

ICO's approach to anonymisation: the UK regulator's approach

PHUSE 29 May 2015

Effective anonymisation is possible but it's also possible to do anonymisation ineffectively.

From our anonymisation code of practice

We want openness, but we want privacy too. That is why the subject matter of our code of practice – anonymisation – is so important. If we assess the risks properly and deploy it in the right circumstances, anonymisation can allow us to make information derived from personal data available in a form that is rich and usable, whilst protecting individual data subjects.

Some myths about anonymisation

- It's just about removing 'obvious' identifiers like names and identification numbers.
- It can be done with absolute 100% future-proof certainty.
- It is impossible and not worthwhile, someone will always 'crack' anonymised data.
- It is not possible to assess re-identification risk objectively.
- A single technique can apply to different forms of personal data.

Why is this important now?

- Strong political drives towards 'big-data', OpenData, HES data etc.
- Debate in EU Council / Parliament / DP authorities re: status of 'pseudonymised data' – i.e. individual-level, non-personally identifiable (?) stuff.
- Future statutory recognition of privacy enhancing approaches + rapid development of PE techniques.
- Usefulness / privacy trade-off.

Why is this important now?

- Need for realistic treatment of pseudonymous data if = personal data.
- Subject access when you don't know who the data subject is??
- Anonymisation impossible  consent for use/disclosure of personal data  more PD in circulation = **privacy net loss.**

Why is anonymisation difficult 1

- What is identification?
- Is it more than 'singling out'?
- Likelihood of identification?
- What other information is out there?
- Who are the 'motivated intruders' and how determined and resourceful are they?

Why is anonymisation difficult 2

- Assessing re-identification risk.
- Statistical certainty / possibility Vs the tests in DP law.
- Mixture of 'science' and judgement call.
- What the law requires Vs sensible practical considerations.
- Scant evidence of re-identification.

What is in the ICO's CoP 1

- What is personal data and how do you anonymise it?
- Different types of anonymisation – e.g. pseudonymised data, statistics, qualitative material.
- Ensuring the effectiveness of anonymisation: how to do it 'safely'.

What is in the ICO's CoP 2

- Re-identification and DP liability.
- Information about groups of people.
- Consent for anonymisation?
- Personal data and spatial information.

What is in the ICO's CoP 3

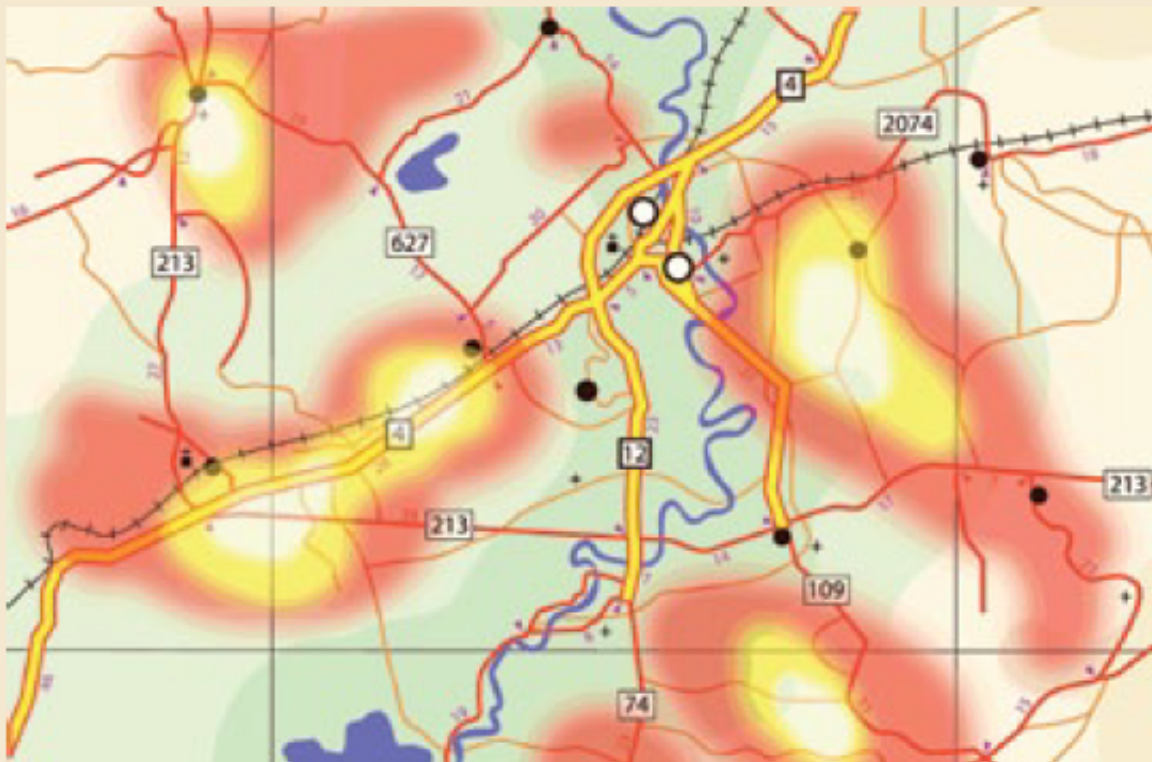
- Publication Vs limited access
- Governance, security procedures etc.
- DPA s.33 research exemption
- Practical examples of anonymisation techniques
- Lots of case-studies

What the CoP isn't:

- A manual on security engineering.
- An exhaustive explanation of every anonymisation technique.
- An alternative to sensible judgement.
- An absolute guarantee that anonymised information will always remain anonymous whatever may happen in the future.

A heat map approach to crime mapping

The advantages of this are that there is no clear link, actual or suggested, between levels and types of crime and particular locations. This avoids misleading representation, for example where all the crimes occurring in a particular area are mapped to a smaller area or specific place. Heat mapping also makes it much more difficult for the general public to establish a link between a particular crime and a particular individual.



1. Name, address, date of birth	2. Period on Special Assistance benefit	3. Body mass index	4. Research cohort reference no.
Mr B Stevens 46 Water St Stevenham 20-4-69	1y 2m	15	1A5
Mrs C Davids 48 Water St Stevenham 18-3-60	5y 3m	14	2B4
Mr D Michaels 50 Water St Stevenham 16-2-71	1y 7m	16	3C3
Mrs E Seniuk 52 Water St Stevenham 14-1-62	5y 2m	18	4D2
Mr F O'Reilly 54 Water St Stevenham 12-12-63	1y 8m	20	5E1

USRC receives a freedom of information request from a neighbouring research centre (NRC), doing similar research on the relationship between individuals’ time on Special Assistance Benefit, age range and BMI. USRC decides to disclose the following redacted data-set:

1. Name, address, date of birth	2. Period of Special Assistance Benefit.	3. Body mass index	5. Age range	6. Research cohort reference no.
	< 2 years	15	40-45	1A5
	> 5 years	14	50-55	2B4
	< 2 years	16	40-45	3C3
	> 5 years	18	45-50	4D2
	< 2 years	20	45-50	5E1

BMI fluctuation data: 2011

J	F	M	A	M	J	J	A	S	O	N	D
15.2	15.1	15.0	14.8	14.7	14.6	14.9	14.7	14.8	14.7	14.4	14.8
14.1	13.9	13.4	13.2	13.1	13.1	13.2	13.5	13.4	13.4	13.8	14.0
16.1	16.2	16.4	16.8	17.0	17.1	17.2	17.9	18.4	18.4	18.2	18.0
18.9	18.7	18.9	18.7	18.8	18.9	19.0	18.9	18.8	18.8	18.8	18.9
20.5	20.4	20.3	20.2	20.1	20.0	19.9	19.8	19.7	19.6	19.5	19.3

BMI fluctuation data: 10-2011 – 3-2012

O	N	D	J	F	M
14.7	14.4	14.8	14.8	14.6	14.8
13.4	13.8	14.0	14.2	14.1	14.0
18.4	18.2	18.0	18.3	18.5	18.5
18.8	18.8	18.9	18.8	18.8	18.8
19.6	19.5	19.3	19.2	19.1	19.0

BMI fluctuation data: 1-2011 3-2012

J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
15.2	15.1	15.0	14.8	14.7	14.6	14.9	14.7	14.8	14.7	14.4	14.8	14.8	14.6	14.8
14.1	13.9	13.4	13.2	13.1	13.1	13.2	13.5	13.4	13.4	13.8	14.0	14.2	14.1	14.0
16.1	16.2	16.4	16.8	17.0	17.1	17.2	17.9	18.4	18.4	18.2	18.0	18.3	18.5	18.5
18.9	18.7	18.9	18.7	18.8	18.9	19.0	18.9	18.8	18.8	18.8	18.9	18.8	18.8	18.8
20.5	20.4	20.3	20.2	20.1	20.0	19.9	19.8	19.7	19.6	19.5	19.3	19.2	19.1	19.0

Original text

Interview recorded: 3pm, 10 October 2011

Interviewee: Julius Smith

DoB: 9 September 2005

School: Green Lanes Primary School

I live on Clementine Lane so I walk to school every day. I live in a flat with my parents and my Uncle Jermaine. When I get home from school I watch TV. I don't like reading but I like watching Harry Potter films. My favourite subject at school is art. My teacher is Mr Haines and he is very nice. I used to get bullied by Neil and Chris but I told Mr Haines and they stopped.

I play football for Junior Champs, and we are good. I play midfield.

Anonymised text

Interview recorded: October 2011

Interviewee ref: 2011/67

School year: Key Stage 1

School local authority area: Lynenham District Council

I live in [LM51 postcode] so I walk to school every day. I live with [family members]. When I get home from school I watch TV. I don't like reading but I like watching Harry Potter films. My favourite subject at school is art. My teacher is Mr [teacher's name] and he is very nice. I used to get bullied by [other pupils] but I told [the teacher] and they stopped.

I play football for [a local team], and we are good. I play midfield.

Employee name:	F Gradwell
DoB:	01/09/1973
Sex:	M
Address:	16 Tree Street, Stevenham, SV8 6QP
Start date:	11/06/1992
Contact dermatitis:	Positive

Age range:	35-45
Sex:	M
Location:	Stevenham
Period of service:	18 – 22 years
Contact dermatitis:	Positive

Stevenham branch: 15% of male employees with 18 – 22 years' service have contracted dermatitis.

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