

Annual report on Police data quality

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Introduction

High quality information is the lifeblood of policing, being used to underpin day-to-day operations. Robust data are also key to making sense of how effective New Zealand Police is at delivering policing services. Moreover, having faith in the accuracy of data New Zealand Police collects and uses is fundamental to wider public trust and confidence in Police.

Assurance about the quality and integrity of Police's crime and incident data can be drawn from a range of sources. For a start, detailed guidance is published online confirming how Police offence and victimisation statistics are generated. Independent reviews of Police's crime-related data systems and practices have also been carried out, with results made publicly available (for example, see <http://www.police.govt.nz/about-us/publication/review-police-crime-data>). As a further element of such assurance, this report summarises an ongoing programme of work designed to further strengthen the quality of Police's core data. As part of this snapshot, the report highlights key findings from New Zealand Police's recently-completed formal Data Quality Audit Plan 2016/17.

Background

Police has been on a data quality improvement journey for well over a decade. The pace of progress stepped up with publication of a refreshed *National Recording Standard* (NRS) in 2008; which provided a comprehensive rulebook for how Police should record core data in its National Intelligence Application (NIA) computer system. Further impetus came from a far-reaching Data Quality Improvement Programme that was established and driven forward in 2014 and 2015.

Since mid-2015, Police's data quality improvement work has been spearheaded by a specialist Data Quality and Integrity Team (DQIT) based in the Assurance Group at Police National Headquarters (PNHQ). As part of its work, DQIT delivers on an annually-agreed Data Quality Audit Plan.

As part of a wider commitment to openness and transparency, a summary report on the delivery of last year's equivalent Audit Plan was made accessible on Police's public-facing website (<http://www.police.govt.nz/about-us/publication/annual-report-police-data-quality-september-2016>). This latest report continues that commitment, and similarly is being proactively uploaded to New Zealand Police's website.

Highlights in 2016/17

Key achievements in 2016/17 included the following:

Strengthened policy and training support

- Two significant updates were made to the NRS
- Quick reference guides for staff on *Offence Recording and Closure* and *Clearance Recording* were produced
- An updated Legislative Reference Table Codebook was made readily available to staff via e-platforms
- Some 30 tailored education resources were also made available, to support improved staff knowledge
- Face-to-face training was provided to Districts upon request, with all resources available via the Intranet
- The National Crime Registrar communicated regularly with District Commanders to promote DQ practices.

Improved efficiency of systems and processes

- Delivering phase 1 of the Phase Out Case Statistics (POCS) project, reducing duplication of data entry, as well as enhancing NIA offence recording practices
- Delivering phase 1 of the NIA Alerts project, leading to a national consultation process which targets rationalisation and improved practice around alerts
- Improving Police's response to victims of dwelling burglary (e.g., updated coding and scene type guides)
- Delivering online DQ Domain resources to promote increased local quality assurance activity.

Thematic reviews and cyclical data quality audits

- Sexual assaults: understanding recording practice
- Use of warnings: review of Police practice
- Hate crime: NZ context and recording opportunities
- Robbery offences: understanding recording practice
- Audit: burglary and sexual offence re-code practice
- Audit: accuracy of removing offences from NIA
- Audit: 1C/2C and 6P – accuracy of code use in NIA
- Audit: assault flags / burglary 'scene type' use in NIA

Focus areas in 2017/18

As well as continuing to audit removal of offence records from NIA and offence re-coding practices, the 2017/18 Data Quality Audit Plan includes a focus on the following:

- Accuracy of fraud and disorder recording, and an accuracy baseline for Police's serious crime measure
- Accuracy of clearance practices for all proceedings
- Addressing system and process 'pinch points' that adversely impact on accuracy of data recording
- Completing POCS and Alerts project activities
- Progressively updating the NRS and LRT Codebook
- Development of new coding guides for wilful damage, robbery and disorder.

Overview

The accuracy of coding and re-coding of offences and incidents by Police staff is scrutinised closely. Checks are done at policing Area and District level by frontline supervisors, whose responsibilities include quality assuring the records entered by their staff. There are also specialist roles in Police, such as officers in charge of File Management Centres (O/C FMCs), who have a watching brief over the quality of the data entered by District staff, and who will examine records to double-check their accuracy. Such audits happen on a daily basis across the country.

In addition to local assurance checks, there is also regular national monitoring of key dimensions of data quality, focused on ensuring consistent application of Police's *National Recording Standard* (NRS) and mandated case management process. Specific audits of crime recording practice are also undertaken as part of a comprehensive, national, Data Quality Audit Plan. This report highlights findings from the recently-completed Data Quality Audit Plan, covering the period from July 2016 to June 2017. The Audit Plan was delivered by the specialist DQIT team at PNHQ. By way of context, the DQIT has three broad objectives:

- **Championing data quality:** embedding an ethical recording culture, which is underpinned by efficient and effective data quality systems and processes.
- **Continuing to evolve the NRS:** as well as related policy and education resources, to deliver improvements in staff knowledge and data quality practices; and
- **Providing organisational assurance:** delivering an annual risk-based national audit plan focused on identifying improvement opportunities related to leadership and governance, systems and processes, and people and skills.

Before summarising outputs from Police's Data Quality Audit Plan 2016/17, it is worth touching briefly on the other two objectives of the specialist Data Quality and Integrity Team.

Championing data quality, and continuing to evolve the NRS

Led by the National Crime Registrar, the DQIT has four other staff, including three District Crime Registrars (DCRs). Each DCR is paired with four policing Districts; working closely with District Leadership Teams and O/C FMCs and other individuals who hold data quality portfolios to deliver improved practice. One DCR is embedded in Tāmaki Makaurau (also having Northland District in their portfolio), the second is based in Waikato District (and also covers Bay of Plenty, Eastern and Central Districts). The third DCR is located at PNHQ and partners with Wellington and Te Waipounamu Districts. Together, the National Crime Registrar, DCRs and a Senior Adviser who specialises in data auditing provide visible leadership within Police on data quality issues, and act as vocal champions for a culture of ethical recording.

DQIT continues to make good strides in raising staff awareness about the importance of high-quality data as a platform for effective policing. At a strategic level, the NCR tailors regular communications for territorial commanders about key areas of risk from the annual Audit Plan. This communication channel has been responsible for delivering sustained improvements in re-code and 'no offence' practice, led largely by the implementation of improved local governance.

The NRS continues to evolve and it now launches, via the DQIT Intranet site, as an intuitive and interactive online resource. Similarly, DQIT has done substantial work to improve the functionality of the LRT Codebook as a 'one-stop shop' source of up-to-date information about offence, incident and task codes. DQIT will continue to improve accessibility and format, providing staff with an updated *User Guide* as those changes are implemented.

Likewise, working with stakeholders, DQIT has published two short and informative quick reference guides which bring together NRS recording rules, operational policy and technical 'how to' information in easy-to-digest resources. The two guides cover *Offence Recording and Closure* (supporting staff to make consistent and accurate calls on offence codes, re-coding, as well as applying Result Codes in CARD or Closure Reasons in NIA) and *Recording Clearances* (which targets improved understanding of clearance requirements and an uplift in the quality of clearance recording outputs).

DQIT has also successfully managed two national projects targeting efficiency and effectiveness improvements in NIA. The first, Phase Out Case Statistics (POCS), led to the removal of duplicative Case Statistics screens and associated data entry requirements; as well as delivering new and enhanced scene types, injury indicator and weapon code fields; more granular offence closure codes; and updated offence/offender clearance codes. The second national-level initiative, the NIA Alerts project, is focused on improving policy, governance and operability of alerts in NIA based upon standardised formats and rules. A national consultation process has begun with the aim of rationalising and prioritising existing alerts, plus explore design enhancements which can deliver broader efficiency or effectiveness opportunities.

As an illustration of DQIT's work to champion data quality and embed an ethical recording culture, three DQ-themed posters are reproduced below. They are examples of DQIT resources which emphasise that robust data collection practices and a commitment to data quality are underpinnings of good operational deployment decisions, and a key enabler of victim care.



Providing organisational assurance

As outlined earlier, the DQIT's third main objective is to deliver on a cross-cutting national Data Quality Audit Plan. The Audit Plan is designed around a quarterly cycle. Patterns of audit activity are repeated, across different quarters, and across year periods, enabling detailed analysis of the extent to which business practices have improved over time. The programmed audit work falls under one of five core strands of activity:

- **Strand 1: Accuracy of converting reports to records:** ensuring accurate conversion of offences which are resulted in Police's Communications and Resource Deployment (CARD) call centre system into occurrences in NIA. This activity requires a detailed understanding of channels through which incidents/crimes are reported to Police.
- **Strand 2: Accuracy of coding:** ensuring the offence code applied to a crime is accurate. This requires review of decision making where coding/re-coding occurs, in order to be satisfied the correct classification is reported (e.g., that a burglary is counted where this is most appropriate, and not a less serious offence, such as wilful damage).
- **Strand 3: Accuracy of removal of offences from NIA:** ensuring the accuracy of actions taken to remove previously recorded offences from NIA. The NRS only permits removal of an offence from Police's recorded crime count in a narrowly-defined set of circumstances (e.g., where a crime has been created in error, is a duplicate record, is being dealt with by a non-police prosecuting authority or where there is credible evidence that the offence initially recorded did not happen [as, for instance, where people report their vehicles stolen from a car park, only to discover they left it in a different location, and thus the suspected offence did not actually occur]).
- **Strand 4: Accuracy of clearance recording:** ensuring the correct application of rules in the NRS governing when a particular clearance can be applied. This area of focus checks that clearance types such as a charge, summons or Pre-Charge Warning (PCW), are coded in accordance with established rules, and offenders do not receive clearances which they are not entitled to, or without sufficient evidence existing to prove their involvement.
- **Strand 5: Thematic reviews and/or bespoke analyses:** enables short notice or bespoke audits where a specific risk has been identified, which lends itself to completing a discrete piece of analytical or assurance activity.

Featuring items from across all five strands, the following section of this report highlights key outputs from the 2016/17 Data Quality Audit Plan.

Accuracy of converting reported offences to recorded offences

- ***Sexual assault recording:*** DQIT completed a national audit which examined all reports to Police of sexual assault across a three month period. Reassuringly, the results showed failure to transit public reports to recorded offences was very rare. The report identified a small number of underlying system and process issues that contribute to sexual assaults being either poorly captured or inaccurately coded, and showed how those issues are resolvable. A number of policy, process and skills improvement opportunities were identified and have since been addressed, including provision of enhanced education and targeted QA resources for use by specialist investigators. Identified system improvements (which particularly target direct recording of offences in NIA at the time of victim reporting) remain under review, as part of broader activity to improve the efficiency and effectiveness of offence recording.
- ***Robbery offence recording:*** DQIT also completed a national audit of all reports of robbery received by Police using the same methodology as the sexual assault work. The audit showed that more reports of robbery fail to accurately progress to recorded offences than was the case in the sexual assault audit. The audit was able to describe a range of system, process and people factors that contribute (whether singly or in conjunction with each other) to deliver unwanted recording outcomes. The core learning issues from these two 'report to record' audits have been used to inform an organisational focus on improvement activities which will enhance the accuracy of recording practice.

Accuracy of offence coding and re-coding

- ***Burglary and sexual offence re-coding:*** As well as reporting re-code volumes and trends to Districts on a regular basis, DQIT has completed its third national re-code audit. Some of the key findings from this detailed work were:
 - Re-coding of sexual offences has fallen to very low levels and accuracy rates continue to improve
 - Re-coding of offences to incident/task codes is reducing month-on-month, in line with NRS guidance
 - Comparing re-coded burglaries against all burglaries recorded, in the last audit period, overall burglary coding was found to be 99% accurate (ie., the inaccuracy level is $\leq 1\%$)
 - Inaccurate burglary re-codes are reducing, both in terms of volume and rate, despite a slight increase in total recorded burglaries; and the national burglary re-coding rate of 2.7% is the lowest since DQIT monitoring began
 - Changes in initial re-code accuracy (+17%) and post QA accuracy (+10%) are both statistically significant, meaning that change is not down to chance, but the day-to-day efforts of our District staff to do the right thing.

Accuracy of removal of offences from NIA

- ***Removing Offences from NIA:*** A third national audit, the key finding of which were:
 - Accuracy of practice continues to improve, with statistically significant overall uplifts achieved in the last two national audits. Of note, a number of policing Districts achieved an overall accuracy rate of >90%, with five Districts achieving 100% in one particular offence area.
 - In that last national audit, 10 of the 12 policing Districts made overall K3 ('no offence') accuracy improvements - more than in any prior audit - with more than half of Districts showing statistically significant change in practice.

Accuracy of clearance recording

- ***Police use of warnings:*** A comprehensive review of Police warnings, highlighting 13 improvement opportunities: increased leadership and governance activity (supported by better defined policy); upgrading systems and processes; as well taking positive steps to enhance staff's knowledge, understanding and skills. All of these areas are being addressed – for instance, with work underway to introduce a graduated model of alternate actions, with steps taken to improve the processes for capturing clearances in NIA (from the POCS project), and with publication of the *Recording Clearances* guide which helps to support consistent staff decision making about issuing warnings.

Thematic reviews and/or bespoke analyses

- ***Recording hate crime in New Zealand:*** A background and options paper exploring Police's current approach to recording "hate crimes". The solution-focussed report advocates for enhanced "hate crime" recording practices, drawing on an international best practice framework which is used in European jurisdictions.
- ***Suspicious approaches to children:*** working with the National Prevention Centre, DQIT provided detailed analysis about suspicious approaches to children captured only in CARD. The work identified that although Districts had responded promptly to all reports of suspicious approaches to children (where a perceived risk existed), coding practices were somewhat inconsistent, impacting on the ability to quickly retrieve relevant records at a later point.

- **Use of Burglary Scene Type in NIA:** Completed to provide insight about the accuracy of scene type attributed to burglary offences recorded in NIA, this audit showed that Crime Recording Line (CRL) staff were far more accurate than other staff in correctly identifying burglary scene types. Given that the CRL records more than three quarters of all reported burglaries, this result provided confidence in our ability to accurately identify dwelling burglaries when prioritising their attendance within 48 hours, in line with Police's policy.
- **Use of Assault Flags in NIA:** Analysis completed for Police's Chief Data Scientist, which raised concerns about the efficacy of the Yes/No injury flag used in NIA when recording assault offences. Following the audit, DQIT led work to move to an injury grading method (i.e. Nil/Minor/Serious/Fatal injuries sustained). NIA was subsequently upgraded in April 2017 and within one month injury recording more accurately reflected earlier DQIT audit findings.
- **Use of 6P – Bullying Code in NIA:** Analysis completed for the National Prevention Centre, providing insight about use of code 6P to capture reports of bullying in accordance with Police's *Bullying Policy* [2016]. The report indicated that circumstances of most reports of bullying could readily be described as an offence; generally either an assault, threatening behaviour in person, or similar behaviour committed whilst online. The analysis identified opportunities to improve our recording practice when dealing with reports of bullying.
- **Understanding victimisation recording:** Working again with Police's Chief Data Scientist, DQIT explored the impact of inaccurate records in CARD on RCVS victimisations arising from data matching (imputation) processes. Opportunities identified within the audit work to improve practices are actively being advanced with stakeholders.
- **Use of Codes 1C (Suspicious Incident) and 2C (Civil Disputes) in NIA:** Following a run of adverse media reporting about Police's response to calls for service relating to fuel, taxi and restaurant 'run-offs', this audit was commissioned to provide insights into recording practice, as well identifying process or practice improvement opportunities. The report identified inconsistencies in coding practice, as well as process and supervision issues which explained the ineffective transition of some reported offences between Police's Communications Centres and Districts. The report's detailed findings are actively being progressed in order to improve service delivery outcomes and related offence recording.

Conclusion

In summary, 2016/17 has seen significant progress made in terms of continuously improving Police's data quality. PNHQ's specialist Data Quality and Integrity Team has helped offer support and focus, and successfully delivered on a comprehensive Data Quality Audit Plan 2016/17.

New Zealand Police aspires to progressively lift the level of confidence in its core data, and a series of data quality initiatives will continue to be advanced in the years to come. To help give visibility to this work, overview reports such as this will continue to be produced on an annual basis.

Casting ahead, data quality work programmed in 2017/18 will include an emphasis on:

- Growing the reach of the DCR team, with the aim of increasing the level of support and guidance available for District staff. In particular, it is envisaged that DCRs will be able to increase face-to-face training and/or learning provision for frontline Constables and Sergeants.
- Supporting the implementation of improved data quality governance processes at District level. In particular, it is planned DCRs will support Districts to boost their 'second line of defence' by coaching and mentoring key staff. DQIT intends to release further management information resources to underpin this capability on a monthly basis.
- Technology changes, aimed at making it easier for Police staff to record things accurately at first instance, as well as enabling systems and processes to more accurately capture and/or match data records; particularly where change will improve the accuracy of Police's victimisation data.
- Increasing the scope of regular internal auditing, covering corporate data sources and exploring the potential for external benchmarking.
- Supporting wider business initiatives to improve Police's alternative resolution model and "hate crime" recording processes and practices.
- Successfully delivering programmed POCS phase 2, and NIA Alerts Review stage 2 project, deliverables.
- Repeating the successful 2015/16 precedent of convening a biennial Police DQ conference, which would likely draw in around 50 key staff from Districts, Police's Communications Centres, and the dedicated Crime Recording Line.