



**Northumbria
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NEWCASTLE

Maximising Forensic DNA DB Utility: Local, Regional and Global Challenges

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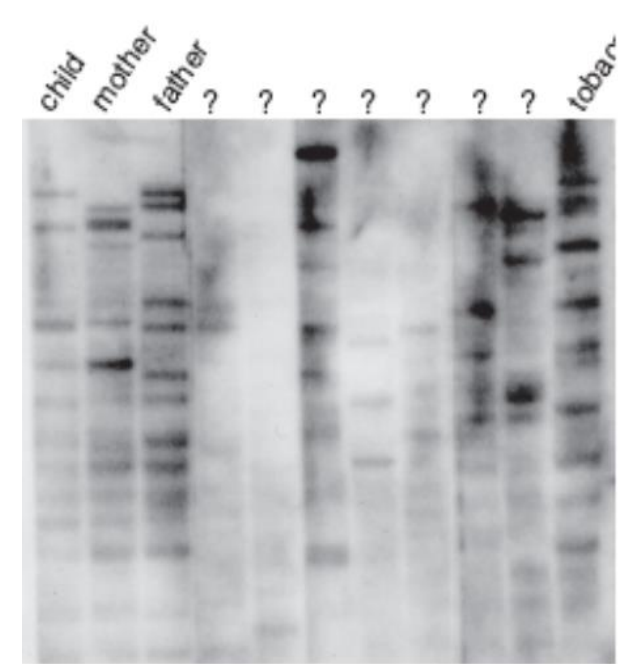
21ST MARCH 2018

Outline

- The (r)evolution of DNA databasing - a quick recap
- 3 trends to maximise utility...
- What does a database *'need'*?
- Reminder...
- Concerns and conclusions...

The Forensic DNA 'revolution'

- DNA 'fingerprinting' discovered Sept 1984: Sir Alec Jeffreys *et al.*
- First used in 1988 during immigration dispute – proving biological relationships.
- Massive scientific/technological development + law reform.
- Use of DNA rose dramatically – an '*integral part*' of CJS.
- **Huge** growth and hyperbole.



High- Profile Cases



The UK National DNA Database

- Established in 1995, England and Wales (Scotland has their own)
- WAS largest forensic DNA database in world.
- Over 9% of UK population (but replication).
- 50,000 citizens added a month
- BUT.... became highly controversial and...



Problems arose...

- Cases – *R v B*/*R v Weir* – ‘matches’ in cases where DNA should NOT have been retained.
- Appeal to House of Lords (unlawful evidence) admitted anyway (‘interests of justice’).
- 2000 – ‘guesstimated’ 50,000 such samples unlawfully retained due to inefficiencies (so this was probably going to happen again....)
- Need swift change to law in order to ensure no repeat – and make the ‘unlawful’ samples held ‘lawful’...

UK Legislative reform 1995 - 2003

- Expanded list of those from whom a sample may be taken (& earlier in process);
- Downgraded authority required to sanction & perform sampling;
- Permitted samples & profiles be retained indefinitely;
- Increased access and uses for DNA/NDNAD;
- Legislative provisions introduced to allow DNA to be taken, stored and searched **BUT** NDNAD established without specific (its own) legislation.



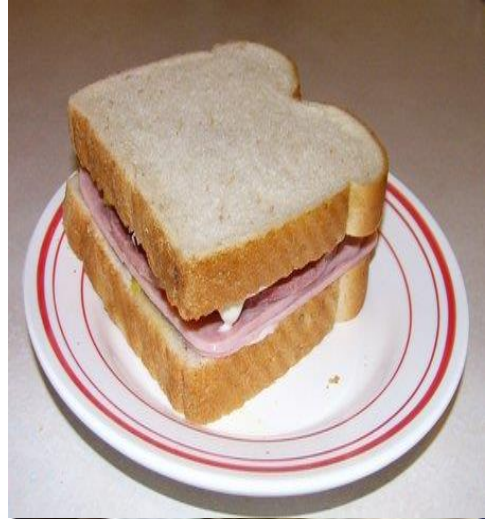
DNA From Whom?

- Police took and **retained** DNA without consent from all those **arrested** for ‘recordable’ offences.
- Used “for purposes related to the **prevention** or detection of crime, the investigation of an offence or the conduct of a prosecution.” (also ID dead).
- Also: volunteers/ witnesses/ victims.
- Minors – no need for consent if arrested – parents can consent otherwise.



And yet...

- ‘a fresh filling between two slices of stale bread’ (Leary & Pease 2002).
- Success determined by number of samples from *crime scenes* - DNA recovered from just 10% of scenes examined (approx. 17%).
- **0.36%** of recorded crimes detected using DNA in 2007/08.... (down from high of 0.37%).
- Number of crimes detected using NDNAD *fell* in 2004/05 & did not significantly increase in 3 years.



2007: Ethical Issues?

- Use of DNA sensitive.
- Protection of public from crime vs protection of ethical values:
 - *Liberty *Autonomy *Equality
 - *Privacy *Informed consent
 - * Must be balance between personal liberty and the common good.

The forensic use
of bioinformation:
ethical issues



Police retain DNA from thousands of children

Some 120,000 gene samples taken in two years, as police forces argue they are acting within the law

ram Dodd

ay 20 May 2013
0 BST



Save for later



Police have taken the DNA of 120,000 children in the past two years, according to figures obtained by the Howard League for Penal Reform. Photograph: Garry Weaser for the Guardian Garry Weaser/Guardian

BRIT

Enough to put towards your next holiday perhaps.*

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National Criminal

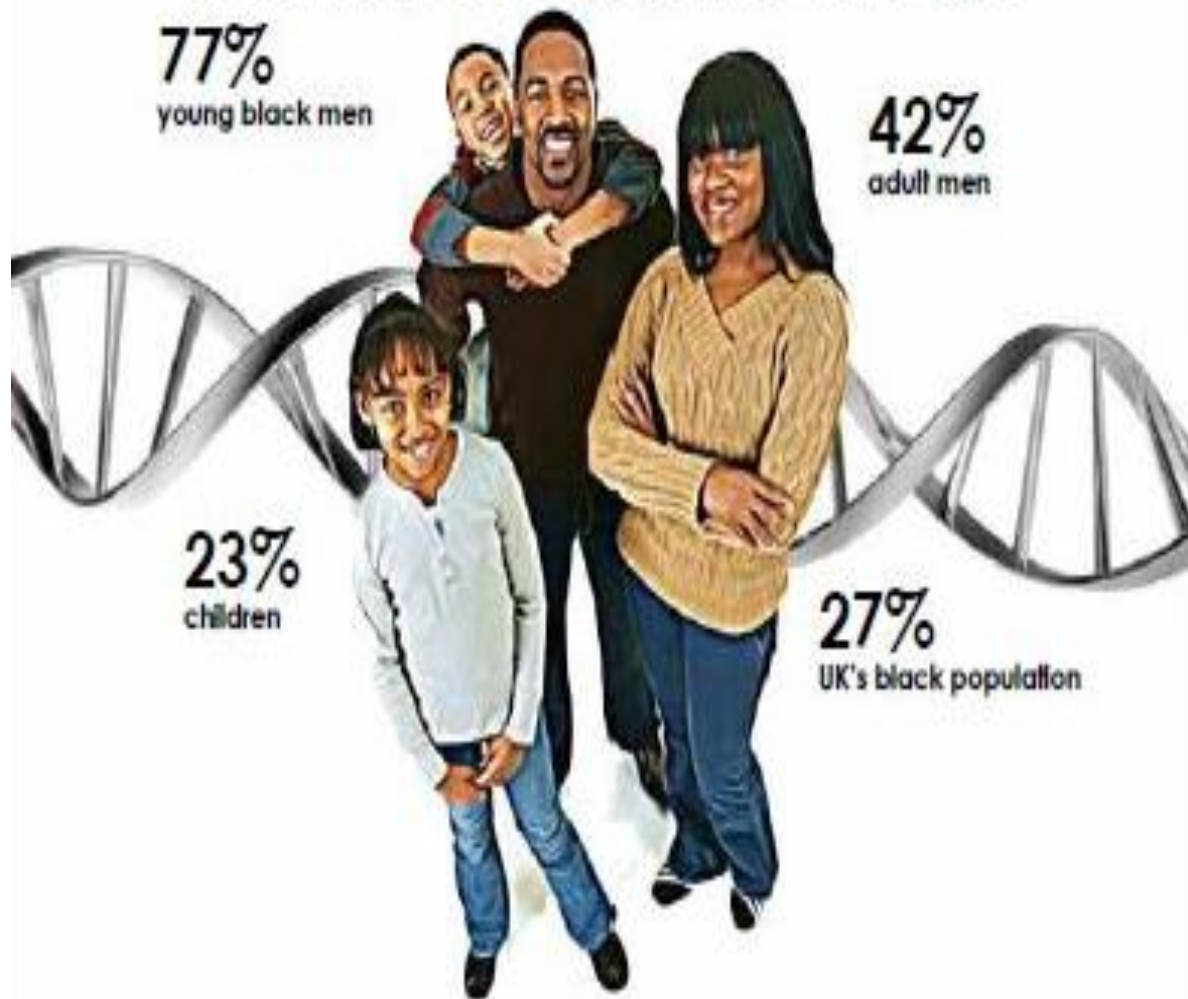
DNA DATABASE & BLACK BRITAIN

77%
young black men

42%
adult men

23%
children

27%
UK's black population



British Judge Wants Everyone in DNA Database

Calls current system
for collecting DNA
data "indefensible"

Sep 5, 2007 10:30 AM CDT

NDNAD Ethics Group 2007

- Advisory non-departmental public body, providing independent advice on ethical issues to Home Office and strategy board.
- *“The EG seeks to balance the interests of public protection... with the inevitable intrusions of privacy and personal labelling... There are no absolutely right answers.”*

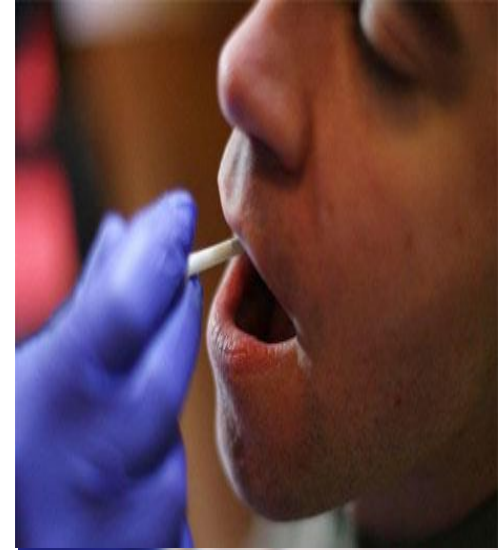


1st Annual Report
of The Ethics Group:
National DNA
Database

April 2008

S & Marper... NDNAD challenged

- *S* (juvenile) & *Marper* (NFAd) applied to have records wiped after acquittal.
- Claimed breached privacy rights (Article 8) and also discriminatory (Article 14).
- HoL (almost) unanimously – IF breached privacy, then slight and was justified in fight against crime.
- Law pre-CJA 2003 which had extended yet further police powers to take samples/ prints/ photos.



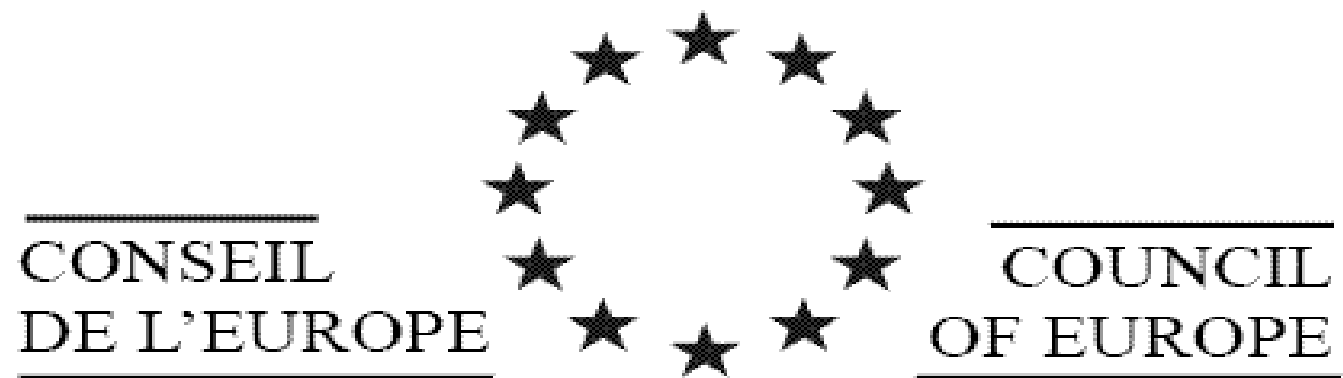
European Convention on Human Rights: Article 8

1. Everyone has the right to respect for his private life...

2. there shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is **necessary** in a democratic society ...for the prevention of disorder or crime...

- Privacy has a broad interpretation...no exhaustible definition.





COUR EUROPÉENNE DES DROITS DE L'HOMME
EUROPEAN COURT OF HUMAN RIGHTS

GRAND CHAMBER

CASE OF S. AND MARPER v. THE UNITED KINGDOM

(Applications nos. 30562/04 and 30566/04)

ECtHR Ruling

- *“the question...remains whether such retention is **proportionate** and strikes a **fair balance** between the competing public and private interests. In this respect, the Court is struck by the **blanket and indiscriminate nature of the power of retention in E & W.**”*

(para 118/9)



- *“the mere retention & storing of personal data by public authorities, however obtained, are to be regarded as having direct impact on the private-life interest of an individual concerned, **irrespective of whether subsequent use is made of the data.**” (para 121)*
- *“Accordingly, the retention at issue constitutes a **disproportionate interference... and cannot be regarded as necessary in a democratic society.**” (para 125)*

PoFA Retention Regime (current)

- Indefinite retention for any **convicted** adult (any recordable offence + outside UK).
- Under 18 convicted of minor offence 1st conviction: 5 years; 2nd conviction: indefinite.
- Charged with, but not convicted of a qualifying offence: 3 years + 2 year extension (District Judge). Arrested for, but not charged with a qualifying offence: 3 years (Biometrics Commissioner) + 2 year extension (DJ). (plus 'national security')
- Arrested for or charged with minor offence: None.
- 'qualifying' = serious sexual/violent/ terrorist offences.

A 'fair balance'?

- ECtHR articulated need for a 'balance' between police powers, and privacy concerns, human rights and public interest. But...
 - ...left unsaid what this balance should be, leaving calibrations to domestic legislators...
 - ... was also silent on whether there ought to be limitations on the uses of retained DNA.
- PoFA quelled debate over proportionality (?) in UK (other EU MS reached different 'balances').

Becoming 'unbalanced' again?

- Given 'restrictions', efforts to maximise the efficiency and utility of DNA databases have intensified...
- Particularly because 'effectiveness' still questionable... Albeit not worse under PoFA (0.3%).
- Question: have 'balances' originally struck been destabilised by subsequent legal reforms, or changes in practice?
- Scientific and technological advances attract attention BUT governance/legal regimes opaque.
- Continue to raise questions of legitimacy & acceptability.

Trends: Forensic DNA Databases

- Need to be cost-effective & benefits demonstrable so efforts to maximise utility of DBs intensified:
 - 1) **Expansion**
 - 2) **Increase access/ uses**
 - 3) **Sharing**

Global Expansion

- 60 countries operate national DNA databases (incl. 26 EU MS)
- ENFSI (June 2016) 800m+ persons on 45 DNA DBs in EU.
<http://enfsi.eu/wp-content/uploads/2017/01/ENFSI-Survey-on-DNA-Databases-in-Europe-June-2016.pdf>
- Databases being expanded or newly established in 33+ additional countries (Gibraltar latest/ Pakistan... Dubai).
- Forensic Genetics Policy Initiative, 'Global Summary'
http://dnapolicyinitiative.org/wiki/index.php?title=Global_summary

1 - Expansion

- Moving from limited to expansive regime for collection and retention.
- US: 31 States have implemented DNA testing at point of arrest.
- China: mass DBs targeting certain ‘populations’ ...
- UAE and Kuwait... (Dubai?): attempts to instigate universal DBs. Both so far failed. India – limited, now expanding – Pakistan next?
- France: More than doubled in size in last 5 years. Database ruled constitutional (with reservations) in 2010. Since then: inclusion of children and protestors (and prosecutions for non-provision).
- Germany: critics have questioned the inclusion of some categories of persons.

e.g. Indiana: DNA upon felony arrest.

- Extra \$850,000+ 1st year (equip/ staff/ kits). Annually \$650,000.
- Provisions for people acquitted, have felony case dismissed or have charge reduced to misdemeanour: **can request** the expungement of DNA sample through court order.
- If no felony charges within a year, county prosecutor responsible for having DNA sample expunged.
- *“...it's a great tool because there's going to be more DNA samples in the CODIS bank”*

2 – Increased uses/ access

- Making DB available to other agencies & using other agencies data to add to DB.
- RapidDNA – speed up/ maximise/ ‘de-professionalise’.
- Permitting ‘extra’ searches/ uses of the data.
 - Familial searching / phenotyping / ancestry.
 - Op. Gallant Phoenix: Police access to DNA collected by military (“*breaking down barriers*”). US “foreign fighters” DNA db.
<http://www.statewatch.org/news/2017/apr/eu-usa-meet-1-2-march-7163--17.pdf>
 - Netherlands (*inter alios*): Police access to medical DNA databases.

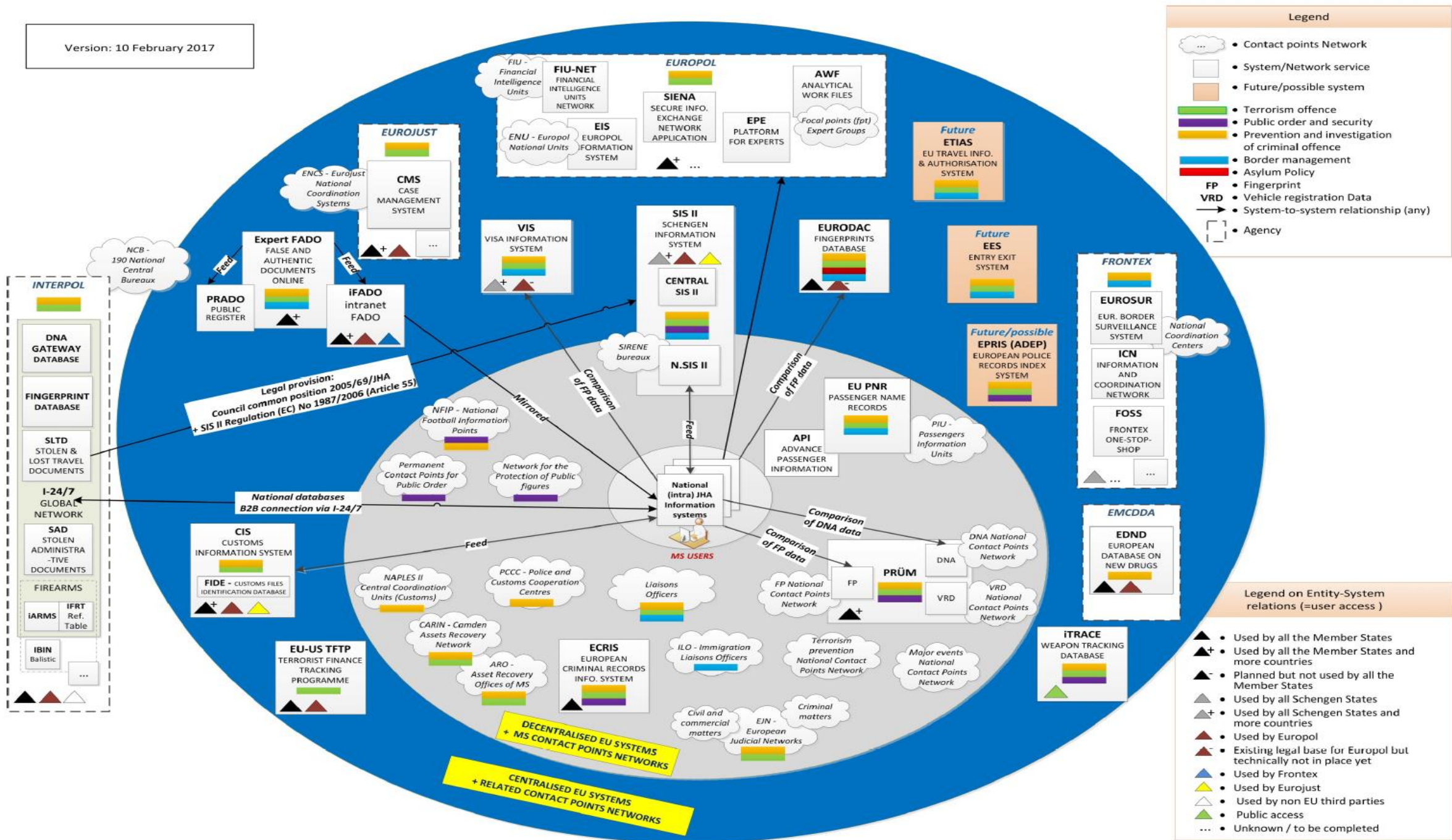
- Memorandum of Understanding: DWP – non-supporting fathers.
- Use of MOU – circumvents public/Parliamentary debate.
- Amending ‘use’ but still ‘criminal’ so no need for legislative amendments.
- Expansive definition of ‘criminal’...
- Use of cautions etc. – automatic perm inclusion on NDNAD.
- (also – recent rulings on DNA ‘only’ convictions).

3 - Sharing

- Interpol Gateway/ ISRN (US, UK, Canada, Australia).
- Prum treaty (pressure): Europol to become partner to enable matching with third countries with which Europol has an agreement? (2018)
- US agreement with Germany includes automated DNA searching:
Following the example of... Prum... Expecting that the US and other MS... may consider this Agreement as a model for similar agreements.., seeking to enhance and encourage cooperation between the Parties....

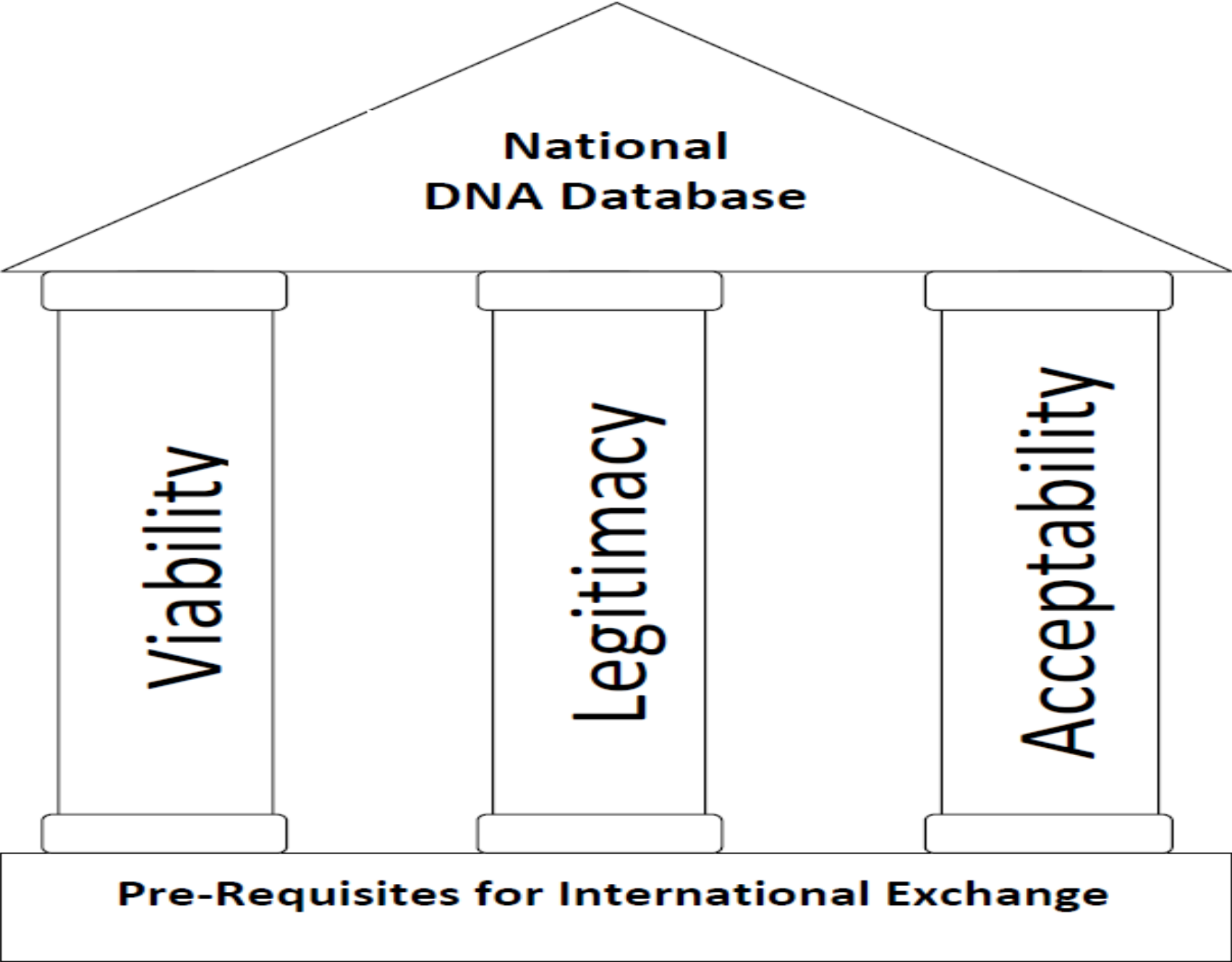
<http://www.state.gov/documents/organization/169463.pdf>

Version: 10 February 2017



Manual for Law Enforcement Information Exchange





INTEGRITY

Viability

Legitimacy

Acceptability

Technical operation

Legality

Ethical consideration

Universality

Human Rights compliant

Oversight

Reliability

Data Protection

Accountability & transparency

Standards/ QA

Enforceable boundaries

‘Cost-effective’?

Legitimacy: Legality

- Int. Dec. on Human Genetic Data BUT forensic DBs: ***“subject to domestic law that is consistent with international law of human rights”***.
- BUT what international law of human rights? No agreement/ binding? Variety of international ‘standards’.
- EU – *Marper* left EU States wide discretion to strike ‘balance’.
- CJEU Judgment 21 Dec 2016 (*Tele 2*): stressed principles of necessity and proportionality with a framework of necessary safeguards and guarantees, DP and other fundamental rights considerations. What is ***“strictly necessary and justified within a democratic society”***?

Reminders?

- Do trends of expansion/ increased uses/ sharing alter ‘balance’?
- Need to know value of databasing. In absence of statistics & case evaluation, hard to know optimal scale and arrangements. *“Once we reach an ACCURATE assessment what has been achieved - we can plot a path to exploit potential”* (Doleac (2016) The Effects of DNA Databases on Crime)
- Utility of forensic databases must be maximised **at the same time as** minimising risks of abuse or other potential harmful effects.

'Protecting' citizens?

- *“We can only have the best discussion about innovations if we understand that the discussion must be about both science and values.”* (UK Govt Chief Scientific Advisor, Annual Report 2015)
- *Privacy and data protection are core values, fundamental rights and norms in the EU. MS have the obligation to protect and ensure the security of its citizens. Therefore the protection of citizens and the principles of privacy and data protection are complementary and mutually reinforcing.* EU Council, 'Roadmap to enhance information exchange and information management including interoperability solutions in the Justice and Home Affairs area' 6th June 2016, (9368/1/16 Rev 1).

Remember... *Marper, para 112:*

“the mere retention & storing of personal data by public authorities, however obtained, are to be regarded as having direct impact on the private-life interest of an individual concerned, irrespective of whether subsequent use is made of the data.”

Concerns?

- LOTS of countries relying upon ‘policies’. Often not publicly available. Not publicly debated. Unclear safeguards/ over-reaching provisions.
- Need to ‘(im)prove’ value of DBs pushing developments.
- Public/ States becoming more demanding? BUT bigger does not = better.
- Science marching on while law still dragging heels (again...)

Conclusions?

- Developments on a local, regional and global scale may challenge ‘accepted’ use of DNA, yet such efforts are expedient given the imperative that expenditure on DNA should be cost-effective and the benefits demonstrable.
- While scientific and technological advances attract the eye of ethicists and sociologists, (esp. around developments such as phenotyping & familial searching), the governance and legal regimes of DNA databases garner far less critical attention.
- Regimes may be in need of re-calibration. Forensic DNA databases continue to raise questions of legitimacy and acceptability, particularly when accounting for ongoing efforts to maximise DNA efficiency and utility.