

Annex A: detailed analysis of under-reporting

Background

Audits of prison data quality for 2017/18 have revealed under-reporting in some parts of the prison estate for assaults and self-harm incidents.

Assaults and self-harm in prisons will initially be logged in paper records (for example wing observation books), before then being formally recorded on the HMPPS Incident Reporting System (IRS). This is part of the NOMIS IT system that prisons use, and from which internal management information and published statistics are drawn.

Prisons are audited once a year for their data quality. From April 2017, a sample of up to 80 incidents (depending on establishment size) has been selected from prisons' paper records for checking against the IRS. Prior to this, a sample of only around 20 incidents was used, confined solely to assaults. As a result, for 2016/17 only audits of assault incidents are available in a number sufficient for analysis.

Findings from the 2017/18 audit suggest that:

- For assaults, around 10% of incidents sampled (confidence interval 8.5%-11.5%) were unreported in 2017/18. This means that the true number of assault incidents is higher than the figure currently published as National Statistics.
- For self-harm, around 11% of sampled incidents (confidence interval 9%-13%) were unreported in 2017/18. This means that the true number of self-harm incidents is higher than the figure currently published as National Statistics.
- While the estimated underreporting impact on the reported levels, it does not impact on the broad trends and narrative.

Assaults

We have aggregated the results of audits from the 2016/17 and 2017/18 performance years to produce a sample of 1,030 incidents from 64 prisons in 2016/17 (approximately 1 for every 26 incidents recorded on IRS), and a sample of 1,653 incidents from 97 prisons in 2017/18 (approximately 1 for every 19 incidents recorded on IRS). As Table 1 below shows, underreporting in 2016/17 was estimated at 15% (i.e. 1 in 7 assaults were unreported), and at 10% by 2017/18.

Table 1. Underreporting of audited assaults

	2016/17	2017/18
All assaults audited	1,030	1,653
of which: reported	874	1,482
Unreported assaults	15%	10%

The 2017/18 samples are of sufficient size (97 prisons with an average of 17 audits in each prison) that we can have confidence that they are representative for the overall prison estate. For assaults, for example, we are 95% certain that the true underreporting (which we could only establish by auditing every single incident in every prison during the whole of 2017/18, as opposed to a sample) is between 8.5% and 11.5%. In short, based on this finding the true number of assault incidents is higher than those published as National Statistics

For assaults, the 2016/17 audit suggests around 15% of incidents sampled were unreported. However, the smaller size of this sample (64 prisons with an average of 16 audits in each prison) means we have less precision and are 95% confident the true underreporting to be between 13% and 17%.

It is possible to extrapolate from these measures of underreporting to estimate the true number of assaults together with their 95% confidence range that occurred across the estate in the two performance years in question. Given we have a 95% certainty that the underreporting for 2017/18 is between 8% and 12%, we can be confident that levels of under-reporting have got better between 2016/17 and 2017/18. This is shown in Table 2.

Table 2. Estimated true number of assaults

	2016/17	(Range)	2017/18	(Range)
Recorded on IRS	26,643		31,341	
Unreported (estimate)	4,756	(3,866-5,585)	3,616	(2,898-4,087)
Total, adjusted for underreporting	31,399	(30,509-32,228)	34,957	(34,239-35,428)

In short, based on this finding the true number of assault incidents is higher than those published as National Statistics.

Self-harm

Prior to April 2017, IRS data quality audits were only required for assaults, so the sample size for self-harm is not sufficient to estimate the extent of underreporting of these incidents in 2016/17 with confidence. Overall, the degree of self-harm underreporting for 2017/18 is similar to that of assaults: 11% in 2017/18 (details in Table 3 below).

Table 3. Underreporting of audited self-harm incidents

	2017/18
All self-harm audited	1,052
of which: reported	940
Unreported assaults	11%

The sample represents just over 2% (or 1 in 44) of reported self-harm incidents over this period, compared to just over 5% (or 1 in 19) of reported assault incidents over the same period. However, the different stratification design in this sample (91 prisons with an average of 12 audits in each prison) results in sufficient confidence, as reflected in the confidence interval. We are 95% certain that the true underreporting is between 9% and 13%. In short, based on this finding the true number of self-harm incidents is higher than those published as National Statistics.

It is possible to extrapolate from these measures of underreporting to estimate the true number of self-harm together with their 95% confidence range that occurred across the estate. This is shown in Table 4.

Table 4. Estimated true number of self-harm incidents

	2017/18	(Range)
Recorded on IRS	46,765	
Unreported (estimate)	5,572	(4,681-6,927)
Total, adjusted for underreporting	52,337	(51,446-53,692)

Improving data quality

We have been working with Governors and performance managers in prisons to understand the factors that could explain this under-reporting. We identified several factors that can explain this under-reporting. One is pressure on resources: for prisons that have been operating below recommended staffing levels, the immediate priority will have been to deal with incidents and any repercussions. Another is lack of familiarity with using IRS and the reporting rules for these datasets.

In some cases, managers and staff may not be fully aware about what is required to be reported on IRS. These issues are compounded in establishments and groups where there has been a lack of ownership for IRS, including for providing assurance on its use.

At national level we will continue to monitor incident underreporting, periodically updating this analysis as more audit data become available. The HMPPS assurance team will continue to audit reportable incidents on the IRS at every prison for the reporting period 2018/19. The audit approach is the same as the approach for 2017/18 and the results will be comparable. This will allow us to measure the impact of the remedial work above.