information about their sex private when it is not needed.

A first-best solution would be that sex is accurately recorded in official records such as the birth register and encoded in passports and driving licences (even if the information is not printed on the face of physical identity documents). This would allow digital identities to accurately record sex based on these “anchors” (in the same way they record date of birth), while keeping that information private whenever it is not needed. No special treatment of sex would be needed at all.

However, that solution is not available to us currently, because of legacy second-generation systems which have allowed people’s sex to be mis-recorded. So an additional criterion for a set of rules is that the solution must work around the legacy systems for as long as they are in place, and must meet a fourth criteria:

4. People who have changed their recorded sex using existing available measures (such as a GRC, self-identification on a passport or NHS record) must be able to use digital identities.

Individuals should not be penalised for using the previous generation of systems – for example by triggering synthetic identity “fraud” red flags when using their identity in general, being “outed” by an error message in situations where sex is not required information, or being excluded from digital identity systems altogether.

Simply replacing the attribute “sex” with “gender” (self-identified) would not meet requirements 1 and 2.

Replacing sex with “legal sex” (as shown on the current birth register or a GRC) would not meet requirements 1, 2, 3 or 4.

Not having any common clear definition of sex is a non-starter.

6.2 Finding a second-best solution

In order to meet criteria 1 and 2 an attribute for “**biological sex**” needs to be defined and secured for everybody. This is not currently the same as “**legal sex**” (sex as recorded on a birth certificate) as one is mutable and the other is not.

Key starting points for this are:

The definition of biological sex – this would correspond with sex recorded at birth, which is phenotypic sex (biological sex as associated with the body types and chromosomes which produce male or female germ cells). This would need to be made clear to users of data, data subjects and identity-service providers.

Expectation of accurate self-reporting – The first safeguard would be that people are asked when providing this information to self-report it accurately according to the definition. Everybody knows their own sex. Organisations should not collude in mis-recording a person’s sex when they know the self-report to be inaccurate.

Identification of reliable evidence – Reliable sources of evidence in the UK would include:

- the birth certificate of a person under 18
- the sex associated with the National Insurance number of a person aged between 16 and 18
- for a woman – being listed as “mother” on a child’s original birth certificate
- a MatB1 form for a woman who is pregnant

- a biological assessment – such as from a cheek swab
- a vouch by a physician or sports official.

A birth certificate for a person over 18 is not a reliable authenticator of biological sex, and currently there is no way to enquire to the Registrar General whether an individual with a female birth certificate is actual male or female (even with their permission). However, a system might be developed whereby a simple automated check could be done (with permission) which confirms that a person's legal sex has not been changed through an administrative process. If there is any suspicion about a person's sex, or in a situation where validation has to be at a high level of authenticity (such as for an enhanced DBS check) the checking service could be used.²⁹

As long as people are able to change their "sex" on a passport or driving licence without any record kept (and thus no means of checking), neither document can be used as an authenticator of their sex. This would need to be communicated very clearly to participants in the digital identity system.

Warnings and safeguards so that biological sex is not confused with legal sex or "gender identity".

- **Legal sex** (as shown on a current birth certificate) could also be recorded (for example, this is used for tax purposes) but would need to be a separate data field from biological sex.
- **"Gender"** – while identity providers cannot be stopped from recording "gender identity" (an individual identity provider can record anything a person agrees to have recorded, for example church attendance, political allegiance or football team supported), it should be made very clear that "gender identity" cannot be used as a substitute for sex and has no official standing. One way to practically support this would be for public-sector users of digital identities to ensure that they do not confuse "gender" or "gender identity" with sex. Another is to be clear that biological sex has only two values and is immutable.

Finally, to avoid "outing" or causing fraud red flags to be raised in relation to people who had changed their sex on some legacy documents when using digital identities, it would need to be made clear what sex data should be used for. Identity systems use

²⁹ <https://gds.blog.gov.uk/2020/11/16/the-document-checking-service-trialling-online-passport-validity-checks/>

information for three purposes – to establish a unique biographic identity, to match that identity to a physical person at a point in time, and to link that person to relevant attributes that they wish to share. Sex is traditionally used in all three. For example, a passport saying “male” would traditionally be expected to be used by someone who looks male and has a masculine name. A person using the telephone to access a bank account associated with someone whose sex is recorded as female would not be expected to have a deep voice.

However, for gender non-conforming people to be included in society, these expectations cannot be used as means of identifying a person. Advances in biometrics in any case largely remove the need for photo id with human operator identification relying on such basic cues. Therefore sex, while remaining held in the data against a person’s identity, does not need to be displayed to human operators in order for them to check whether a person is who they say they are.

Given that people have been allowed to have different recorded values for their sex on different forms of official ID **nor can sex currently be used as matching information**. Asking people for their sex on a form purely as matching information should be avoided: it is unreliable and may cause distress.

Where sex can and should be used is as a **functional attribute** where sex is a condition of eligibility or risk in using a service; in other words **where sex matters**. This is the function that needs to be clear and robust.

Recommendations

- The digital trust framework document should include biological sex and legal (birth certificate) sex as attributes.
- The DCMS should flag up this critical risk and recognise the need for digital identity systems to accurately record sex.
- The government should initiate a process to solve the problem of corruption of sex data. There will need to be involvement by the Office for National Statistics, NHS, Passport Office and DVLA, and other organisations that have systems which corrupt sex data. The Equality and Human Rights Commission and the Information Commissioner’s Office could usefully be involved in this.

6.3 A more elegant solution: stop mis-recording sex

The proposed approach is messy but necessary to work around the problems caused by the second generation of solutions to sex privacy which mean that ascertaining someone's sex is not as simple as checking whether it says F or M on their passport or birth certificate.

In practice, working around this problem would obviate much of the perceived need and benefit for people to change the sex on their passport, driver's licence or birth certificate in the first place, since in everyday life people could use digital identities to validate their identity, their age, and other attributes as needed without revealing their sex, or drawing attention to it, unless they are using ID to access single-sex services or sports.

Nevertheless, it is a solution which is far from ideal since it retains a situation where the government's core identity documents do not meet the framework standards it is setting for the private sector and cannot be used as authoritative sources for validating sex. This is a risk for a system which places a great degree of authority on the authenticity of these documents.

Furthermore, individuals wanting to apply for a passport or driver's licence are *required* to validate and display their "sex" by the public authority, but the way the public authority processes their data (mixing it up into a category with self-identified gender) makes their documentation useless to that person in validating their sex to anybody else; raising the question of what their data is being required and processed for. In addition, their compliance with this requirement is then taken as an indication that they have declared a "gender identity" (and thus a belief in the idea of gender identities). This could be challenged on data-protection grounds.

It is therefore worth considering whether there is a route back to these official documents containing accurate information, if it can be kept private.

Anyone wishing to change the data underlying their passport, driving licence or birth certificate back to accurately reflecting their biological sex should be able to do it easily. This does not mean that they lied about their gender identity or they are repudiating it, but simply that they recognise that their sex is a fact about them which is not the same as their feelings about gender.

There is no law which requires passports or driving licences to be issued with false information on sex. The DVLA and Passport Office could simply stop offering this

option and instead offer documents on request with no sex information printed on the face but with the correct information embedded. Over ten years, driving licences and passports would come back into compliance with the framework standard. Or, if an accelerated replacement rate was desired, a programme of recall and reissue could be undertaken.

Similarly, the Gender Recognition Act might be replaced by a simpler, cheaper and non-medicalised process where anyone could request a copy of their short-form birth certificate without their sex shown, thus avoiding the situation in the Christine Goodwin case which led to the enactment of the Gender Recognition Act. This would require a change in the law and would need to remain within the margin of appreciation of the Goodwin case and subsequent cases in relation to Article 8.

6.4 Where data meets feelings

Solving the problem of how to record sex accurately may be analogous but perhaps less technologically complex (and expensive) to solve than the Y2K problem. The greater difficulties are political and emotional. There was no constituency in the run up to the year 2000 arguing *positively* for retaining unreliable date information (although some before and since have argued that problem was not important because catastrophe did not occur: in fact, it was solved through diligent and careful action).

In the case of sex and gender, since the GRA was enacted and then promoted around the world the expectation has grown up, among individuals and organisations in the UK and internationally, that the purpose of allowing someone to change the sex shown on their birth certificate or other documentation is not to allow information privacy about their sex but to validate their gender identity in a psychological sense, and for this to overwrite sex entirely in society.

A single attribute cannot play the dual role of accurately recording and validating sex for everybody, and also validating a person's feelings about their non-sex-based identity. This is simply impossible. These are incompatible goals.

At the same time there is a constituency that argues that the process of obtaining a gender recognition certificate and changing the sex recorded on your birth certificate should be “demedicalised” and moved to a system of self-identification.

On all sides of the debate there is agreement that it should not be the government's role to test the validity of a person's personal sense of identity based on conformity with gendered appearance, or to impose requirements for body modification, medication or surgery. Citizens should be free to wear what they want and express themselves as they wish; no one should be under pressure to undertake medical alterations to their body; and no rights or privileges can be attached or withheld from someone because of doing this, or not doing it.

Returning to a clear recording of sex in authoritative documents would remove the medicalised process for changing it, while digital identities and the avoidance of using sex as matching data wherever possible could solve the privacy issue if people do not want to acknowledge their sex.

The government's role is to enable sex to be accurately recorded and validated, and to enable everyone to protect their personal information and their dignity, not to validate the feelings of individual citizens by corrupting officially recorded data.

For those who believe that gendered expression is important, and who want recognition of their identity, the private or voluntary sector could provide ceremonies and certificates to celebrate and mark people's adoption of a gender identity as they do with other freely and privately held beliefs and identities. This might meet the emotional need for validation.

6.5 Time for the UK to take a lead again

In the UK the Gender Recognition Act of 2004 ("GRA") was seen as a pioneering piece of legislation. It was promoted as "best practice" internationally.³⁰

In the Goodwin case which led to GRA, the ECHR judges concluded that:

"No concrete or substantial hardship or detriment to the public interest had been demonstrated as likely to flow from any change to the status of transsexuals. Society might reasonably be expected to tolerate a certain inconvenience to enable individuals to live in dignity and worth in accordance with the sexual identity chosen by them at great personal cost.

³⁰ <https://murrayblackburnmackenzie.org/2019/10/13/gender-recognition-act-reform-international-best-practice>

It concluded that the fair balance that was inherent in the Convention now tilted decisively in favour of the applicant.”

However, it can now be seen that confusing “gender identity” and sex and allowing data on sex on in birth registration and other official documents to become corrupted has had substantial unanticipated detriments to the public interest. If someone has the right to self-determine that their “gender identity” should replace their sex in public records, this takes away others’ ability to validate their sex, since there is no longer a category in official data and records that reliably relates to a person’s sex.

The impacts overlooked by the judges in the Goodwin case are becoming clear and critical in the shift to digital identities.

6.6 Digital identity and women’s rights around the world

The development of digital identities is taking place worldwide. Over a billion people still lack any form of official or formal identification. This leaves them without the protection of law and unable to access basic services, or participate as citizens, voters or consumers. Most of those affected are children and adolescents, and many are refugees, forcibly displaced, or stateless.³¹ Globally, only 71 percent of children under the age of five are registered at birth, dropping to 56 percent in the poorest countries. A birth certificate constitutes proof of age and is often a means to enforce laws designed to protect children from such things as child labour, child marriage and conscription into armed forces.

Exclusion from national identity systems is particularly acute for women. Over 45 percent of women in low-income countries do not have a foundational identification – creating barriers to their full engagement in society.³² Legal identity is a stepping-stone to empowerment, agency and freedom of movement for women and girls and hence is a vital enabler of the sustainable development goals set up by the United Nations General Assembly.

Women’s legal recognition is linked to the legal recognition of their children. Legislative, administrative and cultural barriers often stand in the way of women being able to

³¹ <https://id2020.org/manifesto>

³² <https://medium.com/caribou-digital/women-and-id-in-a-digital-age-five-fundamental-barriers-and-new-designquestions-79caa2a4acb8>

obtain identification for themselves, and further legal barriers prevent them registering the birth of their children, or having legal rights compared with the father. Nationality laws which do not grant women equality with men in conferring nationality on their children can perpetuate a cycle of statelessness. Practically, where women have identification including biometric cards it becomes easier to target benefits towards women (and mothers in particular), and for them to have their own bank or mobile money accounts.

Protections for women's rights need to be articulated in sex-specific language.³³ But some international organisations are going down the same route the UK went down in 2004 in under-thinking what it means to allow the mis-recording of sex on official documentation. The World Bank has issued guidance on developing identification systems to say that "sex" is a mutable characteristic.³⁴ Organisations such as Open Society Foundations argue that removing sex categories and allowing legal self-identification would stop transgender people being harassed and discriminated against. However, the solution to discrimination against a minority is more likely to be found in social attitudes. It should be possible for societies to accept gender non-conformity without mis-recording sex.³⁵ Encouraging acceptance of gender minorities to live freely and access opportunities should not be in conflict with protecting women and children's rights, which require clear and universal identification systems for sex.

International organisations promoting digital identification systems with loopholes which would allow males to access women's and girls' facilities, and which undermine the definition and sex-based rights of women and the definition of motherhood, will not gain trust. The UK was the first country to enact "gender recognition", and may be the first to unwind it in favour of a human-rights-compliant, digital system that retains the integrity of information about people's sex, while protecting their privacy where appropriate. There is an urgent need for "breaking the silence" on the issues surrounding recording sex in digital identities in international development. The UK could play a role in supporting this dialogue.

³³ <https://openknowledge.worldbank.org/handle/10986/32474>

³⁴ World Bank. 2019. *ID4D Development Practitioner's Guide*: <http://documents1.worldbank.org/curated/en/248371559325561562/pdf/ID4D-Practitioner-s-Guide.pdf>

³⁵ Open Society (2014). *License to be yourself*: <https://www.opensocietyfoundations.org/uploads/4bcc8c11-db97-4eea-87ad-f9a8b7b21d09/license-to-be-yourself-20140501.pdf>

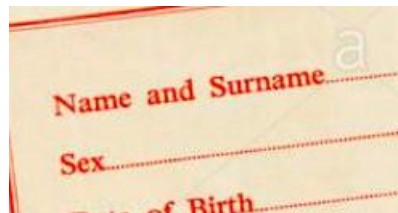
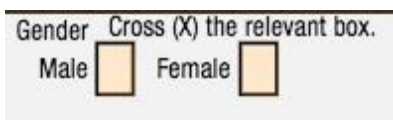
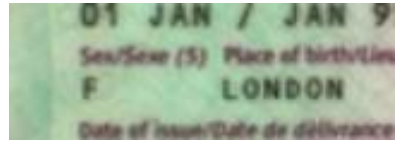
Appendix 1: Mapping the identity data corruption problem

This section looks in more detail how sex is allowed to be mis-recorded in official ID and data systems.

Passports

When a person applies for a UK passport, they have to tick a box marked “gender” – the options are “male” or “female”. In most cases the source document for this is a person’s birth certificate which shows their sex. There is no legal definition of “gender” and no defined objective property called “gender” about a person. On the passport itself, male or female is displayed as “sex” in line with international passport standards. Thus what is recorded on a passport in the first instance is a person’s sex as recorded on their birth certificate (which is almost always their biological sex, unless they have changed their birth certificate via a Gender Recognition Certificate).

Figure 8: How sex data is described for passports

Birth certificate -->	Passport form -->	Passport
		

However, the Passport Office allows a person to apply to have the sex recorded on their passport changed to display the marker of the opposite sex, by sending a doctor’s letter “confirming that the orientation to the acquired gender is likely to be permanent”. These letters are basic, and a template can be downloaded from support organisations and signed during a seven-minute GP appointment. No medical or surgical treatment is required: simply a declaration by a person to their doctor that they intend to permanently adopt the social gender of the opposite sex (for example by changing their name and title).

Therefore, a passport that says “Sex – F” can be held by a person who is either male or female and a passport that says “Sex – M” can be held by a person who is either male or female.

Passports are issued at the discretion of the Home Secretary in exercise of Royal Prerogative. The decision to allow a change of recorded sex on a passport in this way was not determined by parliament or by courts but appears to have been negotiated by a few well-connected individuals (at a time when far fewer people held passports), and then formalised as customary practice under the influence of lobby groups.

One of the first recorded cases of someone changing the sex recorded on their passport was April Ashley in 1960. This was done through personal negotiation. The Passport Office now issues guidance leaflets on how to change the recorded “sex” on a passport in association with lobby groups such as the Gender Identity Research and Education Society (GIRES).³⁶

In response to a 2018 FOI request, the Passport Office confirmed that this change of sex marker does not reflect a legal change of status:

“The issue of a passport in an acquired gender does not give legal recognition of the change of gender. For passport purposes, the question is only whether the person has permanently adopted a new identity.”³⁷

Thus, no reliable information on biological sex or legal sex is contained in a passport.

The Passport Office, in an internal review of “gender markings in passports”, states that “gender” is used in passports for several reasons:

- as a biographic detail for confirming identity
- to identify the correct gender of foreign names
- to enable appropriate customer interactions (including respectful address in writing and in conversation and the application of customary and gender-based naming conventions)
- for accurate nationality determination (through a “Mother” and/or a “Father”)
- for identifying impostors at all stages of the passport application and usage – for example, a person may have fraudulently tampered with a genuine British passport by substituting the photograph

³⁶ https://www.gires.org.uk/wp-content/uploads/2014/08/dg_202401.pdf

³⁷ https://www.whatdotheyknow.com/request/changing_gender_on_a_passport

- for transgendered persons to use their passport as evidence of their acquired gender
- so that physical checks at borders can be carried out by a person of the appropriate gender without questions being raised about the applicant's gender
- as proof of identity to access gender-specific services.

These arguments are inconsistent – some relate to sex and others to self-declared gender.

Figure 9: Assessment of the Passport Office’s rationale

Reason	What attribute?	Is this a good reason?
Biographic detail confirming identity	Sex as recorded on birth certificate	Yes, but not a strong reason to make it mandatory to display on the face of a passport.t
To identify “correct gender” of foreign names	Self-identified gender	No. This is a trivial reason.
To enable appropriate interactions	Self-identified gender	No. This is a trivial reason. Gender-neutral terms can be used politely if there is any difficulty in perception.
To identify mothers and fathers in nationality determination	Sex	Yes – although does not need to be shown on face of passport.
To detect fraud	Sex	Not strong – matching the sex of a passport is the least onerous part of an identity fraud.
To enable proof of transgender identity	Self-identified gender	No – this begs the question why records need to be altered to allow a person to “prove” they are the sex which they are not.
So that physical checks are carried out by a person of “the appropriate gender”	Sex Or self-identified gender?	The question of which attribute to include here depends on whether the constraint on searching people of the opposite sex depends on their sex, or their self-identified gender. For example, should a female passenger be forced to be searched by a male member of staff if that person declares themselves to be a woman?
As proof of identity to access gender specific services	Sex	“Gender specific services” (in practice sex-specific services) are generally provided to meet the needs of a particular sex, including for privacy from the opposite sex – they take the form of rules (such as “female only”). Issuing forms of identity which appear to provide authoritative proof that people are the opposite sex allows them to evade these rules.

The willingness of the passport authority to mis-record sex is in contrast with a recent court case where a court refused to change a person’s recorded date of birth. In this case a refugee who had survived torture strongly wished to have his date of birth changed on a biometric immigration identity card, as he believed his original date of

birth was wrongly recorded. In the context of his traumatic personal history, he found the imposition of what he believed to be an incorrect date to be “dehumanising and corrosive of his sense of identity.” He was on hunger strike and suicidal. Nevertheless, the judge ruled:

“A public authority’s record-keeping function had to respect the rights of individuals to their private life, under article 8 of the Convention, but that did not extend to inserting information in records which was unverified, inaccurate or misleading. That was the case no matter how serious the consequence for a particular individual.”³⁸

This reasoning on age seems incommensurate with the arguments of the Passport Office that the incorrect sex should be recorded in order to assist with polite interactions, with the unforeseen consequence that it would enable people to evade sex-based rules.

In response to FOI requests, the Passport Office has stated that it does not know how many people have changed the sex marker on their passport:

“The information you have requested on how many individuals have changed the sex marker on their British passport is not held in a readily available format. To determine whether an applicant has changed their gender on a passport would involve manually searching all our passport records and this would not be possible within the cost limit.”

This treatment of an attribute by a service provider would disqualify an institution from being certified under the digital identities trust framework.

Driver’s licences

For a driving licence, the application form asks for the applicant’s “gender”, female or male. This is encoded into a driver number which is made up of letters of the driver’s name; a code number based on year and month of birth and their “gender” (the second number will be 1 or 2 for a man and 5 or 6 for a woman depending on their month of birth); and a computer check digit.

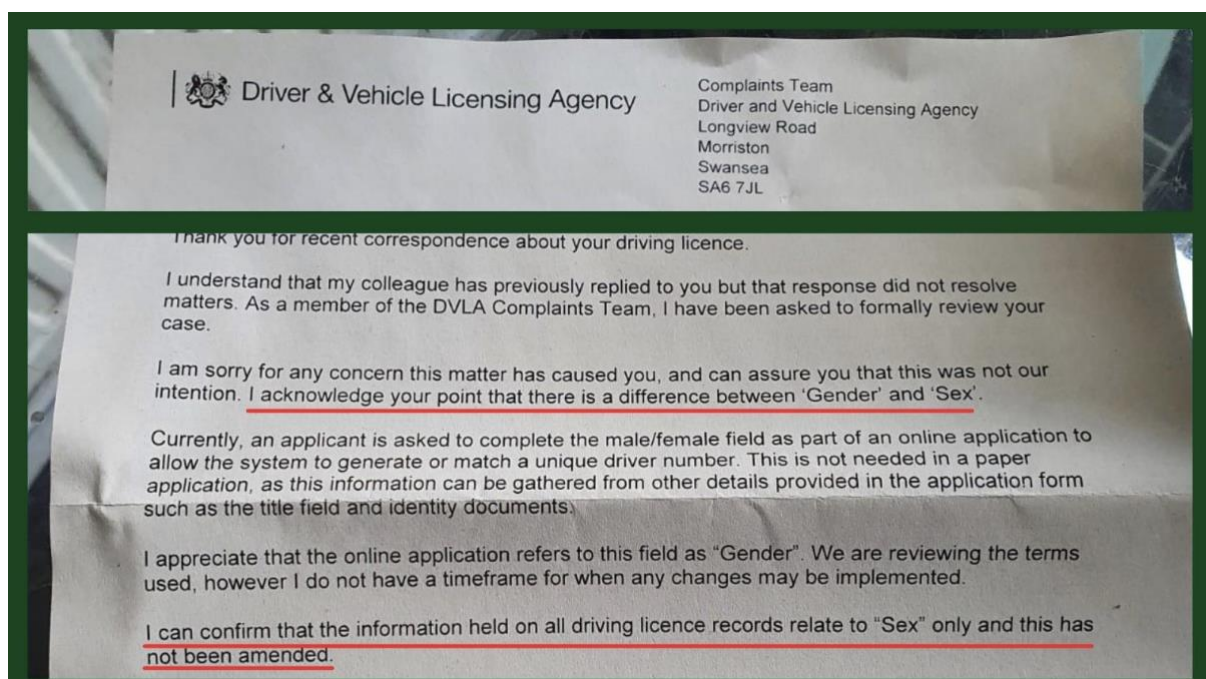
³⁸ <https://www.thetimes.co.uk/article/no-right-to-have-residence-permit-amended-for-suicidal-tendencies-28dwzz3cr>

Figure 10: Driver's licence online form gender options



The Driver and Vehicle Licensing Agency (DVLA) replied to a customer who complained, that the information that is held is “sex” not “gender”.

Figure 11: Letter from the DVLA



However, the recorded “gender” (or “sex”) on a driver’s licence can be changed by submitting a name change document (statutory declaration or deed poll) with a covering letter requesting a change of name and gender code. A new driver’s licence can also be applied for using an existing passport. In this case the “gender” on a driver’s licence can match the “sex” on a passport (which can be changed with a doctor’s letter).

The reason why sex is recorded on a driver’s licence in this way appears to be historic and is used as “matching” data. Until 1998, licences did not carry a photograph, and there was no photograph in the police database. Drivers are not required to carry their

licence but can be required to produce it at a police station after a traffic incident. A basic test for matching a driver's licence with the person producing it is whether they appear to be the age and sex indicated by the licence (and the same age and sex as the person recorded as being stopped by the police). Sex is not a particularly specific identifying feature (it only narrows a person down to half the population), but there is a particular risk that a husband and wife might swap driving licences where they are both insured for the same vehicle (for example to avoid one partner losing their licence, or if one partner has lost their licence).³⁹ Sex information on the driver's licence prevents this common form of fraud.

It is not necessary that sex should be recorded on the face of a driving licence to prevent this form of fraud (it could be recorded in the DVLA computer system). However, removing it from being encoded on the face of driving licences would require redesigning the driver number system.

The Gender Recognition Act: changing sex on birth certificates

The Gender Recognition Action 2004 (GRA) allows a person to change the sex recorded in the birth register (and for a new birth certificate to be issued) to indicate that they are the opposite sex. It requires a diagnosis of gender dysphoria (with reports from two doctors) and two years' worth of documentary evidence of "living in the opposite gender". In practice this documentary evidence means paperwork such as wage slips, passport, utility bills showing a new name, title or "gender marker". It can also include letters from employers, voluntary organisations or others.

It does not require medical or surgical changes to a person's body, or a personal appearance before the panel for assessment. It is not an assessment that a person "passes" in everyday life as a member of the opposite sex.

The GRA was enacted in 2004 following a case in the European Court of Human Rights brought by a post-operative transsexual, Christine Goodwin. Goodwin argued that holding a birth certificate that said "male" and not wanting to reveal this made actions such as applying for loans impossible. The ECHR found a violation of Article 8 (right to respect for private and family life).

³⁹ For example, Chris Huhne and Vicky Pryce: <https://www.theguardian.com/uk/2013/mar/11/chris-huhne-vicky-pryce>

Since 2004 around 5,000 people in the UK have obtained a Gender Recognition Certificate (this is around 1% of the estimated “trans” population).⁴⁰

When a person receives a Gender Recognition Certificate, a copy is sent to the appropriate Registrar General. They make an entry in the Gender Recognition Register (which is not open to public inspection) which makes traceable the connection between that entry and the entry in the birth register. The entry is used to create a new birth certificate which records the acquired name and gender. Anyone who may have a copy of the UK birth register entry of a person who has a full GRC may have a copy of the new birth certificate.

This is a process which is analogous to (and modelled on) the record-keeping when a child is adopted, with a record created on the Adopted Children Register and a new birth certificate produced which replaces the original birth certificate for all legal purposes. However, the difference is that the fact that it is an adoption certificate is made clear on the long-form birth certificate of an adopted child: it does not falsify information, whereas the new birth certificate of someone who has changed their registered sex is indistinguishable from the original.

The ability to change identity in this way creates a risk of identity theft, as it leaves a discarded identity in the birth register. This was noted by Lady Hale in the case of *C v Secretary of State [2007]*:

“There is a particular risk of identity theft in the case of transgender customers. A fraudster may obtain a birth certificate in the customer’s original name and use this, along with other evidence, to obtain a National Insurance number allocated to that name (two linked examples of this were detected in 2012).”

The GRA does not require that history be rewritten in people’s memory or perception, but Section 22 establishes some constraints over direct disclosure of the fact that a person has a GRC. It makes it a criminal offence for a person who has acquired protected information about someone with a GRC while acting in an official capacity to disclose that information to any other person. It provides for specific circumstances (such as for the purpose of a social security system or in pursuit of crime) in which disclosure without permission is not an offence.

⁴⁰ <https://www.gov.uk/government/consultations/reform-of-the-gender-recognition-act-2004>

In practice, any information system which records a person's current legal sex and previous name and title is likely to reveal (or confirm the suspicion) that they have changed their legal sex.

Organisations that keep a record of a person's legal sex over time therefore place an extra layer of protection around these records, flagging them as sensitive and often keeping part of the record as a physical file in a locked filing cabinet. For example, the Department of Work and Pensions is required by law to treat people according to their recorded sex in terms of calculating pension entitlements. It therefore keeps records of a person's current and previously recorded sex, as well as names. It has a 'Special Customer Records Policy' for protecting the records of categories of customer whose information is sensitive, including members of the Royal Family, members of parliament, VIPs, those in high-risk employment, victims of domestic violence and people with witness protection orders.⁴¹ It is applied to anyone who has a GRC (unless they ask for it to be disappplied).

A person who has changed their legal sex via a GRC therefore has records marked as restricted, and customer service advisors can only access them with permission, with part of the record kept as a paper record.

This policy is designed to protect privacy of information, but it has the necessary consequence of drawing the attention of front-line staff to its existence. The operation of the policy causes inconvenience and delay in accessing benefits and advisors may be able to deduce the reason why a customer's account is flagged as restricted. Whether this amounts to discrimination was tested in the case of *C v Secretary of State for Work and Pensions [2017] UKSC 72* and rejected. Lady Hale concluded that while the claimants who objected to the system had concerns that were real and serious, the DWP's Retention and Special Customer Record policies were not unlawful under either the Human Rights Act 1998 or the Equality Act 2010. Lady Hale also noted that the GRA does not rewrite history:

“There is nothing in section 9 to require that the previous state of affairs be expunged from the records of officialdom. Nor could it eliminate it from the memories of family and friends who knew the person in another life.”

⁴¹ <https://sex-matters.org/wp-content/uploads/2021/02/McConnell-and-YY-judgment-Final.pdf> and <https://www.whatdotheyknow.com/request/221042/response/547256/attach/html/8/Special%20Customer%20Records%20Q3.pdf.html>

The limited nature of the privacy protection is also underlined in the case of *McConnell v The Registrar General for England and Wales [2020]* – McConnell is a female person who changed the sex recorded on their birth certificate to male and subsequently went on to become pregnant and have a baby, and is now pregnant for a second time. McConnell claimed that the legislative scheme that names the person who gives birth to a child as the mother was an unjustified breach of a transgender person’s Article 8 rights, and that having a GRC should result in being named as the father. The court concluded that it was not:

“The view that Parliament has taken is that every child should have a mother and should be able to discover who their mother was, because that is in the child’s best interests.”⁴²

While the confidentiality afforded by Section 22 was intended to be limited and to be applied to a limited number of people, in practice it is problematic for organisations seeking to record information about sex, or to apply straightforward sex-based rules in general, because it makes organisations afraid to ask, record or act on *anyone’s* sex, in case they might have a GRC, which would introduce a criminal liability for staff. As a result of this many organisations do not record a person’s biological or legal sex at all, but only their “self-identified gender”, thus avoiding the risk of any potential Section 22 liability. The Prison Service recently revealed in court in a Judicial Review case on whether male prisoners should be held in women’s prisons that they do not keep information about which prisoners have a GRC because they believe that S22 means that they cannot hold this information.⁴³ A specific workaround is also needed in the case of Disclosure and Barring Service (DBS) checks.

If calls to demedicalise Gender Recognition were ever brought in and legal sex change was made accessible to a much larger set of people on the basis of self-identity, the extraordinary provisions against disclosure of S22 would likely amount to a significant fraud risk.

It is worth noting that the rights violations that the GRA was designed to address have largely been superseded. Same-sex marriage was introduced in 2013. The remaining violation of rights is Article 8 concerning “respect for private and family life” – in relation to having to reveal the sex recorded on a birth certificate in situations where the

⁴² *McConnell v The Registrar General for England and Wales [2020]*

⁴³ <https://twitter.com/fairplaywomen/status/1367088544389476353>

institution does not need to know a person's sex. As detailed in the previous section, the advent of digital identities could solve this problem, as individuals are not required to reveal their sex using paper-based forms of identity where information about their sex is not needed.

The National Health Service (NHS)

More than ten years ago, the NHS recognised the need for clear systems to record biological sex and make sure that it was not conflated with social gender. A system of data and definitions which could deal with both was carefully set up. The data standard written in 2009 explained:

"The term 'gender' is now considered too ambiguous to be desirable or safe..."⁴⁴

The data standard set out definitions for patient "sex" and "current gender" and warned:

"Users may confuse the terms current gender and sex or assume that they are synonymous. Therefore, it is essential that all NHS applications display and explain current gender and sex terminology and values in a clear and consistent manner."

The data standard set out in detail how to keep these two characteristics separate and unconfused, and how to design computer interfaces to ensure that sex data was captured (with social gender as an optional extra). It also set out potential consequences of not adhering to these standards including:

1. The patient is given the wrong treatment as a result of a failure to identify the patient correctly.
2. The patient is given the wrong treatment as a result of a failure to match the patient correctly with their artefacts (samples, letters, specimens, X-rays, and so on).
3. The patient is given the wrong treatment as a result of a failure in communication between staff, or staff not performing or checking procedures correctly.
4. The patient is categorised with a value that cannot be utilised by any other systems.
5. The patient is categorised incorrectly from a legal perspective.

⁴⁴ NHS (2009). *Sex and Current Gender Input and Display User Interface Design Guidance*
<https://webarchive.nationalarchives.gov.uk/+/http://www.isb.nhs.uk/use/baselines/sexdesign.pdf>

6. The patient is categorised incorrectly from their perspective.⁴⁵

Key principles shaping the guidance included displaying information according to existing standards; minimising opportunities for human error; displaying sufficient instructional information to support data quality; promoting consistency across the mix of users, NHS clinical applications and care settings; ensuring reliable and accurate identification of an individual patient record; and minimising opportunities where patient-clinician relationships might be compromised.

However, despite establishing the basis for meeting these principles, this system was never implemented. The current NHS data dictionary differentiates “phenotypic sex” (as observed by a clinician) and “patient stated gender”, but in practice “male” and “female” are recorded only against gender and the phenotypic sex field remains empty.

For example, Anne Harper Wright investigated this and highlighted what was held in her own medical record.⁴⁶ We understand that this is typical practice.

Figure 12: A typical patient record (Anne Harper Wright)

NHS Data Model and Dictionary		National Code	Mapped to
Class	PERSON GENDER		
Attribute	PERSON GENDER CODE	2	Female
Data			
Element	PERSON GENDER CODE CURRENT	2	Female
Class	PERSON PHENOTYPIC SEX		Unpopulated
Attribute	PERSON PHENOTYPIC SEX CLASSIFICATION		
Data			
Element	PERSON PHENOTYPIC SEX		

My personal data, requested from my medical record, July 2018.

Policies to allow patients to change their registered “sex” are now embedded across the NHS.

⁴⁵ As above.

⁴⁶ <https://medium.com/@anneharperwright/sex-gender-the-nhs-bb86b0c3ebb>

- The GMC tells doctors to change a patient’s sex as recorded on medical records on request. This does not require any medical diagnosis, anatomical changes or a legal gender recognition certificate.⁴⁷
- Public Health England tells GP surgeries to change a patient’s recorded sex on their medical record at any time, without requiring diagnosis or any form of gender reassignment treatment. They are given a new NHS number and previous medical information must be “gender neutralised” and transferred into a newly created medical record. They will be sent screening appointments (for example, for cervical smear tests or prostate cancer screen) according to their new gender – invitations to attend the wrong screenings.⁴⁸

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⁴⁷ <https://www.gmc-uk.org/ethical-guidance/ethical-hub/trans-healthcare#confidentiality-and-equality>

⁴⁸ <https://pcse.england.nhs.uk/help/registrations/adoption-and-gender-re-assignment-processes/>