



An
Phríomh-Oifig
Staidrimh

Central
Statistics
Office



Review of the Quality of Recorded Crime Statistics

Based on 2017 data provided
by An Garda Síochána

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Executive Summary

The Central Statistics Office (CSO) compiles and publishes *Recorded Crime* statistics in Ireland. *Recorded Crime* statistics provide information on the frequency, type and distribution of crime recorded by An Garda Síochána (AGS) on its PULSE database system.

In March 2018 the CSO took the decision to publish *Recorded Crime* statistics as ‘Statistics Under Reservation’. This decision was taken to make users aware that the CSO has ongoing concerns regarding the quality of the underlying data used to compile the statistics. This report outlines the findings of a third review of PULSE data quality carried out by the CSO during 2018. The review examines data relating to crimes reported during 2017 insofar as they affect *Recorded Crime* statistics.

The categorisation of *Recorded Crime* statistics as ‘Statistics Under Reservation’ will remain in place until the CSO is satisfied that a stronger data governance framework is operational in AGS and the quality of the data output improves.

In July 2018, the CSO shared a *Quality Improvement Proposal* with AGS. The purpose of the document was to outline to AGS the actions which the CSO see as critical to improving the quality of PULSE data for statistical purposes. In the first instance, better quality data is required for operational policing¹. Statistical improvements should be downstream beneficiaries of improvements in data for operational policing matters. The actions outline that a more strategic approach to PULSE quality management, rooted in an understanding of user needs, is important. This CSO review highlights various micro level improvements and areas requiring further consideration. It is likely that quality issues will continue to occur unless there is an approach rooted in a stronger data governance framework. We welcome the appointment of a Chief Data Officer for AGS whose brief includes recommendations for such a framework.

The CSO sampled data from PULSE for the purposes of this review. Details are in the body of the report. Such an approach is necessary to understand the underlying quality landscape in PULSE statistics, but necessarily will not be as comprehensive as a systematic programme of internal review by AGS. Such a programme is an integral part of a well-functioning quality management system.

This CSO review has found considerable development in the quality of *Recorded Crime* statistics since the publication of the last CSO quality review in 2016, including:

- A marked reduction in the non-recording of reported crime incidents on PULSE
- A reduction in misclassification errors
- Improvement made in criminal incidents being recorded in a timely manner on PULSE
- Improvement made in the recording of criminal incident records subsequently marked invalid

In addition, the CSO acknowledges changes in the PULSE recording process introduced during 2018, such as a more robust linkage between incident reporting systems and PULSE, and enhanced standards in the recording of incidents as detected and of persons as offenders. The data examined in this review pre-dates these changes so their impact has not yet been assessed.

¹ As noted in “The Future of Policing in Ireland” report (Chapter 6, Paragraph 9). Accessed via <http://policereform.ie/en/POLREF/Pages/PB18000006>

The review has also found areas of crime recording where better accuracy and more comprehensive recording is required to meet the needs of users of crime statistics, including:

- The correct application of crime counting principles such as the *Primary Offence* rule and *Continuous series of offences involving same victim and same offender* rule. There is a risk of overcounting and undercounting of crime incidents if these principles are not applied properly.
- Accurate recording of the motive or circumstance behind certain crimes, such as crimes with a discriminatory motive and domestic abuse. Analysis indicates that, at present, statistics on such crimes based on the *modus operandi* (MO) data field in PULSE alone would understate the number of recorded crimes of these types.
- Accurate recording of the relationship between victim and offender.

1. Introduction

The Central Statistics Office (CSO) compiles and publishes *Recorded Crime* statistics in Ireland. *Recorded Crime* statistics provide information on the frequency, type and distribution of crime recorded by An Garda Síochána (AGS) on its PULSE (Police Using Leading Systems Effectively) database system.

Recorded Crime statistics are an important resource to policy makers and to interested citizens. Trust in these statistics is critical. It is an imperative that good quality data are collected and maintained to ensure that statistics are relevant and valuable. This will facilitate evidence-based policy making as well as inform public interest, debate and academic research.

This report outlines the findings of a third review of PULSE data quality carried out by the CSO during 2018. The CSO recognises that the primary purpose of Garda information systems is to support operational policing needs, but that where practicable and resources permit, the information systems will also support statistical needs. The review examines data relating to crimes reported during 2017 insofar as they affect *Recorded Crime* statistics.

1.1 Recorded Crime statistics

The CSO uses the administrative records of crime incidents on the PULSE system to compile *Recorded Crime* statistics. These statistics are based wholly and necessarily on the records maintained by AGS. There is no alternative data source from which to compile such statistics. The quality and usefulness of *Recorded Crime* statistics are ultimately determined by the quality of the data recorded and maintained on PULSE by AGS.

Recorded Crime statistics reflect crime incidents which are recorded as valid, primary² crime incidents which take place in Ireland. The CSO employs the Irish Crime Classification System (ICCS) to aggregate crime incident types into sixteen crime groups (e.g. 01 Homicide, 02 Sexual Offences, etc.) and subgroups for dissemination purposes.

There are many characteristics of recorded crime incidents which users of crime statistics are interested in, and these broadly fall into four statistical themes, summarised as follows:

- **Crime volumes and trends**, based on the frequency, type and distribution of crime incidents recorded on PULSE.
- **Crime outcomes**, such as the number of crimes which are recorded as having been detected, which result in prosecution or which result in conviction.
- **Victimisation and offending**, such as the age and gender of victims and offenders, patterns of repeat offending and victimisation, and victim-offender relationships.
- **Motivations**, such as domestic abuse and hate crime.

² Where two or more criminal offences are disclosed in a single episode it is the primary criminal offence that is counted (Crime Counting Rules)

Recorded Crime statistics can and should be used to report such characteristics but can only do so effectively when the underlying data is recorded reliably and consistently.

1.2 The background to this review

The Garda Inspectorate report *Crime Investigation*³, published in 2014, first raised concerns in respect of the quality of data recorded on the PULSE database. The findings of the report led the CSO to suspend publication of *Recorded Crime* statistics and to conduct a review of the impact of the Inspectorate's findings on *Recorded Crime* statistics during 2015.

The CSO review was based on crime and non-crime data relating to incidents reported in 2011, and the findings were published in the *Review of the quality of crime statistics (CSO, 2015)*⁴. Following the review, the CSO recommenced publication of *Recorded Crime* statistics in 2015 but included advice in all publications informing users of deficiencies in the quality of the underlying data.

A second review was carried out in 2016, based on crime and non-crime data relating to incidents reported during 2015, and the findings were published in *Review of the quality of crime statistics (CSO, 2016)*⁵.

The 2017 Q1 *Recorded Crime* statistical release, originally due for publication in June 2017, was postponed by the CSO pending the completion of an internal review of 41 homicide incidents by AGS and the investigation of concerns raised separately by the CSO in respect of PULSE homicide records. The CSO took the decision to further defer the publication of *Recorded Crime* statistics in September 2017 because the remedial work needed to address the data quality observations raised by the CSO had not been completed, and because AGS had decided to extend the scope of their own internal review of homicide incidents.

To address the absence of independently produced *Recorded Crime* statistics and the consequent information vacuum for policy decision makers and interested citizens, the CSO decided in March 2018 to recommence publication of *Recorded Crime* statistics using a new categorisation of 'Statistics Under Reservation'. The categorisation is used to flag to users of *Recorded Crime* statistics the CSO's ongoing concerns regarding the quality of the underlying data used to compile the statistics.

1.3 Quality improvement action

In July 2018, the CSO shared a *Quality Improvement Proposal* with AGS. The purpose of the document was to outline to AGS the actions which the CSO sees as critical to improving the quality of PULSE data for statistical purposes⁶.

The categorisation of *Recorded Crime* statistics as 'Statistics Under Reservation' will remain in place until the CSO is satisfied that the levels of accuracy, completeness and consistency in the underlying data is of sufficient quality.

³ <http://www.gsinsp.ie/en/GSINSP/Crime%20Investigation%20-%20Full%20Report.pdf/Files/Crime%20Investigation%20-%20Full%20Report.pdf>

⁴ www.cso.ie/shorturl/476

⁵ www.cso.ie/shorturl/477

⁶ www.cso.ie/shorturl/478

The appointment of a Chief Data Officer (CDO) for AGS during 2018 is seen as a positive step in implementing these proposals. It will be important that the CDO has sufficient authority and resource to ensure that data quality improvement initiatives are focused and coherent, to resolve data quality issues and to drive positive change.

The CSO has recommended that a data quality management framework be drawn up by AGS. This framework should clearly outline what constitutes good quality data, the data quality control mechanisms that are in place, and how data quality is to be measured, monitored and independently audited to ensure fit-for-purpose crime data.

The CSO has also recommended that a new *Crime Recording Rules* document be drawn up by AGS. An up-to-date and fit-for-purpose document outlining the fundamental principles of crime recording should serve to underpin all crime recording on PULSE. It is also a critically important component in providing users of crime statistics with an understanding of how the data is collected and what it means.

1.4 The scope of this review

Quality reviews published by the CSO in 2015 and 2016 focused primarily on PULSE data quality issues identified in the Garda Inspectorate report in 2014. These included issues such as non-recording of crime; timeliness; misclassification, reclassification and invalidation; marking of crimes as detected. Some of these quality issues are re-examined in this review using, where practical, the methods that were employed in previous CSO quality reviews.

In addition, the scope of this review has been extended to address further data quality concerns which have come to light in the period since the last review. In April 2017 AGS began an internal review of 41 homicide incidents. Separate to this internal review, the CSO raised its own concerns in respect of PULSE homicide records. These concerns related to the application of crime counting principles, the classification of incidents and the recording of persons as victims. These concerns contributed to an upward revision of 18% in homicide incidents for the period 2003 – 2016 when the CSO resumed publication in 2018. The AGS internal review of homicides is ongoing.

Importantly, quality issues identified by the CSO in respect of homicide incident records, including the incorrect application of crime counting principles, do not only apply to homicides and may be present in other crime incident record types. However, these issues are more difficult to identify, to quantify and to rectify in other crime incident types than is the case for homicide incidents. This review will look to examine some of these data quality concerns.

The CSO has also undertaken, for the first time, to assess the quality of statistics relating to crimes with a discriminatory motive and domestic abuse.

Data on court outcomes is required to compile statistics on the number of convictions obtained in respect of prosecuted offences. However, this is deemed out of scope for this review as it would require a separate exercise to assess the completeness of court outcome records on PULSE.

The structure of this review is to examine data quality in terms of its impact on crime statistics across the crime themes outlined in 1.1 above:

- Crime volumes and trends (Chapter 2)
- Crime outcomes (Chapter 3)
- Victimisation and offending (Chapter 4)
- Motivations (Chapter 5)

2. Crime incident recording

A criminal offence is deemed to have occurred when there is reasonable probability that an offence took place and there is no credible evidence to the contrary. A criminal offence is recorded by creating a PULSE crime incident record.

Crime incident creation on PULSE is, in most cases, carried out by the Garda Information Services Centre (GISC). The Garda member reporting the offence speaks by telephone to a call operator in GISC who enters the data pertaining to the crime onto the PULSE system. This recording procedure is designed to provide a centralised and consistent method of recording crime incidents.

There are different criteria for considering data quality in respect of crime incidents, such as:

- Completeness (i.e. that all reported crimes are represented)
- Timeliness (i.e. that incidents are recorded soon after crimes are reported, or offences become known)
- Accuracy (i.e. that the principles of crime counting are applied consistently and that key classification variables are recorded correctly)

Guidance on whether or not to record a crime incident, the rules relating to classifying, invalidating and reclassifying crime incident records, and key principles of crime counting such as the *Primary Offence* rule and *One Offence per Victim* rule, is provided in the AGS's *Crime Counting Rules*⁷ document.

2.1 Completeness of recording

A crime reported to AGS is not reflected in *Recorded Crime* statistics unless a valid crime incident record exists on PULSE. Both the Garda Inspectorate report and previous CSO Quality Reviews indicated uncertainty that all crimes reported to AGS were recorded as crime incidents on PULSE.

To assess the so-called 'reporting-recording gap', the CSO examined records held on CAD (Computer Aided Dispatch) and eRC1 (electronic Recording of Crime) incident reporting systems to assess whether crimes recorded on those systems have a corresponding PULSE crime incident record.

The CSO also examined non-crime incident records on PULSE, for example *Attention and Complaints* and *Property Lost*, to assess whether records detailing criminal offences were being incorrectly recorded in non-crime categories. Non-crime incidents are not included in *Recorded Crime* statistics and, as such, the recording of a criminal offence in a non-crime category is equivalent to non-recording for statistical purposes.

⁷ Reproduced by CSO for users of statistics at: www.cso.ie/shorturl/479

2.1.1 Incident reports to PULSE

Reports of crimes and other reports made to AGS are in the first instance recorded on either the CAD or eRC1 data recording systems. These systems are designed to capture the initial reporting of crimes and non-crimes to AGS, as well as the initial response.

Different Garda divisions employ either CAD or eRC1 as the initial report recording mechanism. CAD tends to predominate in mainly urban divisions (e.g. in Dublin, Cork, Limerick), while eRC1 was implemented in remaining divisions during 2017. In 2017, 65% of recorded crime incidents were in divisions which now use CAD, and 35% in divisions which now use eRC1.

Criminal offences are recorded subsequently and separately on the PULSE system as soon as it is determined by a Garda member that a criminal offence has taken place in accordance with the *Crime Counting Rules*.

The CSO examined samples of both CAD and eRC1 records, using relevant descriptive data fields to determine whether a criminal offence had been described and without evidence to the contrary. Where the information strongly indicated a criminal offence, the CSO searched for a corresponding crime incident on the PULSE system.

While it is not always possible to say with certainty that a CAD/eRC1 incident represents a crime, a description of the incident, which should include the rationale for recording or not recording a crime, should be enough to identify a crime. However, the rationale is not always written down and as such the data available to the CSO for making this assessment is limited. A match might not be found on PULSE for several reasons, for example:

- The report was followed up and a criminal offence took place, but it was not recorded on PULSE
- The report was followed up and no criminal offence took place, but no record of the follow-up was recorded on the CAD/eRC1 system
- The CSO were unable to find the corresponding PULSE crime incident

The CSO sampled 400 CAD and 200 eRC1 records from 2017 across four common incident report types, to estimate the proportion of CAD/eRC1 records which appear to be crimes but were not found on PULSE⁸.

The analysis found that 318 of the 400 CAD incidents sampled appeared to represent a crime offence, with a corresponding crime incident found on PULSE in 300 of these cases. An estimated 6% of offences were not found on PULSE. In the previous CSO Quality Review, an estimated 11% of offences in the same crime categories were not found, see Table 1.

⁸ Changes to CAD coverage, the introduction of eRC1 and changes to how incidents are recorded on PULSE since the previous CSO review meant that it was not possible to replicate exactly the methods and sampling sizes used in previous CSO studies. For example, the CAD system has been rolled out to more divisions, the eRC1 system has been adopted and rolled across to remaining divisions, and paper-based recording has effectively been eliminated as a primary recording mechanism. The structure of PULSE, including the way narrative descriptions and follow-up actions are recorded, also changed in the interim requiring a different set of data fields to be reviewed for matching purposes. Therefore, the number of incident types and sample size were reduced.

Table 1: Non-reporting based on CAD sample

CAD record type	Number of records examined	Offence described	Matching PULSE record found	Matching PULSE record not found	% of offences not found 2017	% of offences not found 2015
Burglary	100	91	88	3	3%	10%
Unauthorised Taking /Interference with a vehicle	100	63	58	5	8%	11%
Theft	100	68	60	8	12%	16%
Robbery	100	96	94	2	2%	1%
Total	400	318	300	18	6%	11%

For eRC1 records, 152 out of 200 call records indicated a crime offence, and 139 of these were matched on PULSE, see Table 2. An estimated 9% of offences were not found on PULSE. The most comparable result from the previous CSO review was a rate of 16% for non-CAD records.

Table 2: Non-reporting based on eRC1 sample

CAD record type	Number of records examined	Offence described	Matching PULSE record found	Matching PULSE record not found	% of offences not found 2017	% of offences not found 2015
Burglary	50	43	40	3	7%	
Unauthorised Taking /Interference with a vehicle	50	25	20	5	20%	
Theft	50	38	34	4	11%	
Robbery	50	46	45	1	2%	
Total	200	152	139	13	9%	16%

Combing the analysis from CAD and eRC1 the proportion of apparent crime reports which did not have a corresponding PULSE match was 7%, see Table 3. The comparable figure from the previous Quality Report is 12% (based on same crime types and weights).

Table 3: Non-reporting based on both CAD and eRC1 samples

Reported incident type	Number of records examined	Offence described	Matching PULSE record found	Matching PULSE record not found	% of offences not found 2017	% of offences not found 2015
Burglary	150	134	128	6	4%	
Unauthorised Taking /Interference with a vehicle	150	88	78	10	11%	
Theft	150	106	94	12	11%	
Robbery	150	142	139	3	2%	
Total	600	470	439	31	7%	12%

In summary the analysis indicates that there has been a reduction in the reporting-recording gap between 2015 and 2017, from an estimated 12% to an estimated 7%. The improvement was observed in both CAD and non-CAD areas.

As all Garda divisions now employ either CAD or eRC1 as the initial report recording mechanism, the use of paper records as the only means of recording a report of a crime is in principle eliminated, and an auditable record should be created for all reported crimes. This is a welcome development.

Since the introduction of PULSE 7.3 in early 2018, a system to link both CAD and eRC1 records to PULSE has been implemented. The system creates automatic linkage between the incident report record and a PULSE record, and is designed to ensure that either a crime incident is recorded or a clear and auditable rationale for not creating a crime incident is recorded in all cases. This may facilitate more robust reconciliation between reports of crimes (and other requests for service) and PULSE crime incidents, enhancing accountability across the system.

The CSO understands that CAD will replace eRC1 and will be employed across all Garda divisions from early 2019.

The assessments made by the CSO are based on available data recorded on PULSE and CAD/eRC1 and thus represent an estimate. It is recommended that an annual audit covering the crime reporting-recording process from beginning to end, capable of examining the system more robustly, be undertaken to ensure that crimes reported to AGS are recorded on PULSE.

2.1.2 PULSE non-crime incident records

Not all incident record types on PULSE are for crimes. Non-crime incident types are used to record other incidents and activity e.g. requests for service where no criminal offence occurred, property reported lost or found, traffic checkpoints, etc. The incorrect recording of crimes in non-crime categories was highlighted as a data quality issue by the Inspectorate.

The CSO examined non-crime incident records of three types: *Attention and Complaints*, *Property Lost* and *Domestic Dispute* (i.e. where a Garda response to a domestic incident has been requested but no criminal offence has been disclosed). The CSO considered the information in descriptive data fields as an indicator of whether a crime offence had taken place, as in previous CSO quality reviews.

The analysis suggested that the number of records which appeared to indicate crime offences but were recorded as non-crimes had decreased from previous CSO assessments. An estimated 2% of sampled non-crime incident records in 2017 were adjudged to have been misclassified (i.e. should have been crimes) or there was insufficient detail in the description to support the classification, compared with 3% in 2015, and 8% in 2011, see Table 4.

Table 4: PULSE non-crime incident records

Non-crime category on PULSE	Sampled	Classification deemed incorrect / insufficient detail (%)	Classification satisfactory 2017 (%)	Classification satisfactory 2015 (%)	Classification satisfactory 2011 (%)
Attention and complaints	1,000	2	98	95	92
Property lost	1,000	2	98	98	94
Domestic disputes	1,000	3	97	97	91
Total	3,000	2	98	97	92

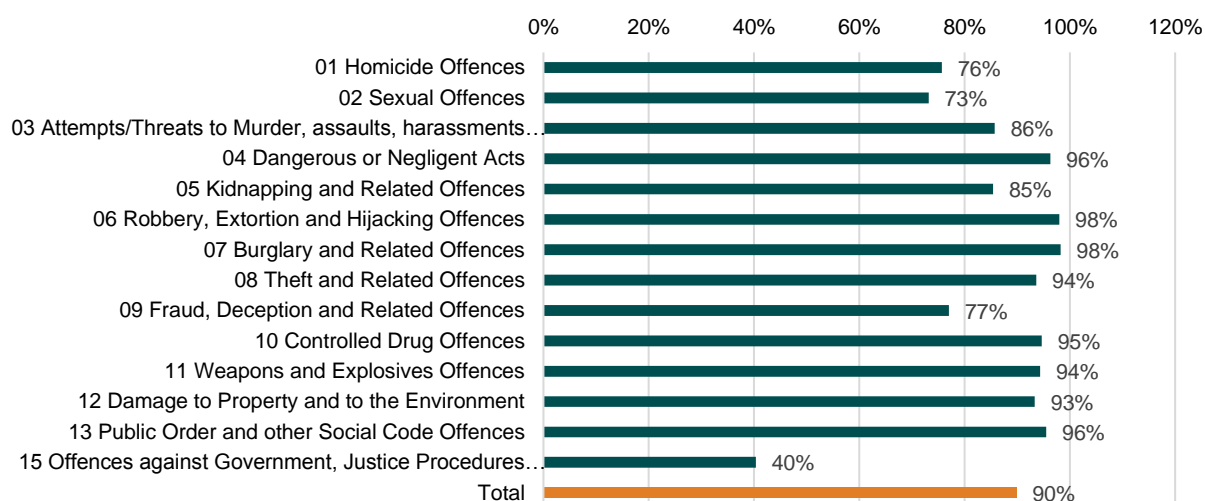
2.2 Time taken to record crime incidents

Crime offences should be recorded on PULSE as soon as possible. Minimising the delay in recording crime incidents ensures that critical information is available in as close to real-time as possible, and enhances the integrity of the crime incident record relative to the crime reported. Timeliness was identified by the Garda Inspectorate as a key feature of PULSE data quality.

Each incident record on PULSE has a system-generated *Date Created* field and a manually input *Date Reported* field. The gap between the *Date Created* and the *Date Reported* is often used as a measure of the delay in recording an incident.

The CSO examined the difference between *Date Created* and *Date Reported* for all crime incidents with a *Date Reported* in 2017. Figure 1 shows the proportion of crime incidents, by ICCS group, where the gap between the *Date Created* and the *Date Reported* is 2 days or less. The results show that the vast majority of high-volume crime incident types such as robbery, burglary, theft, drug offences, criminal damage, and public order offences are recorded in a timely manner.

Figure 1: Date Reported to Date Created 2 days or less

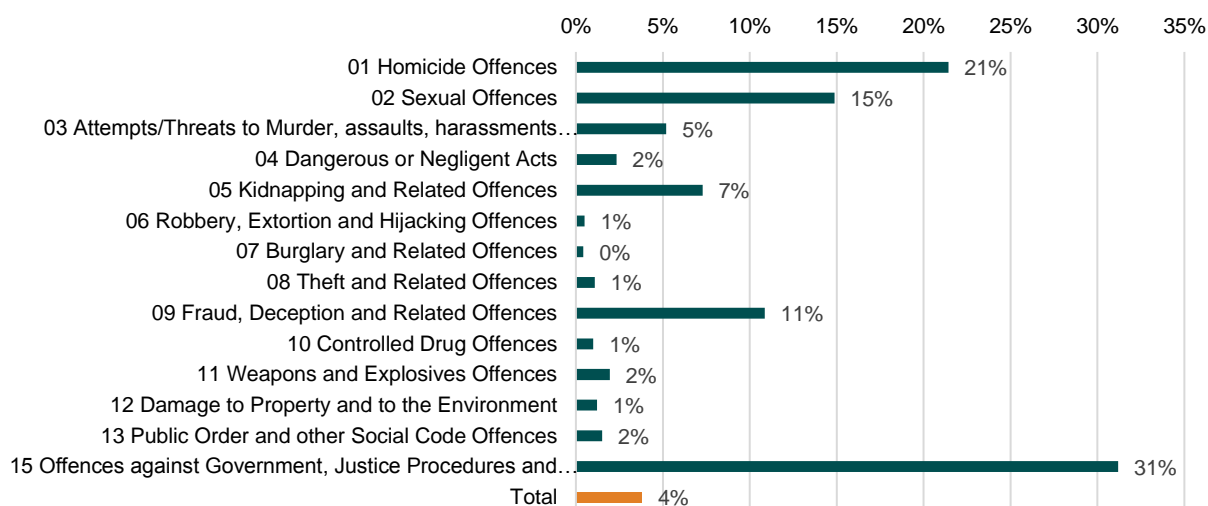


There are several known scenarios in which a time difference between the *Date Reported* and the system-generated *Date Created*, which might appear as untimely recording, may be explained by the recording process and in line with recording guidance. For example, in the case of fatal road collisions which are deemed to be crimes, guidance states that the date of the collision is to be used as the crime *Date Reported* even though it may take weeks or months for an investigation to determine that a criminal offence of *Dangerous Driving Causing Death* (in Group 01 Homicide) has taken place. Similarly, for many Group 15 incidents, such as the breach of a court order, it is the date of the court order which is to be recorded rather than the date the breach has become known to AGS. In these cases, what appears as a timeliness delay may in fact be due to other factors.

The chart in Figure 2 shows the proportion of crime incidents where the gap between the *Date Created* and the *Date Reported* is greater than three weeks. The chart reflects the anomalies detailed above and highlight the limitation of using the gap between *Date Reported* and *Date Created* as a universal measure of timeliness. There may be other systematic reasons which create a gap between

Date Reported and *Date Created* which could affect crime incident groups such as Group 02 (*Sexual Offences*) and Group 09 (*Fraud Offences*).

Figure 2: Date Reported to Date Created greater than 3 weeks



Timeliness is an important dimension of data quality. If there are reasons which impact on the usefulness of *Date Created* and *Date Reported* to measure timeliness, then it is recommended that this be documented, or an alternative measurement method be devised.

2.3 Accuracy of recorded crime incidents

Recorded Crime statistics report on the number and type of crime incident records maintained on the PULSE database which are recorded as valid, primary incidents according to the principles of the *Crime Counting Rules*. For statistical purposes it is critical that data is recorded accurately, particularly in key classification variables such as the *Incident Type*, *Date Reported* and Garda station (sub-district). It is also critical that the principles of crime counting are applied accurately and consistently at incident creation and update stages for the counts, volumes and statistical trends of *Recorded Crime* to be relevant and consistent.

2.3.1 Key incident classification variables

Classification by incident type

A crime incident is classified by incident type (e.g. theft, burglary) at the time of recording and the classification is made based on the type of offence reported and/or evidence gathered at that time.

AGS's *Crime Counting Rules* state that "a criminal offence is classified at the time when it is entered on PULSE. Re-classification is only required within or to homicide offences". Although the rules are silent on the grounds for reclassification other than in homicides, in practice an incident is often reclassified when new information comes to light which changes the understanding of which offence/s have been committed, as well as to correct classification errors. As such reclassification appears to be a practical action to ensure the incident classification reflects the facts as they are known.

The CSO selected a random sample of 50 incidents from each of six selected crime incident types on PULSE. The CSO considered the information contained in descriptive data fields to assess whether the incident classification was appropriate given the information recorded, as in previous CSO reviews⁹.

This assessment of classification, as with other elements of the review which are reliant on an interpretation of the *Narrative* and other descriptive data fields, is a best estimate based on available data and is carried out consistent with previous reviews where possible.

Of the 300 incidents reviewed, 289 were evaluated to have been classified correctly based on available descriptive data fields, see Table 5. An estimated 4% of crime incidents of selected types were either misclassified or there was insufficient detail recorded to support the classification. These findings represent an improvement on previous CSO reviews where an estimated 5% of records in 2015 and 7% in 2011 were assessed as having been classified incorrectly.

Table 5: Classification of PULSE crime incidents by incident type

Incident type	Number of records examined	Classification appears satisfactory	Insufficient detail	Classification unsatisfactory	% satisfactory 2017	% satisfactory 2015
Assault Causing Harm	50	50	0	0	100%	92%
Assault Minor	50	45	1	4	90%	95%
Burglary	50	48	0	2	96%	99%
Criminal Damage	50	48	1	1	96%	90%
Robbery from the Person	50	48	0	2	96%	98%
Theft from Person	50	50	0	0	100%	90%
Total	300	289	2	9	96%	95%

In 2017 observations made by the CSO in respect of homicide incident records included that non-homicide incident types (e.g. *Dangerous Driving*) had been prosecuted with the offence of *Dangerous Driving Causing Death*. These cases were determined to be incident classification errors as the prosecution offence type was not consistent with the crime incident type, and were reclassified by AGS. The *Crime Counting Rules* are silent on the requirement for reclassification other than in homicides. This appears to happen in some but not all cases. However, a prosecution for a more serious offence type than the incident classification indicates that the incident should perhaps have been reclassified. For example, an analysis of resulting prosecution offence types for *Assault Minor* incidents in 2017 which resulted in prosecution found that 5% were prosecuted for more serious offences such as *Assault Causing Harm*, *Assault Causing Serious Harm*, or *Threatening to kill or cause serious harm*. It is recommended that clear guidance be provided in respect of the appropriate grounds for reclassifying crime incidents.

Classification by date

The *Date Reported* variable reflects the date that a crime comes to the attention of AGS. *Date Reported* is the variable used by the CSO to assign crime incidents into different time periods for statistical purposes. *Date Reported* is distinct from *Date Occurred* since crimes are often not reported

⁹ The structure of PULSE has changed since the previous quality report requiring both the Narrative and subsequent Investigation Notes data fields to be reviewed for each comparison, hence the sample size was reduced.

to AGS for a considerable time – a gap of years is not unusual in the case of some *Sexual Offences* - after the crime took place.

The CSO carried out an analysis of the *Date Reported* variable for incidents with *Date Reported* in 2017. The date with the highest number of incidents reported was the 1st January. A system constraint which precludes the recording of a *Date Reported* prior to the 1st of January of the year in which the incident is created may be creating this anomaly, and the CSO recommends that AGS investigate this possibility. If it is the case that incidents are wrongly being assigned to the 1st January inappropriately, there is an impact on *Recorded Crime* statistics by way of overcounting of incidents for the current year and allocation of crime incidents to the incorrect year.

Classification by location

Crime incidents are recorded against the Garda sub-district (or station) in which the offence was committed. Where the place of commission cannot be determined the offence should be recorded against the sub-district in which it was reported.

The *Station* data field is the variable used by the CSO to assign crime incidents into different Garda boundary areas such as regions and divisions for statistical purposes.

The CSO examined the data contained in the *Station* data field for incidents reported in 2017, and found a high degree of relevance (i.e. that stations were valid, open stations) and accuracy (i.e. the recorded station appropriately matched the incident address) in the recorded data, though in some instances it was uncertain whether the incident was committed in, or reported in, the station recorded.

Clarity should be provided in the PULSE record as to whether the crime occurred in or was reported in the recorded Garda sub-district. This would be particularly relevant in fraud and sexual offences, where there is often a time and location difference between the occurrence and reporting of a crime.

2.3.2 Incident invalidation

Crime incidents are marked invalid when an investigation determines that a criminal offence did not take place, or “if a person reports being the victim of a crime and subsequently withdraws the report stating that the criminal act did not take place [...] unless there is evidence to suggest that there is a reasonable probability that the criminal offence took place”¹⁰. Other circumstances for invalidating a crime incident record include where a record is created in error, for example if a duplicate record already exists for the same crime event, or where it should not have been created in the first place.

Crime incidents marked invalid are not counted for statistical purposes. Where an incident is marked invalid it is expected that an explanation as to why the record has been invalidated is recorded. The CSO examined a random sample of 100 invalidated crime incidents and considered the information contained in descriptive data fields to assess whether the invalidation was justified based on the *Crime Counting Rules*.

An estimated 12% of crime incidents marked invalid were found either to have no explanation as to why they were invalidated, or that the reasons given did not support invalidation, for example where there is evidence to support that the crime took place, but the injured party decided not to pursue a

¹⁰ https://www.cso.ie/en/media/csoie/methods/recordedcrime/Crime_Counting_Rules.pdf

complaint. The figure represents a reduction on the estimated 21% of invalidations in 2015 and 23% in 2011 which were deemed to be incorrect.

2.3.3 Implementation of crime counting principles

Three important principles of crime counting govern how certain scenarios should be recorded on PULSE. These are the

- *Continuous series of offences involving same victim and same offender*
- *One Offence Counts Per Victim*
- *Primary Offence Rule*

Incorrect application of these crime counting principles results in inaccurate PULSE data records, leading to undercounting or overcounting of crime incidents for statistical purposes, and as such, may have a significant negative impact on the quality of *Recorded Crime* statistics.

Observations made by the CSO to AGS in respect of homicide incident data during 2017 (see 1.4) resulted in the rectification of homicide incident records by AGS and resulted in an upward revision in homicide incidents over the period 2003-2016. Several errors in respect of the application of the crime counting principles were identified, such as:

- Incidents of type homicide marked as non-primary (i.e. despite being more serious than the recorded associated primary incident).
- Instances where more than one victim was recorded on a single incident record.
- Instances where different victims were recorded as associated primary and non-primary incidents.

The observations made by the CSO in respect of homicide incident data during 2017 likely also apply to the recording of other incident types but are more difficult to identify, quantify and rectify in non-homicide data.

Continuous series of offences involving same victim and same offender

“A continuous series of offences against the same victim involving the same offender counts as one offence.”

This rule is particularly applicable in sexual offences and fraud offences where a sequence of offences may be reported to AGS at the same time, often long after the commission of the offences (e.g. historic sexual abuse, welfare fraud).

Although not explicitly stated, any further offences which take place after the reporting of the initial offences should be recorded and counted separately. For example, a series of assaults by one person against another reported at the same time should be recorded as one crime only, but the subsequent reporting of a subsequent assault involving the same persons should be counted as a separate crime.

The CSO had applied a correction to PULSE data to account for the incorrect application of the *Continuous series of offences involving same victim and same offender* rule for a number of years. The correction was applied to Group 02 (Sexual offences) and Group 09 (Fraud offences) and was required to mitigate against overcounting of these crime incident types. This correction is no longer necessary since AGS began to monitor this overcounting issue during 2018.

For this report the CSO extracted all instances from the 2017 dataset where more than one valid, primary crime incident was recorded with the same victim, same offender and the same *Date Reported*. The analysis identified in excess of 900 cases of crime incident records which were identical in the three data fields. These were mostly found in the *Assaults* (Group 03), *Burglaries* (Group 07), *Thefts* (Group 08) and *Criminal Damage* (Group 12).

The following observations were made:

- There were examples of multiple past incidents reported on the same date
- There were examples where incidents of different type were recorded but with the same victim, same offender and same date reported. In such cases one of the records would more appropriately have been recorded with a non-primary flag and would thus not have been counted for statistical purposes, e.g. burglary and theft of vehicle, theft and theft of vehicle, assault and criminal damage, etc.
- There appeared to be examples of duplicate recording where an individual incident was represented more than once on the dataset.

Given that the Group 02 and Group 09 overcounts are already corrected for in *Recorded Crime* statistics, there remains around 700 additional incidents which have potentially been overcounted due to the inaccurate application of this counting rule.

One Offence Counts Per Victim

A crime incident should be recorded for each different victim in a crime. The *Crime Counting Rules* outline some exceptions to the rule relating to fraud and burglary incidents. However, in most cases this means that a crime incident should only be recorded with a single injured party.

The CSO extracted all crime incidents from the 2017 dataset where more than one victim was recorded, examining the incident type for each instance. Over 1,300 exceptions were found, of which just 70 were incident types other than fraud or burglary. Many of the exceptions related to the incorrect recording of persons as victims (e.g. recording the same person twice, recording a business or premises owner as well as the actual victim) and so the impact on *Recorded Crime* statistics is negligible.

Given that the analysis indicates that fewer than 70 out of more than 200,000 incidents were recorded incorrectly, we can conclude there is strong application of this counting rule.

Primary offence rule

“Where two or more criminal offences are disclosed in a single episode it is the primary criminal offence that is counted”

Where two or more offences are deemed to have occurred as a single episode, they are recorded and linked, with the most serious offence being recorded as the Primary and the other offences recorded as non-Primary offences. Non-primary incidents are not counted for statistical purposes. More than 5,000 crime incidents were recorded as non-primary incidents in 2017.

All non-primary incidents should have an associated primary incident which is deemed to be a more serious offence. Incidents which involve the same persons but are separated in time or reported separately to AGS do not satisfy the rule, nor are incidents which have different injured parties (since this should invoke the *One Offence Counts Per Victim* rule).

A random sample of 200 non-primary crime incident records was extracted and the relationship between primary and non-primary was examined to determine if the rule had been applied appropriately. The following issues were found.

- In 3 cases (2%) the associated primary incident was either non-crime or invalid. In such cases no incident was counted for statistical purposes.
- In 35 cases (18%) the primary and non-primary incident had different injured parties and/or were considered to have been reported separately. In such cases both incidents should both have been marked as primary incidents and counted for statistical purposes.
- In 8 cases (4%), the non-primary incident was adjudged to have been the more serious offence, and thus should have been recorded as the primary incident. In such cases an incident of the incorrect type was counted for statistical purposes.
- It is known that the primary flag is used in some instances to ensure that all but one of a continuous series involving same victim and same offender are excluded from being counted for statistical purposes. This was found to be the case in 49 cases, and the use of the flag in this way does not affect crime statistics.
- The remaining 105 cases were found to have no errors that would affect crime statistics

In summary, an estimated 20% of non-primary incidents were found to have been incorrectly marked as such. These incidents should have been recorded as primary incidents and would have been counted for statistical purposes. A further 4% of non-primary incidents should have been marked primary instead of the incident which was marked primary, resulting in incident misclassification for statistical purposes.

3. Recording of crime outcomes

Administrative data from Garda information systems is used by the CSO to produce statistics on crime incident outcomes. This is achieved by reporting on the number of crime incidents which result in detection, prosecution and conviction. These measures have typically been used as an indicator of the 'success rate' of criminal investigation (i.e. detection, prosecution, conviction).

A crime incident is detected by AGS when at least one offender has been identified for the crime offence and an appropriate sanction has been applied to the offender. A prosecution (i.e. a charge or summons) is one type of sanction, but other sanctions are also possible. Fixed Charge Notices (FCN), adult and juvenile cautions and informal cautions may be applied as appropriate alternatives to prosecution for certain offence types in certain circumstances. Convictions are imposed by the Courts.

3.1 Detections and prosecutions

The method used by the CSO for identifying detections on PULSE is the *Detection Status* data field of a crime incident. The Detection Status field indicates whether a detection has been recorded or not. Prosecutions (i.e. charges or summons) are recorded separately on PULSE and linked to the associated crime incident record. Both the proportion of incidents resulting in detection and the proportion of detected incidents which result in prosecution vary significantly by crime type.

The *Detection Status* field was manually recorded on PULSE until early 2018. The Garda Inspectorate report in 2014 had highlighted issues in respect of the quality of recording of detections on PULSE, e.g. early recording of detections.

60% of crime incidents in 2017 which were marked as detected on PULSE were linked to a criminal prosecution (i.e. linked to at least one charge or summons).

The remaining 40% of detected incidents in 2017 were not linked to a prosecution. Incidents which are marked as detected but do not have a recorded prosecution should have an alternative sanction applied.

The CSO extracted a random sample of 200 detected crime incidents for which there was no linked prosecution. As the CSO did not have data on FCNs or Cautions, the approach taken was to examine the available descriptive data fields to determine whether the description included reference to the application of a sanction to an offender, thus validating the detection. 28 Incidents of Breach of Bail or Court Related Offences were excluded from the analysis, as these incident types do not necessarily attract an additional criminal offence.

- 73 (42%) of the analysed incidents made clear reference to the application of a sanction (26 FCN, 23 Adult Caution, 12 Juvenile Caution, 12 by informal caution or Anti-Social Behaviour Order). A further 13 (8%) were covered by exceptions provided for in the Crime Counting Rules.
- 10 (6%) of the incident descriptions referred to prosecutions or court proceedings, however a charge or summons was not directly linked to the crime incident. Some of these discrepancies may relate to the 'casing' of incidents within PULSE (i.e. the prosecution may be recorded but is linked to a different but associated incident).
- 76 (44%) of the incident descriptions did not refer in the descriptive fields to the application of a sanction. There was a significant variation in the circumstances of these, for example no

outcome described, a file submitted to Director of Public Prosecutions (DPP) but no direction received, an intention to proceed by way of Caution or referral to Juvenile Liaison Officer (JLO) but no recorded follow-up. It may be the case that a sanction was applied, however no information on this was available.

In summary the CSO found that 56% of incidents which were marked as detected but with no recorded prosecution did have clear reference in descriptive fields to the application of a sanction to an offender or other appropriate outcome, while 44% did not refer to a sanction.

Hence, an estimated 82% of detected incident records were supported by the recording of or reference to a sanction (i.e. 60% of detected incidents had a linked prosecution and 56% of the remaining 40% had a sanction outlined in descriptive fields). It was not possible, based on the data reviewed, to make a conclusive determination on the remaining incidents.

PULSE 7.3, which was rolled out during 2018 has introduced a system of automatic completion of the *Detection Status* field, based on the recording of an appropriate sanction. As a result, a crime incident remains undetected unless and until an appropriate sanction such as a relevant prosecution, caution, or FCN is recorded against an offender. As such it is the recording of a sanction which automatically marks the incident as detected, and a *Suspect* as a *Suspected Offender*. Exceptions to this must be processed and approved manually by supervisors and GISC. It is anticipated that this change will lead to a more accountable and auditable system of recording incident detection and is welcomed by the CSO.

For the purpose of this review, incidents which were marked as detected and which had a recorded and correctly linked prosecution were deemed to have been detected appropriately, regardless of the offence type prosecuted. This was the case in 60% of crime incidents marked detected in 2017. CSO understands that AGS are currently implementing a PULSE restriction to ensure that only relevant prosecutions will automatically detect a crime incident.

At present, there is a gap between the incident detection types outlined in the *Crime Counting Rules (CCR)* document and the set of sanctions which are used in practice. There is a need to update the CCR document to reflect all valid detection types including reference to the types of offence and the type of offender to which they may be applied.

4. Recording of victims and offenders

A criminal offence is recorded by creating a PULSE crime incident record. Victims of crime and persons who are sanctioned as offenders are also recorded on PULSE, as *Injured Party* and *Suspected Offender* respectively, and linked to the crime incidents they are associated with.

Accurate recording of victims and offenders is important in respect of the quality of *Recorded Crime* statistics. Each of the three counting principles contained in the existing Crime Counting Rules rely on the recording and linkage of victims and offenders to crime incidents to ensure counts of incidents are correct (*Primary Offence* rule, *One Offence per Victim* rule and *Continuous Series involving same victim and same offender*).

Accurate information on victims, offenders and the relationships between victims and offenders, at an aggregate level, can be used to provide important contextual information on the nature and patterns of victimisation and offending. Understanding victimisation and offending behaviour is an imperative for criminal justice policy as well as for planning services and intervention strategies. For example, data on dates of birth and gender can be compiled to provide an overall picture of the age and gender profile of victims of a certain crime type or in a certain location, or how this picture may change over time. It is imperative that good quality data is recorded to best inform these processes. In particular, an accurate gender and date of birth should be recorded for all victims and offenders where possible.

Further, the Garda Inspectorate Report 2014 highlighted the issue of duplicate person records. It is important that steps are taken at data recording stage to minimise the risk of duplicate person records which may compromise the usefulness of derived statistics.

4.1 Recording of victims

Some crime offence types, for example *Assault*, necessarily involve a person as the victim. A victim should thus be recorded for an assault incident in all circumstances. The *One Offence per Victim* rule ensures that no assault incident should have more than one victim. As such there should be a one-to-one relationship between incidents and victims for certain crime incident types. Complete and accurate data recording would permit extraction of, for example, the number of assaults against males and against females for statistical purposes.

The CSO examined PULSE data for incidents reported in 2017 to determine the proportion of crimes from selected crime incident types (crimes against the person) where a valid person record was linked to the crime incident as a victim. For homicides, sexual offences against the person, assaults and thefts against the person, the completeness of victim recording was 97% of over 26,000 incidents in the selected crime incident types. The *Gender* and *Date of birth* data fields were completed appropriately in all but a handful of cases.

Other crime incident types involve offences where the state (or the 'Public at Large') is regarded as the victim. In such crimes there is uncertainty in whether the recording of a person should be considered appropriate (e.g. breaches of court orders, possession of offensive weapons or drugs, or public order incidents) or otherwise. The recording of a person as a victim may create confusion in respect of the incident classification (e.g. a public order incident with a person recorded as a victim – is this an assault?) or in the application of crime counting principles such as the *Primary offence* rule (e.g. a Breach of a Domestic Violence order with a person recorded as the victim may not be counted for statistical purposes if an assault against the same victim is recorded in the same episode).

The rules regarding which crime incidents are of which type (i.e. v. person, v. property, v. Public at Large) in this context are not clear, nor is the application of crime counting rules in some scenarios. There is a risk that this lack of clarity may contribute to inconsistent recording practice and lead to overcounting or undercounting of incidents for statistical purposes, depending on the scenario.

4.2 Recording of offenders

A person recorded as a *Suspected Offender* is considered as the perpetrator of a crime for statistical purposes. As outlined earlier, PULSE 7.3 in 2018 has introduced a system whereby it is the recording of a sanction which automatically marks a *Suspect* as a *Suspected Offender*, replacing the previous system of manual recording. It is anticipated that this will lead to a more accountable and auditable system of recording offenders and is welcomed by the CSO.

4.3 Recording of relationship data between victims and offenders

The relationship between a victim and alleged offender is an important dimension of a crime, especially crimes against the person. The recording of the relationship between victim and alleged offender has the potential to provide useful insight into victimisation and offending, particularly in the context of domestic, sexual and gender-based violence. The recording of these data where known is required in the AGS policy on Domestic Abuse Intervention¹¹ which was introduced during 2017.

There is a low level of recording of relationship data on PULSE at present. In 2017, fewer than 500 crime incidents had a recorded victim, perpetrator (i.e. *Suspected Offender*), and the relationship between victim and perpetrator recorded.

¹¹ <https://www.garda.ie/en/Crime/Domestic-abuse/Domestic-Abuse-Intervention-Policy-2017.pdf>

5. Recording of discriminatory motives and domestic abuse

The suspected motivations for, and certain characteristics of, crime incidents are recorded by making use of the *modus operandi* (MO) data field. The MO data field is used, for example, to record a discriminatory motive or domestic violence. There is a high level of demand for these data from users of *Recorded Crime* statistics.

It is important to note that a crime incident is recorded and classified according to the offence type (e.g. assault, robbery), but that the additional capture of the MO is required in order to extract data and compile statistics on specific characteristics such as domestic abuse and crimes with a discriminatory motive.

The MO data field is also used to record other characteristics of crime, such as the use of weapons, but these have not been assessed for quality at this time.

5.1 Crimes with a discriminatory motive

Crime incidents which are believed, either by the victim or by another person, to have been motivated by bias or discrimination related to certain personal characteristics of the victim should have this motivation recorded on PULSE. These are sometimes referred to as 'hate crimes'.

Changes to how victims of crime are recorded on PULSE were introduced in 2015, including changes to the recording of crimes with a discriminatory motive. There are now 11 discriminatory motives on the PULSE system (e.g. Ageism, Homophobia, Racism).

As part of the recording procedure it is mandatory to consider whether a discriminatory motive is present in respect of all crime victims, and to record as appropriate. A discriminatory motive is recorded by selecting the appropriate bias in the victim assessment, which assigns the motive to the *modus operandi* (MO) data field. The provision of statistics on crimes with a discriminatory motive is completely reliant on the appropriate completion of the MO data field with the appropriate bias. It has been a concern that statistics based on this field alone may understate the number of such crimes, as the data field may not be completed correctly in all cases.

Two possible sources of error in respect of the quality of recording of discriminatory motives on PULSE are:

1. Failing to record the motive correctly when discrimination is present.
2. Recording a motive when no discrimination is present (e.g. when a victim is from a minority group, but the crime was not motivated by discrimination against that group).

The CSO conducted an analysis of crime incident records to extract crime incident records which included keywords which might be associated with discrimination. The descriptive fields of positive matches were then read in context to determine if the incident appeared motivated by discrimination. Positive results were then checked to see if the appropriate discriminatory bias was recorded.

In 73% of the positive matches, the appropriate MO bias was captured on PULSE. However, in the remaining 27% of cases, reference to a discriminatory motive in the description did not translate to the recording of the motive in the MO field, see Table 6.

Table 6: Recording of discriminatory motive

Discrimination type	Discrimination incidents identified using search method	Appropriate motive recorded	% recorded using MO field
Race, religion, ethnicity	130	93	72
Gender or sexual orientation	15	13	87
Total	145	106	73

The CSO also carried out a second analysis of a sample of 100 incidents which were recorded with a discriminatory motive. Based on a reading of the descriptive data fields, 47% of sampled records referred specifically to the basis or rationale for recording the discriminatory motive. In remaining cases, the recording of the discriminatory motive may have been correct, but the rationale is not recorded. In a small number of cases, the incident description suggested that the recorded motive was inappropriate, or that discrimination type definitions were unclear, for example in:

- Incidents of sexual assault which were recorded as ‘Gender Related’
- Incidents of theft/burglary recorded as ‘Ageism’ on the apparent basis that a victim was elderly

The analysis indicates that statistics on crimes with a discriminatory motive for 2017 based on the MO data field would understate the number of recorded incidents where such a motive is known or suspected. The level of understatement is likely to exceed the estimated 27% based on the keyword search analysis used, since there is likely to be additional incidents where a motive is known or suspected and possibly recorded in the description, but the keyword search did not produce a positive match. There may also be crime incidents for which a discriminatory motive is recorded but incorrectly so.

5.2 Domestic abuse

As with discriminatory motives, greater emphasis has been put on recording the motive of domestic abuse and domestic violence since the introduction of PULSE 6.8 in 2015. The provision of statistics on domestic violence is required for ratification of the Istanbul Convention (Article 11.1) ¹².

As part of the recording procedure it is mandatory to consider a domestic violence motive in respect of all crime victims, and to record as appropriate. Domestic violence is recorded by selecting the appropriate motive type within the incident’s *modus operandi* (MO) data field. Statistics on domestic violence rely entirely on accurate completion of the MO field. Crimes with a domestic violence dimension but without the appropriate MO field completed would not be identified for statistical purposes.

A new AGS policy on Domestic Abuse Intervention was introduced in 2017¹³. The policy defines domestic abuse as “the physical, sexual, financial, emotional or psychological abuse of one person against another who is a family member or is or has been an intimate partner, regardless of the gender or sexuality”. The policy indicates that all such incidents should be recorded appropriately on PULSE.

¹² <https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/090000168008482e>

¹³ <https://www.garda.ie/en/Crime/Domestic-abuse/Domestic-Abuse-Intervention-Policy-2017.pdf>

The CSO sampled 100 crime incidents of type assault (*Assault Minor, Assault Causing Harm*) and 100 sexual offences against the person (*Rape, Sexual Assault*) reported in 2017. Of the 200 incidents 41 had a domestic or family relationship between victim and alleged perpetrator disclosed in the descriptive fields, within the definition outlined in the 2017 policy. Of the 41 incidents however, only 19 were marked with a domestic violence MO (46%), see table 7.

Table 7: Recording of domestic violence motive

Incident type	Sample	Domestic abuse indicated in Narrative	Motive of domestic violence recorded	% recorded using MO field
Rape and sexual assault	100	19	1	5%
Assault causing harm and Assault minor	100	22	18	82%
Total	200	41	19	46%

The results of the analysis indicate that statistics on domestic abuse for 2017 based on the MO data field alone would considerably understate the number of recorded crime incidents which fall within the 2017 definition. The understatement was particularly low in the case of sexual offences. There may also be further cases which satisfy the criteria for domestic abuse but no reference to such abuse or to the relationship between victim and offender was included in descriptive fields.

6. Conclusions and Recommendations

6.1 Conclusions

There has been considerable development in the quality of *Recorded Crime* statistics since the publication of the last CSO quality review in 2016. Changes to how data is recorded have meant that it is not practical to repeat all the assessments which have been carried out in previous reviews. The CSO has tried to either repeat or make comparable assessments in key data quality areas examined before.

The results of assessments which are comparable with previous review are shown in Table 8 below, which highlights the improvement across most existing quality criteria.

Table 8: Comparison of CSO quality reviews

Assessment type	2011	2015	2017
Non-recording of reported crime (%)	18	12	7
Misclassification of crime as non-crime (%)	8	3	2
Misclassification of crime incidents (%)	7	5	4
Invalidation without recorded rationale (%)	23	21	12

Other areas of improved practice

While timeliness of recording of crime on PULSE can be difficult to measure due to differences in how the *Date Reported* variable is recorded in some incident types, well over 90% of incidents for most crime groups are recorded on PULSE within 2 days of being reported.

An analysis of data in respect of the *One Offence Counts Per Victim* counting rule indicates that there is a high standard of application of the rule.

Approximately 60% of 2017 crimes which are recorded as having been detected have been prosecuted. Of the remaining detected crimes most appear to have been cleared up appropriately by the imposition of sanctions on offenders. A PULSE upgrade in 2018 has been implemented to validate and account for claimed detections so any risks around the quality of recorded data on detections are reduced.

There is a high degree of completeness in the recording of victims for crimes against the person. There may be uncertainty in the correct recording procedures in respect of victims of other crime types. The system for recording offenders on PULSE has been amended in 2018 to address data quality concerns.

Areas for further improvement

In 2017 the CSO raised concerns with AGS in respect of PULSE homicide records. These concerns related to the application of crime counting principles, the classification of incidents and the recording of persons as victims. The concerns resulted in an upward revision of 18% in homicide incidents for the period 2003 – 2016 when CSO resumed publication of *Recorded Crime* statistics in 2018. The data quality issues identified are not confined to homicide records and are present in other crime incident record types. It is likely that quality issues will continue to occur unless a strong data governance framework is implemented which specifically addresses data quality.

Analysis of crime incidents reported in 2017 indicates that inconsistent application of both the *Continuous series of offences involving same victim and same offender* and *Primary Offence* counting principles when recording incidents may be contributing to both overcounting and undercounting (in different scenarios) of crime incidents for statistical purposes. It is recommended that further clarity be given to appropriate personnel to address this issue.

Although not stipulated in the operating guidance, there is value in recording the relationship between victims and offenders. There is currently a low level of recording of data on the relationship between victim and offender.

Analysis indicates that statistics on crimes with a discriminatory motive for 2017 based on the MO data field alone would understate the number of recorded crimes where such a motive is known or suspected. There may also be crime incidents for which a discriminatory motive has been incorrectly recorded.

Analysis indicates that statistics on domestic abuse for 2017 based on the MO data field alone would considerably understate the number of recorded crimes which fall within the 2017 domestic abuse definition. This was particularly evident in the case of sexual offences.

6.2 Recommendations

In July 2018, the CSO shared a *Quality Improvement Proposal* with AGS. The purpose of the document was to outline to AGS the actions which the CSO see as critical to improving the quality of PULSE data for statistical purposes. The proposal outlines the CSO's recommendation for AGS to implement a stronger data governance framework which will underpin a more strategic and systematic approach to the collection of data, and one which is rooted in user needs.

The categorisation of *Recorded Crime* statistics as *Statistics Under Reservation* will remain in place until the CSO is satisfied that a stronger data governance framework is operational in AGS and the quality of the data output improves further.

The *Quality Improvement Proposal* is as follows:

Quality improvement proposal, July 2018

Introduction

Crime statistics are a vital information source on the prevalence and type of crime in Ireland. They are of significant public interest. Trust in these statistics is important and high-quality information is a critical element of evidence-based policy-making.

The CSO publish Recorded Crime statistics in accordance with Section 10 of the Statistics Act 1993 and Section 47 of the Garda Síochána Act 2005. Statistics produced by the Central Statistics Office (CSO) are compiled in accordance with the European and the Irish Statistical Codes of Practice (ESSCOP and ISSCOP). Records of crime incidents recorded in PULSE by An Garda Síochána (AGS) are the only source of data available for Recorded Crime statistics.

In March 2018 the CSO resumed publication of Recorded Crime statistics using the category of Statistics Under Reservation. This allowed CSO to provide the best available measure of police-recorded crime in Ireland while simultaneously informing users of their concerns regarding the quality of the underlying data.

The Statistics Under Reservation categorisation indicates that the quality of Recorded Crime statistics does not meet the standard required of official statistics published by CSO and is in line with principle 15 of ESSCOP, whereby users should be informed of the quality status of the statistics they are using.

This document identifies the actions which the CSO see as critical to improving the quality of PULSE data. It delineates the criteria which must be satisfied by AGS for the categorisation as Statistics Under Reservation to be removed.

The actions in this document are in line with the AGS Policing Plan for 2018. The Policing Plan identifies actions to be undertaken under the general heading of "Improved Data Quality." The Policing Plan outlines a commitment to ensure "that all incidents are correctly classified" and that the "data quality on our PULSE system [should be enhanced]". These actions are a fundamental starting point for addressing data quality, and show a shared understanding in CSO and AGS of the need for data quality improvement.

The CSO will continue to assess data quality and to address data quality concerns while improvements are ongoing and will assess progress made on the actions listed in the document. The CSO are committed to assisting AGS in improving data quality wherever possible. The decision to re-categorise Recorded Crime statistics, or otherwise, lies with the Director General of the CSO.

Action Area 1: All data governance activities should be led by, and overall responsibility for data quality should be assigned to, one senior manager.

Effective data governance is essential for assuring the quality of crime data. Roles and responsibilities in respect of the recording, validation, review and management of data need to be identified and assigned to appropriate personnel. The assignment of overall responsibility for data quality to one individual is an important step in ensuring that data quality improvement initiatives are focused and coherent. It will make it easier to resolve data quality issues and to drive positive change.

Data quality should be monitored on a continuous basis and audited regularly to ensure that both the procedures and outputs are fit for purpose.

A data risk register should be established and maintained outlining the risks associated with the recording and use of crime data. Risk management is an essential element of all data production processes. These risks include processing risks such as recording and coding errors and risks around data analysis. It is important that a risk assessment of the current crime data production process be conducted. This assessment should identify the controls in place to mitigate and manage data quality risks.

Training must be fit-for-purpose to ensure that those with responsibility for incident and data recording are cognisant of the value and relevance of data, and are up-to-date on policy and procedural best-practice.

Action Area 2: A data quality management framework must be devised which clearly outlines what constitutes good quality data, what data quality control mechanisms are in place, and how data quality is to be measured, monitored and independently audited to ensure fit-for-purpose crime data.

It will be important for AGS to identify and specify what is meant by good quality data and how it is to be measured. A shared understanding of what constitutes "fit for purpose" crime data is a fundamental starting point in improving data quality.

In order for the CSO to be able to compile statistics in which users can have trust, sound data quality principles and methodologies must be employed by AGS at the recording stage so as to ensure a high standard of quality in the underlying administrative data source. These principles (with illustrative, not exhaustive, examples) include:

- **Relevance**

Are user needs around recorded crime statistics are being met? For example, the need for good quality data on incidents with domestic abuse or discriminatory motives etc.

- **Accuracy**

Does the data recorded on the PULSE system accurately reflect the information known? Are the data fields recorded correctly (e.g. dates, incident classifications, locations, names, dates of birth)? Are the data fields amended if relevant information changes?

- **Timeliness**

Are data being entered onto the recording system in a timely manner? Is there a standard or time limit for when an incident must be recorded, since excessive delay can undermine data quality?

- **Coherence and consistency**

Are data in different parts of the PULSE system logically consistent with each other (for example the offender detection status and the recorded investigation outcome)?

Is the way an incident is recorded objective and consistent over time and across different regions?

An important principle of quality management is that any errors are detected and corrected early in the process. By implementing a data quality management framework for PULSE and other AGS recording systems, the capacity to improve the quality of Recorded Crime statistics will be much enhanced.

Specific concerns in relation to the quality of data currently held on the PULSE system have been identified, including by the CSO. This plan is forward-looking and is focused on addressing deficiencies in the data recording process. The critical objective is to improve data quality and ensure fit-for-purpose crime data for future statistical outputs.

Action Area 3: A comprehensive (publicly available) Crime Recording Rules document must be produced which explains the current rules and procedures for the recording of crime incidents and investigation outcomes. In addition, a framework for maintaining the Crime Recording Rules document must be agreed with key stakeholders.

The requirement for a comprehensive manual informing users and the public about crime recording, classification, detections and crime incident outcomes, and counting principles has been outlined by both the Garda Inspectorate and the Expert Group on Crime Statistics, and an undertaking has been made to produce an up-to-date and fit-for-purpose document. It is important that this document meets these requirements in a manner that does not compromise operational activity.

A comprehensive publicly-available document explaining how and why crime is recorded by An Garda Síochána is a key, not only for accountability in how crime is recorded, but also in allowing users to understand and utilise Recorded Crime statistics.

Consideration should be given to the establishment of a formal group of key stakeholders charged with ensuring that the Crime Recording Rules document is maintained up to date and in line with policing policy and legislative developments. An annual process of review and sign-off for this important document is necessary.

Appendix I: Illustrative sample actions

The following sample actions are included for illustrative purposes to indicate the measures which are necessary to address the Action Areas outlined in the plan. This is not intended as an exhaustive or finalised list of Actions.

Action Area 1

1.1 A senior manager with adequate authority and resource to effect positive change in data governance and data quality to be appointed. The appointee will assume responsibility for the implementation of this Plan.

1.2 Clearly defined structures of accountability and responsibility in respect of recording, validation, review and management of data to be drawn up.

1.3 A data recording risk register to be created and signed off on an at-least annual basis.

Action Area 2

2.1 A review of incident types and valid relevant investigation outcomes to be carried out and the system rationalised where appropriate.

2.2 The timeliness of incident recording on AGS information systems to be monitored and reported.

2.3 The completeness of crime incident records (i.e. that crime events reported to AGS are represented as crime incident records on PULSE), the use of non-crime incident types (e.g. Attention and Complaints) to record crime events, and the accuracy of PULSE crime incident type classifications to be independently audited on an annual basis.

2.4 The accuracy in key data fields to be assessed on a continuous basis and errors to be detected and corrected in a timely manner, and data quality to be measured and regularly reported on. For example,

- The Date_Reported field is a key field for classifying the time period to which a crime is assigned for statistical purposes. Poor data quality in this field can lead to inaccurate trend information
- The Incident_Type field is a key field for distinguishing different types of crime, such as Murder vs Manslaughter, Robbery vs Theft, or Assault causing harm vs Minor Assault. Poor quality data in this field leads to misrepresentation of the prevalence of reported incidents of different types of crime
- Location data records where a crime took place and is crucial for understanding the spatial distribution of crimes as well as resource requirements in different areas.

2.5 The rationale for PULSE incident type re-classifications and incident invalidations to be recorded in an accountable and consistent manner.

2.6 Crime recording rules such as the Primary Incident counting rule, the One Incident per Victim counting rule, and the Series of incidents, same victim, same offender counting rule to be

implemented automatically (e.g. the Primary Incident counting rule determines that, where two or more incidents occur at the same time, only the more serious incident should be counted for statistical purposes).

2.7 Documented procedures on the outcomes that can be used to mark an incident detected for each crime type and the charges that relevant to each incident type need to be in place (e.g. an incident should not be marked as Detected until a relevant and verifiable investigation outcome is recorded).

2.8 Measures to ensure the logical coherence of data on the PULSE system should be devised and regularly reported on (e.g. the incident detection status, offender role, offender detection status and investigation outcome must be logically consistent with the Crime Recording Rules).

2.9 The needs of internal and external users for accurate data on, for example, domestic abuse, discriminatory motives, and the use of weapons in crime incidents to be examined and incident recording procedures and standards updated if required.

2.10 Implementation of rules regarding mandatory recording of victims (e.g. for crimes against the person) or offenders (e.g. drug possession) depending on the incident type.

2.11 Implementation of rules regarding mandatory recording of victim-offender relationship where appropriate (e.g. in domestic abuse or sexual offence incidents).

2.12 Victim and offender profiles to be monitored with the aim of reducing person profile duplication.

2.13 Date of birth and gender to be recorded accurately for victims and offenders (e.g. to allow analysis of the age and gender profiles affected by different crime types).

2.14 The system of transfer of court outcome data from the Courts Service to PULSE to be audited for completeness.

Action Area 3

3.1 A Crime Recording Rules document to be produced as soon as possible.

3.2 A framework for maintaining the Crime Recording Rules document to be agreed.