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An evaluation of nursing documentation
as it relates to pro re nata (prn) medication
administration.

A research report presented in partial fulfillment of
the requirements for the degree of

Master of Nursing
in
Mental Health

at Massey University, Albany Campus,
New Zealand.

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Abstract

Aims of the project:

1. To investigate if documentation related to pro re nata (Latin, prn) medication administration by mental health nurses, in a particular Forensic Psychiatry Clinic, in a metropolitan city in New Zealand, complies with the requirements of the National Mental Health Sector Standards (Ministry of Health, 1997), the specific District Health Board's policies, the local policies of the Forensic Psychiatry Clinic, the Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999) and follows the nursing process.
2. To investigate whether there are any variations in the documentation practices between nursing shifts.

Methods: A retrospective file audit was conducted at a forensic psychiatry clinic in a city in New Zealand. Non-random sampling was used. Data was collected from all admissions in 2002 that had prn medication administered during the first four weeks. A document questionnaire was designed to capture the required data to answer the research questions

Results: From the sample of 27 files data was collected from up to 170 nursing entries. This was primarily a descriptive and exploratory study. None of the nursing entries met all the requirements of the National Mental Health Sector Standards (Ministry of Health, 1997), company policies, local area policies and/or the Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999) in relation to nursing documentation. Nearly 47% of the prn medication administered had no documentation, apart from that in the medication-recording chart, to indicate it had been given. Approximately 85% of prn administrations had no evidence of an assessment prior to administration. Where it was documented that a client had requested medication, nearly 82% had no evidence of assessment. A large number of prn medications were administered from prescriptions that did not meet legal or policy requirements. Evidence of planning was lacking in the documentation with nearly 98% of the notes not indicating the rationale for a choice of route of administration where this was permitted on the prescription. No nursing entry offered a rationale for the choice of dose where this was allowed. The name of the medication, dose, route and/or time administered was frequently missing. Of the prn administrations considered for an outcome, nearly 60% had no documented outcome. Little difference was found in the nursing documentation between the shifts. However it was noted that for day and afternoon shift, the earlier in the shift the medication was administered the less likely there was to be any mention of the medication being administered.

Conclusion: The findings established extremely poor documentation practices. The lack of evidence of patient assessment, prior to administration of the medication in the documentation, raises the issue of whether this is being done prior to prn medication administration or simply not being documented. The documentation left questions about decision making in the planning of administration. The large number of medication administrations lacking a documented outcome raises uncertainty about nurses' knowledge of evaluating care, or even whether they are actually evaluating the care given. As a result of these findings, it is recommended that further research in this area be undertaken in New Zealand.

*This work is dedicated to my mother
who passed away in March 2003
and gave me
so much encouragement.*

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Aims of the Project

The aims of this project are as follows:

1. To investigate if documentation related to prn medication administration by mental health nurses, in a particular forensic psychiatry clinic, in a metropolitan city in New Zealand, complies with the requirements of the National Mental Health Sector Standards (Ministry of Health, 1997), the specific District Health Board's policies, the local policies of the Forensic Psychiatry Clinic, the Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999) and follows the nursing process.
2. To investigate whether there are any variations in the documentation practices between nursing shifts.

Introduction

Pro re nata (Latin, prn) medication administration by mental health nurses is a common occurrence in inpatient acute units especially in the first few days after admission when therapeutic levels of regular medication are low. The strict translation of prn from Latin is 'according to circumstance.' In common usage it is interpreted 'as needed or as required.' It is one of the few areas where nursing staff has autonomy in their practice (Usher, Lindsay & Sellen, 2001), allowing nurses the freedom to administer required medication rapidly (Whicher, Morrison & Douglas-Hall, 2002). Because of this autonomy in their practice and a need for accountability, it is essential that nurses clearly document all the processes involved in the administration of prn medication. Safe practice of medication administration involves the nurse in several activities including assessing the client prior to administration, planning, administering the medication and observing, after administration, for either effectiveness or untoward effects. These activities are collectively called the nursing process (Yura & Walsh, 1988) and should be captured in the written notes in the client record. This documentation provides evidence of the quality of care received by the client (Iyer & Camp, 1991; Martin, Hinds & Felix, 1999).

Knowledge of the nursing process is part of every registered nurse's training. Nursing documentation since the 1970s has been based on the nursing process (Allen, 1998). The narrative documentation written by mental health nurses in the specified setting should echo this process, a process that should reflect accurately what has transpired with regard to a client's care. Documentation is the main means of communication between nurses and between nurses other disciplines (Martin et al., 1999). Nurses must document the prn medication administration in a clear, concise and timely manner such that it is informative to other nurses or health professionals. Not to do so means that the nurse has not met the professional standard that the law expects (Jamieson, 1997).

One criterion for measuring the quality of nursing care is the accuracy of nursing documentation (Mohr, 1999). According to Dalziel and Johnson (2000) there is an "obligation of accuracy" (p.197) in documentation as a requirement of the New Zealand

Health Information Privacy Code and further “failure to report adequately may constitute negligence” (p.197). Therefore there are legal requirements that nurses’ documentation practices must adhere to. The National Mental Health Sector Standards issued by the Ministry of Health (1997) require that documentation is sequential, factual and comprehensive. Nurses’ documentation must also comply with the requirements of the specific District Health Board’s policies and the local policies that are specific to the clinical setting. The documentation policies of the specific District Health Board require that documentation follow a logical pattern of assessment, intervention and response to treatment. Essentially this is the nursing process.

The Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999) under Principle Two, specifically states that a nurse “accurately maintains required records related to nursing” (p.4). It further states that inadequate documentation may be a basis for a complaint under the Code of Conduct for Nurses and Midwives. As Mohr (1999) stated, “progress notes should not be written in such general terms as to be of little value when the case is reviewed later” (p.1058). It is important therefore that nursing documentation is written as close to the event as possible and complies with all legal and institutional policies.

Literature Review

A search of CINAHL (Cumulative Index to Nursing and Allied Health), PsycInfo and Medline databases using the terms nursing or nurse, and documentation or records revealed many articles addressing documentation practices. The reference lists of these articles were also searched for further articles. A further search of the above mentioned databases using the words Research, and PRN, prn and pro re nata, revealed more articles. With those articles found relating to prn, criteria for inclusion were made on whether it was based on research that specifically related to prn and had a finding pertinent to nursing documentation.

The Importance of Nurses' Documentation

Nurses' documentation is an important mode of communication. Its primary purpose is to inform both nurses and other health professionals (Martin et al., 1999) and to ensure continuity of care (Cradock, Young & Sullivan, 2001; Martin et al.; Morrissey-Ross, 1988). However it does have other roles. It is used to establish quality of care (Cradock et al.; Martin et al.; Morrissey-Ross). Documentation must provide evidence of the care received and the client's response to the care (Iyer & Camp, 1991). Quality of care relies on accurate and timely documentation in the patient record (Morrissey-Ross). Documentation may be subject to audit against standards to establish whether quality care was given (Martin et al.) or may help establish the truth in an inquiry (Burgess, 1999). Negligence may be established on the grounds of a lack of documentation (Morrissey-Ross).

Quality of Documentation

Several research projects have looked at nursing documentation and whether what was written reflected the care given. These included documentation that did not reflect the care given (Davis, Billings & Ryland, 1994; Ehnfors & Smedby, 1993; Griffiths & Hutchings, 1999; Hale, Thomas, Bond & Todd, 1997), written evidence of an assessment was missing (Fox-Ungar, Newell & Guilbault, 1989; Hansebo, Kihlgren & Ljunggren, 1999; Miller & Pastorino, 1990), interventions were not noted (Davis et al.; Ehnfors & Smedby; Scoates, Fishman & McAdam, 1996) and poor compliance with documenting evaluation of care given (Briggs & Dean, 1998; Davis et al.; Ehnfors & Smedby; Griffiths & Hutchings; Hansebo et al.; Martin et al., 1999; Menenberg, 1995;

Miller & Pastorino). These studies have found that documented evidence of the nursing process was missing. Nursing documentation should reflect this process.

Several researchers commented on the absence of structure (Wheeland, 1993) and reflection of this logical process in the nurses' documentation (Davis et al., 1994; Hansebo et al., 1999; Miller & Pastorino, 1990; Nilsson & Willman, 2000). The quality of nursing documentation was found to be sparse and lacking depth (Ehnfors & Smedby, 1993; Nilsson & Willman) or to be just a description of events (Briggs & Dean, 1998). As Heartfield (1996) says, "Of all the nursing observations and actions, only fragments are documented" (p. 101). It was described as generalised (Wheeland), missing key points (Langel, Brewer & Olszewski, 1991; Menenberg, 1995; Wheeland), imprecise (Weeks & Darrah, 1985) and inconsistent (Menenberg; Miller & Pastorino). Ehnfors and Smedby concluded in their Swedish study that the nursing records they researched were found wanting from both a legal and professional viewpoint.

It has been suggested that nurses do not document issues important to the client (Briggs & Dean, 1998) or show the client's true health status (Miller & Pastorino, 1990; Scoates et al., 1996). Also, evidence of individualised care has been shown to be lacking in nursing documentation (Davis et al., 1994). One report found that nurses interpret a situation differently from the client and often document the nurse's view instead of the client's (Briggs & Dean).

Why Nurses do not Document

The issue of why nurses do not document has been the subject of several research projects. Lack of time to document has often been cited (Allen, 1998; Edelstein, 1990; Howse & Bailey, 1992; Scoates et al., 1996; Tapp, 1990). An interesting finding by both Howse and Bailey, and Tapp, was the relevance of peer work group values to the amount and quality of documentation. Minimal charting may be a group norm (Howse & Bailey) or at the least influenced by group norms (Tapp). Renfoe, O'Sullivan and McGee (1990) found that the social pressure placed on nurses to complete nursing documentation came from nursing administration. The use of nurses' documentation for management purposes causes conflict and ambivalence that may result in inadequate documentation (Allen). Heartfield (1996) believed that a resistance strategy used by nurses was for their voice to disappear in the records. Parker

and Gardner (1992) also noted the silencing of their voices. Both Allen and Heartfield thought that the use of nursing records by a variety of people causes resistance to documentation.

Nurses' attitude to documentation (Edelstein, 1990) and knowledge of the reasons for documentation (Bernick & Richards, 1994; Edelstein) have been questioned. The reliance on verbal interactions as opposed to the written record was also cited as a reason why nurses do not document (Allen, 1998; Howse & Bailey, 1992). Often what is passed on verbally nurse to nurse is not written down (Kennedy, 1999). Fragmented charting systems, lack of access to charts when they were needed, ward disruption or busyness (Howse & Bailey; Tapp, 1990) and a belief that nurses' documentation was not valued (Howse & Bailey) were other reasons found why nurses resist documentation.

Prn Medication Administration

On reviewing the literature, the percentage of clients receiving prn medication varied considerably. McLaren, Browne and Taylor (1990) found that approximately 50% of clients received prn medication (p. 732). Walker (1991) found up to 70% of clients received prn medication (p. 3). Approximately 50% was the finding by Fishel et al. (1994, p. 29) and Craig and Bracken (1995) found only 22.9% had one or more prn medication administrations (p. 59). The lowest percentage found was by McKenzie, Kudinoff, Benson and Archillingham (1999) who noted that nearly 15% of clients were administered at least one prn dose (p. 190). Later studies by Usher et al. (2001), and Curtis and Capp (2003) found that 63% (p. 385) and 79.6% (p. 231) of clients respectively had prn medication administered.

Similarly research has found varying rates of administration both by time and by nursing shift. McKenzie et al. (1999) found that 40.9% of prn medication was administered by nurses working night shift, 27.6% by nurses working day shift and 30.6% by nurses working afternoon shift (p. 190). Craven, Voore and Voineskos (1987) also found that most of the prn medication, 55%, was administered by nurses working at night (p. 201). Although they found a similar percentage as McKenzie et al. was administered by nurses working during the day, 28%, they found a lower amount, 17%, administered by those nurses working in the afternoon (p. 201). Fishel et al. (1994)

found that nurses administered 51% of the prn medication during the afternoon, 26% during the day and only 23% during the night (p. 30). A study in 2003 by Curtis and Capp found a more even distribution of prn administration by nurses with 33% during the night, 39% during the day and 25% during the afternoon (p. 232). One of the difficulties in comparing these findings is that in some, shift times were not given or when they were, there were often different starting and finishing times between the various nursing shifts. None of the above analysed the documentation practices between the nursing shifts.

Patterns of administration of prn medication have been found over a 24-hour period. Gray, Smedley and Thomas (1996) found peaks of prn medication administration at 0900 hours, 1300 hours, 1800 hours and 2200 hours (p. 1319). They found these peaks matched the regular medication administration times where they conducted their study. A similar finding by McLaren et al. (1990) found that approximately 50% of prn medication were given at meal times and regular medication times (p. 734). Usher et al. (2001) found that 54.1% of the medication was administered between 2000 hours and 2400 hours (p. 386). Curtis and Capp (2003) found a smaller percentage during the same hours in a later study with a finding of 35% being administered (p. 232).

Prn Medication Documentation

The literature revealed reports that cited nursing documentation errors related to prn medication administration. Although not specifically researching nursing documentation related to prn medication administration, some of the studies reported various levels of a lack of a documented reason for administration or a documented outcome (see Table 1). The last four in Table 1, which all found a high incidence of no documented outcome, were recent Australian studies. Further errors reported were of prn medication given for something other than it was prescribed for (Craven et al., 1987), prn medication administered when not prescribed (McKenzie et al., 1999), and route of administration not documented (Gray et al., 1996).

Documented evidence as to who initiated the prn medication was often missing but 'patient request' was documented at varying levels. Gray et al. (1996) found this in 19.8% of administrations (p. 1321); McLaren et al. (1990) in approximately 25% (p. 733); 15% by Curtis and Capp (2003, p. 232); 20% by McKenzie et al. (1999, p. 190)

Table 1 Summary of documentation errors by nurses

Author(s) and year	No documented reason for administration	Outcome of prn not documented
Mason & Dewolfe (1974)	11%	
Craven, Voore & Voineskos (1987)	9%	
Walker (1991)		55%
Fischel et al. (1994)	13%	43.2%
Craig & Bracken (1995)		8.8%
McKenzie, Kudonoff, Benson & Archillingham (1999)	31.6%	34%
Usher, Lindsay & Sellen (2001)	36.6%	55.2%
Geffen et al. (2002)	48%	64%
Curtis & Capp (2003)	9.1%	41.3%

and the highest 36.2% by Usher et al. (2001, p. 387). The studies by Usher et al. (2001), and Curtis and Capp (2003) found they were unable to decide who initiated the prn medication in 23.9% (p. 387) and 38.6% (p. 232) of the administrations respectively. The research indicated that often along with 'patient request' there was no documentary evidence of why the patient requested medication. Several of these authors questioned whether an assessment had ever been done before prn medication had been administered.

Gray et al. (1996) questioned not only documentation practices by nurses but also their actual practice. The authors expressed concern about the language used by nurses to describe reasons for administration and considered it vague. The absence of documentation, documentation errors and patient request as a reason for medication, has been reported and were all areas where nurses needed to improve (McKenzie et al., 1999). Usher et al. (2001) considered that documentation by nurses was substandard and further stated that the inadequate documentation limited the ability to accurately ascertain practice and decision making around prn administration. Geffen et al. (2002) commented on "brief and uninformative notes" (p.654), citing as an example "given PRN with good effect" (p.654). Geffen et al. considered that the reliability of the reported success rate in their research is questionable due to poor nursing documentation.

Of major concern was the inadequate documentation by nurses. As can be seen in Table 1 there is a recent high level of a lack of documentation in relation to reasons for administration and a documented outcome. Nurses' documentation in relation to prn medication administration has been shown at times to be inadequate. All of the studies mentioned were based on retrospective chart analysis. Retrospective analysis captures history, and is based on the assumption that what is written is accurate and honest. The findings may not be true today. Given also that sample sizes and populations were different, and that non-random sampling was used, results from any one study can neither be compared to another, nor be extrapolated to the whole population. None of the prn studies was specifically looking at nursing documentation practices and none were completed in New Zealand. When one considers the results found in the Australian studies reported here, and its proximity and similarity to New Zealand, it is prudent to study documentation practices in the area of prn medication administration in New Zealand.

Methodology

Theoretical Framework

This study has as its theoretical perspective, post-positivism. Its epistemological basis is modified objectivism. This view is that reality exists but can never be fully comprehended. Objectivity is an ideal that should be aimed for but cannot ever be achieved (Guba, 1990). The original positivist view was that the researcher was independent of that being researched and therefore could not influence the research (Clark, 1998). Post-positivism although requiring the same logical reasoning and precision as positivism acknowledges that data can be collected from things that are not directly perceived, such as interviews and questionnaires (Clark). The researcher is not seen as totally independent of the inquiry. Even research tools are influenced by the vagaries of human beings. Positivism also held the belief that the truth once found was a universal law and true for all time (Crotty, 1998; Phillips, 1990). Post-positivism does not view research findings as a truth for all time. It is a truth for now but may change in the future or under different circumstances (Clark). It is this theoretical perspective which lies behind the quantitative methodology employed here.

Method

The research is a non-experimental study and primarily exploratory and descriptive in nature. It was carried out at a forensic psychiatry clinic in a city in New Zealand. The method used was a retrospective chart audit of the nursing progress notes and medication charts. A documentation questionnaire was designed for data collection. As this is a descriptive study, no attempt is made to infer any causal relationships. A descriptive study was deemed appropriate at this stage as no previous research could be found relating to prn medication administration documentation practices by New Zealand mental health nurses.

Ethics

An application was made and permission received from the forensic psychiatry clinic and the local District Health Board (DHB) to carry out this research as a clinical audit. As it was deemed a clinical audit, no ethics approval was required.

Development of the Research Tool

To answer the research questions, a document questionnaire was required. The process of developing the questionnaire involved studying the policies of the DHB and forensic psychiatry clinic to elicit the requirements relating to documentation, including general requirements and those related to medicine administration and prn medicine administration. The process was repeated for the New Zealand Mental Health Sector Standards (Ministry of Health, 1997) and the Code of Conduct for Nurses and Midwives (New Zealand Nursing Council, 1999). A list of specific requirements was created (see Appendix A). From this list an initial document questionnaire was developed. Information was primarily sought by seeking the presence or absence of the items in the list.

In order to ascertain whether nurses' documentation reflected the nursing process further information was sought from the documentation. Information was sought on the presence or absence of documentation on assessment. The level of the assessment documented was graded on a 5-point Likert scale. Documentation that related to the planning stage of the nursing process was more difficult to establish criteria for inclusion. However several facets of the planning process by nurses, could be elicited from the medication chart and clinical progress notes. A prescription must be correctly written before a nurse can administer medication. Data was collected to ascertain whether the prescription was correct and whether nurses administered prn medication from these prescriptions. Nurses must not administer medication earlier than the frequency charted on the prescription. Data was collected to ascertain whether this occurred. Prn medication prescriptions must state the maximum frequency or allowable dose in 24-hours. Data was collected to ascertain whether this had occurred. A further test of planning was whether the medication was given for what it was prescribed. A documented rationale for choice of route and choice of dose, where the prescription allowed a choice of route or choice of dose, was also sought.

To determine whether the intervention was fully documented, information was sought in the clinical progress notes on the presence or absence of the time of administration, route (where there was a choice of route), dose and medication name.

Up to three consecutive nursing entries, following the documented administration of the prn medication, were read to elicit whether there was an outcome documented. This was to ensure that when prn medication was given near the end of a nursing shift, either of the next two shifts might have documented an outcome. The documented outcome was graded on a 4-point Likert scale.

The time of the prn administration was collected to enable a comparison of documentation between nursing shifts. The document questionnaire was refined using a small number of client files out-side of the proposed sample.

Validity and Reliability

Content validity refers to whether the instrument measures what it is supposed to be measuring (Harris, 1999). As the document questionnaire was a new tool it was appraised for content validity by two senior nurses, both with a Master of Nursing degree (with Honours). As a result of their appraisal, four questions were removed, two had the wording altered and the positioning of two further questions in the form was altered. The altered questionnaire was returned to the two nurses for a second appraisal and no further alterations were made (see Appendix B).

Reliability refers to whether the results are repeatable (Harris, 1999). The document questionnaire was completed on two occasions by the researcher with the same files from a sample outside of the research data and complete agreement was achieved. However it is possible the researcher recalled the results. A further data collection exercise using data outside of the sample was undertaken by the researcher and the two senior nurses mentioned above. The purpose was to test for inter-rater reliability. Although only the researcher was to collect data, it was considered that a further test on the reliability of the tool would be useful if the tool was to be used at a later date by the forensic psychiatry clinic. The inter-rater reliability coefficient was 0.956, which indicates high inter-rater reliability.

Sampling

The population, from which the sample was taken, was client files for admissions to the forensic psychiatry clinic, in the year 2002. The sample consisted of those files that had at least one dose of prn medication administered within the first four weeks of admission. An admission was deemed to be a person who had not had a prior

admission, or a person who had been discharged at least three months from a previous admission. The rationale for selecting the first four weeks of admission is that most prn is administered during the initial phase of hospitalisation (Fishel et al., 1994). As the number of prn medication administrations was unknown, a non-random method for data collection was used. Every dose of prn medication administered to this group in the first four weeks of admission was included for the purpose of data collection.

The medication charts were the starting-point for locating nursing documentation related to the prn medication administration. When a prn administration was located in the medication chart, the nursing entry was searched for in the clinical progress notes. The occurrence of the variables being measured differed depending on the variable being studied. Appendix C lists the variables and the rationale for the difference in the occurrence of these. In three instances no nursing notes were written. These were considered to be a negative finding for date, time, timeliness, signature, discipline, designation, nurse's name in capitals and client assessment. They were not counted for legibility or outcome but included for evidence of planning. Where no mention of prn medication administration was found, an assumption was made by the researcher that no outcome would be documented. These prn medication administrations were therefore excluded from the outcome variable along with the three with no notes.

Data Collection

Data was collected on-site and entered directly onto the Document Questionnaire by the researcher. The data was coded at the time of collection. It was manually transferred into an Excel Spreadsheet for statistical analysis.

Data Analysis

The data was analysed using descriptive statistics from within the Excel Spreadsheet. A small amount of numerical data is presented using means, modes, frequencies and percentages. Non-numerical data is presented as frequencies and percentages.

Definition of Term

Accuracy : Theoretical Definition: Factual, complete, nothing missing.

Operational Definition: Complete, nothing missing.

Results

Sample Characteristics

The number of admissions was 50. Four files could not be accessed. One was with another service and three were with psychiatrists and could not be accessed. Of the remaining 46 files, 27 (58.7%) had at least one prn administered in the first four weeks since the date of admission. These 27 files constituted the sample size.

From the sample of 27 files, 158 doses of prn medication were administered. These covered 45 different prescriptions. The most doses administered to any one client were 22 and the least 1. The mean was 5.85 doses, the median 3 doses and the mode 1. A little over 51% (n = 81) was administered in the first week, 22.15% (n = 35) in the second week, 17.72% (n = 28) in the third week and 8.86% (n = 14) in the fourth week. Twelve different medications were administered. The most prevalent was paracetamol (n = 37), followed by clonazepam (n = 24) and lorazepam (n = 22). Appendix D lists the medications administered and their frequency per week. From this it can be seen that four medications, paracetamol, clonazepam, lorazepam and 'Mylanta', followed the pattern of decreasing administrations over the four weeks. Appendix E lists the frequency of administration per time of day. As can be seen, over one third (n = 56) of the medication was administered between 2000 hours and 2359 hours. A little over 10% (n = 16) was administered between 0800 hours and 0859 hours and also 1600-1659 hours (n = 16). To answer all the questions data was collected from a maximum of 170 nursing entries.

Basic Documentation Requirements

The basic requirements of nursing documentation are that the date, time, and discipline are in the heading; that the entry is signed, name written in capitals and designation shown at the end; that the entry is written in permanent ink (black or blue only) and that the entry is legible. From 170 nursing entries, the date was written in the heading in 60% (n = 102) of the nursing entries. The time was written in 7.06% (n = 12) of the entries. However of the 170 entries, 29.41% (n = 50) had a range of times listed that the nurse was writing about and 0.59% (n = 1) had the time at the end. The discipline was in the heading in only 30% (n=51) of the entries. A signature at the end

was found in 94.12% (n = 160) of the entries. The author's name written in capital letters at the end of the nursing entry was present in 51.18% (n = 87) of the entries. The nurses designation at the end was present in 84.12% (n = 143) of the entries. Excluding the three entries for which there were no notes written, all the nursing entries except three were written in permanent black or blue pen (n = 167) and the percentage of nursing entries with all words legible on the first reading was 83.23% (n = 139). Only one entry had all the eight basic requirements present. Table 2 shows that just over 27% had four or less basic requirements present.

Table 2 Basic requirements present in nursing entries

Number of basic items present	Number of nursing entries (N = 170)	Percentage	Cumulative frequency	Cumulative percentage frequency
All missing	3	1.76%	3	1.76%
One present	1	0.59%	4	2.35%
Two present	3	1.76%	7	4.12%
Three present	11	6.47%	18	10.59%
Four present	28	16.47%	46	27.06%
Five present	53	31.18%	99	58.24%
Six present	54	31.76%	153	90.00%
Seven present	16	9.41%	169	99.41%
All present	1	0.59%	170	100.00%

The DHB policy states that where a Health Assistant (HA) writes an entry it must be countersigned by a Registered Nurse (RN). Nearly 16% (n = 26) of the nursing entries could be identified as written by a HA. A RN countersigned none of these.

A further requirement of the DHB is that the documentation follows a logical pattern. This was taken to mean that the documentation followed a pattern of assessment, planning, intervention and documented outcome (if this was present). Excluding the 75 entries for which no reference to prn was found in the nursing notes, only 27.71% (n = 23) were deemed to follow a logical pattern.

Assessment documentation requirements

In documenting prn administration, the nursing documentation should include evidence of an assessment of the client prior to administration. For the purposes of this

research nursing documentation on assessment was categorised to five levels (Table 3). The first three categories show no evidence of an assessment ever being carried out.

Table 3 Categories of Assessment

Category	Definition
1	No documentation in clinical progress notes that prn medication had been administered
2	Documentation found in clinical progress notes that stated that prn medication had been administered but did not mention why and/or the dose and/or the time.
3	Documentation found that stated the symptoms and possibly the dose and/or time.
4	Documentation found with some evidence of presenting symptoms and some evidence of assessment
5	A comprehensive assessment was found.

Table 4 details the frequency of documented evidence of assessment. Just over 15% (n = 24) of the nursing entries had any documented evidence of an assessment being carried out (Category 4 and 5). Approximately 50% (n = 75) made no mention at all that prn medication had been administered. The frequency of documented evidence of assessment prior to administration per medication is detailed in Appendix F. It was found that non-psychotropic medications had the highest incidence of not documenting prn administration. Table 5 shows clearly that five medications had no documented evidence of assessment at all prior to administration.

Of the 158 (N) nursing entries relating to assessments, 72.78% (n = 115) were written by RN's, 4.43% (n = 7) by Enrolled Nurses, 16.46% (n = 26) by HAs. Approximately 6.00% had no designation (n = 7) or no nursing note (n = 3) and it could not be determined which rank wrote the notes. Appendix G details the cumulative frequency of the documented level of assessment per nursing rank and it was found that HAs had the highest level of not documenting prn administration at all (65.38%) followed by RN's (44.35%).

There were 91 prn medication administrations of prescription only drugs. The assessment documentation for these administrations were written 71.43% (n = 65) of the time by RNs, 3.30% (n = 3) by ENs, 17.58% (n = 16) by HAs and 7.69% (n = 7) by

Table 4 Frequency of documented evidence of assessment

Level of assessment documented	Number of nursing entries (N = 158)	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	75	47.47%	75	47.47%
2. Documented that prn was administered only	22	13.92%	97	61.39%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	37	23.42%	134	84.81%
4. Some evidence of assessment	13	8.23%	147	93.04%
5. Comprehensive assessment documented	11	6.96%	158	100%

Table 5 No documented evidence of assessment per medication

Medication	Number of nursing entries (n)	Total administrations (N)	Percentage of N
Benztropine	7	(8)	85.5%
Chlorpromazine	8	(11)	72.73%
Clonazepam	18	(24)	75.00%
Haloperidol	0	(1)	0.00%
Zopiclone	15	(15)	100.00%
Lactulose	7	(7)	100.00%
Lorazepam	13	(22)	59.09%
Mylanta	15	(17)	88.24%
Panadeine ¹	13	(13)	100.00%
Paracetamol	35	(37)	94.59%
Salbutamol Inhaler	2	(2)	100.00%
Voltaren	1	(1)	100.00%
Total	134	(158)	84.81%

1. 8mg codeine phosphate & paracetamol 500mg

those of unknown rank. Of the 67 prn administrations that are non-prescription medications but must be prescribed within the forensic psychiatry clinic, 74.63% (n = 50) of the assessment documentation was written by RNs, 5.97% (n = 4) by ENs, 14.93% (n = 10) by HAs and 4.48% (n = 3) by those of unknown nursing rank.

When the medications are divided into prescription and non-prescription medications (see Appendix H), non-prescription medications had a much higher incidence of no record of administration in the nursing notes (approximately 75%) compared to prescription medications (approximately 27%). Only 20.88% (n = 20) of the prescription medications had any evidence of an assessment. However this is much higher than the non-prescription medications where 5.95% (n = 4) had any documented evidence of an assessment.

The documentation indicated that 20.89% (n = 33) of the doses of prn medication were administered either after the client requested medication or complained of symptoms. Of these, 81.82% (n = 27) had no evidence of assessment. Where RNs had written the documentation related to client request or client complaint of symptoms, no evidence of an assessment was documented in 84% (n = 25) of their entries. For ENs 100% (n = 3) had no documented assessment. Conversely, where the documentation indicated that the prn medication had been administered after an observation by a RN (N = 21), evidence of an assessment was found in 71.43% (n = 15) of these entries. Just over 62% (n = 98) of the entries did not indicate whether the client had requested the medication or whether some behaviour or symptoms were observed by a nurse or someone else. In these 98 entries, there was no evidence of an assessment at all.

Planning Document Requirements

Of the 45 prescriptions, 73.33% (n = 33) did not state one or more of the following, the frequency that the dose could be administered, the maximum dose in 24 hours or the indication for the medication or were missing two or more of these items. The frequency of administration was missing from 22 prescriptions; the maximum dose in 24 hours was missing in nine prescriptions and the indication was missing in 13 prescriptions. Only 26.67% (n = 12) of the prescriptions had all three items present. Seventy-four (46.84%) doses of the total prn medication (n = 158) were administered from the prescriptions with one or more of the above items missing.

Fifty doses of prn medication were administered from prescriptions with the time interval (for example, 4 hourly) or frequency (for example, twice a day) not stated (See Table II, Appendix I). This involved seven medications. Twenty-two doses of lorazepam were administered from seven different prescriptions that did not have the frequency prescribed. There were also 12 prn medication administrations from five different prescriptions for clonazepam that did not have the frequency stated. In only one instance, when a frequency was stated, was the prn medication administered earlier than the frequency prescribed.

Fifteen doses of prn medication were administered from prescriptions with the maximum dose in 24 hours not stated (See Table I2, Appendix I). This involved 9 different medications. Five of the prn administrations were from one prescription for chlorpromazine. Of the prescriptions with a maximum dose in 24 hours stated, 143 doses of medication were administered. In no instance did administering the prn medication from these prescriptions exceed the maximum amount allowed in 24 hours where this was prescribed.

Thirteen prescriptions had no indication for administration. Seventy-four doses of prn medication were administered from these prescriptions (see table I3, Appendix I). Thirty-one of these administrations were for paracetamol. Of the 84 (N) doses of prn medication given from prescriptions with the indication prescribed, 39.26% (n = 33) had documentation indicating that the medication was given for what it was prescribed, whilst 23.81% (n = 20) of the nursing documentation indicated the medication was administered for reasons other than that prescribed. The remaining 36.90% (n = 31) of the nursing entries did not mention at all why the medication was administered.

All the prescriptions stated a route. A choice of route was prescribed in 28.89% (n = 13) of the prescriptions. Forty-five prn doses of medication were administered from these 13 prescriptions. Where a choice of route was prescribed, no rationale for a choice of route was found in 97.78% (n = 44) of the nursing entries. Of the 45 prescriptions, 28.89% (n=13) allowed a choice of dose. Forty-five doses of prn medication were administered from these 13 prescriptions. Of these, none (n = 45) had a rationale for choice of dose.

Intervention Document Requirements

Of the total prn administrations (N = 158) the nursing notes mentioned what drug had been administered in 50.63% (n = 80) of the entries. The dose which was administered appeared in nursing documentation 41.77% (n = 66) of the time. However only 6.33% (n = 10) of nursing documentation stated the route. The time of the prn administration is documented in the nursing notes 34.18% (n = 54) of the time. In these 54 entries the time written in the clinical notes by the nurses agreed with that written in the medication-recording chart 30 times (55.56%).

The DHB policy states that the Health Professional involved in the care or treatment of the client should make entries in the clinical record after each interaction or before the end of a nursing shift. Therefore the RN who administers the prn medication has a duty to document its administration. Of the 158 prn medication administrations it was possible to identify 43.67% (n = 69) as having the nursing notes written by the same RN who administered it. A further 42.40% (n = 67) were definitely not written by the nurse who administered the prn medication. A different RN wrote 34 of these 67 administrations and seven were written by an EN. For the remainder of the administrations, 14.92% (n = 22), it was impossible to determine whether the notes were written by the same nurse who administered the medication. However an RN wrote 12 of these 22 notes. In total 26 notes were written by HAs.

Outcome or Evaluation Document Requirements

As 47.47% (n = 75) of the 158 prn medication administrations had no mention of the medication being administered, they were excluded from the variable count for outcome measurements. The variable size for outcome measurement is therefore 83. Four categories of outcome were measured (Table 6). The results are detailed in Table 7. Nearly 60% had no outcome documented. When the documented outcome per medication was analysed (see Appendix J), it was found that not one of the non-prescription medications had a comprehensive documented outcome. It was also found that of the prescription medications nearly half of the clonazepam and approximately 83% of the zopiclone had no evidence of a documented outcome.

Table 6 Categories of outcome

Category	Description
1	A complete absence of any documented evidence of the beneficence or otherwise of the prn administration.
2	Documentation referred only to prn being beneficial or not but no specific details as to how this information was obtained.
3	Documentation had mention of specific symptoms abating or not, <u>or</u> reference to the client being asked whether the prn was beneficial or not.
4	There was a comprehensive assessment of the beneficence or not of the prn <u>and</u> included documentation that the client's view of prn had been obtained.

Table 7 Frequency of documented evidence of outcome

Level of outcome documented	Number of nursing entries (N = 83)	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	48	57.83%	48	57.83%
Documentation indicated prn was effective	19	22.89%	67	80.72%
Specifically mentions symptoms abating	10	12.05%	77	92.77%
Comprehensive outcome documented	6	7.23%	83	100.00%

Of the 35 (N) nursing entries that had a documented outcome, 85.71% (n = 30) were written by RNs, 2.86% (n = 1) by ENs, 2.86% (n = 1) by HAs and 8.57% (n = 3) by those of an unknown rank. The level of documented outcome per nursing rank is detailed in Appendix K. The main finding was that those nursing entries that had a comprehensive outcome documented were all written by RNs. Of the 35 (N) nursing entries that had a documented outcome, 85.71% (n = 30) were written by RNs, 2.86% (n = 1) by ENs, 2.86% (n = 1) by HAs and 8.57% (n = 3) by those of an unknown rank.

A requirement of all the standards, policies and codes is that the documentation is accurate. Not one entry was found to meet the documentation requirements and therefore none met the criteria for accuracy. The above are the results from questions related to meeting the requirements of the DHB and forensic psychiatry clinic policies, New Zealand Mental Health Sector Standards (Ministry of Health, 1997) and the Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999). It is also the results of whether nurses' documentation follows the nursing process in relation to prn medication administration. It is found by the above results that not one nursing entry fully met the documentation requirements of the policies and standards and that the documentation did not follow the nursing process.

Nursing Shift Documentation Differences

The results from the differences in nursing documentation between the nursing shifts are presented below. Nursing staff administered 35.44% (n = 56) of the medication during the day shift, 56.96% (n = 90) during the afternoon shift and 7.59% (n = 12) during the evening shift. As detailed in Appendix L, paracetamol was the most frequent medication administered by day-shift nurses and it was a close second to clonazepam as the most frequent medication administered by the afternoon shift nurses.

Of the 170 nursing entries from which data was collected, 7.06% (n = 12) was written by staff on night shift, 35.29% (n = 60) by day nursing staff and 57.65% (n = 98) by staff on afternoon shift. The presence of the eight basic requirements per nursing shift is detailed in Table 8. The most obvious element missing in Table 8 is the time in the heading by night shift nursing staff. However they were the only shift to have all their entries signed at the end.

Of the 26 entries written by HAs 11.54% (n = 3) were written on the night shift, 23.08% (n = 6) were written on the day shift and 65.38% (n = 17) were written on the night shift. As per the earlier finding, none were countersigned by RNs. Twenty-two day shift nursing entries were considered for following a logical pattern. Of these 22, 27.27% (n = 6) were considered to follow a logical pattern. Of the 53 afternoon shift nursing entries, 28.30% (n = 15) followed a logical pattern. Whilst from the eight night shift entries, 25.00% (n = 2) were deemed to follow a logical pattern.

Table 8 Basic requirements per nursing shift

Variable	Night Shift (N = 12)		Day shift (N= 60)		Afternoon shift (N = 98)	
	%	n	%)	n	%	n
Date in heading	75.00	9	58.33%	35	59.18%	58
Discipline in heading	25.00%	3	35.00%	21	27.55%	27
Time in heading	0.00%	0	5.00%	2	9.18%	9
Signature at end	100%	12	88.33%	53	96.94%	95
Designation at end	75%	9	86.67%	52	83.67%	82
Name in capitals at end	41.67%	5	43.33%	26	57.14%	56
	(N = 12)		(N = 57)		(N = 98)	
Legible	75.00%	9	84.21%	48	83.67%	82
Permanent blue or black ink	91.67%	11	98.25%	56	98.98%	97

Note. The figures for legibility and written in permanent blue or black ink exclude the three entries for which there were no notes. These should all have appeared on the day shift nursing notes.

Assessment documentation per nursing shift.

The documented level of assessment per nursing shift is detailed in Appendix M. It was found that nursing staff on day shift in this study was less likely to document any reference to prn medication being administered (60.71%) than the other two shifts (41.11% afternoon shift, 33.33% night shift). However, overall there is little difference between the shifts as to whether an assessment was done or not.

When these figures are split into prescription and non-prescription medications (see Appendix N), it was found that nurses on day shift were less likely to have any reference to prn medication being administered for prescription medications than nurses on the other two shifts (44.00% day shift, 20.69% afternoon shift, 25% night shift). For non-prescription medications, both nurses on day shift and nurses on afternoon shift were found to be highly unlikely to have any documentation referring to prn medication being administered (77.42% day shift, 75.00% afternoon shift, and 50.00% night shift).

When the first three levels of the assessment data was collapsed to indicate either no assessment being documented at all or the presence of some form of documented assessment, all showed a high level of non-assessment for prescription

medications. However these figures were much higher for all nursing shifts when non-prescription medications were considered. These findings are detailed in Table 9.

Table 9 No documented assessment per prescription/non-prescription medications per nursing shift

Nursing Shift	Prescription Medications		Non-prescription Medications	
	n	%	n	%
Day Shift	20	80.00%	30	96.77%
Afternoon Shift	43	74.14%	29	90.63%
Night Shift	7	87.50%	4	100%

When the prn medication administrations were analysed for assessment documentation, by nursing shift per medication, (see Appendix O), it was found that of all the prn doses of zopiclone administered by the afternoon shift nursing staff (n = 13), not one had any documented evidence of assessment. Most administrations had however been documented as being given. For day shift and afternoon shift no mention in the clinical notes was found for the prn administration of lactulose. Of the 13 doses of Panadeine administered, the day shift nursing notes had no reference to it being administered at all (n = 5) whilst the afternoon shift nursing notes did not have any documentary evidence in 75% (n = 6) of their documentation. Paracetamol, the most frequently administered prn medication, had no documented evidence of it being administered in 58.82% (n = 10) of the day shift nursing notes, 76.47% (n = 13) of the afternoon shift nursing notes and 33.33% (n = 1) of the night shift nursing notes.

As detailed in Table 10 the documented (or undocumented) source of the information between the nursing staff on the three shifts did not differ greatly. Staff on all three shifts had a high incidence of not documenting the source of their information. However of the 12 doses of prn medication documented by nurses on day shift, where the client had requested medication or complained of symptoms, not one of the nursing entries revealed any form of assessment. Although there was mention of the medication being given in all instances. Of these 12 administrations, 70% (n = 7) were for paracetamol. Similarly staff working on the afternoon shift had all the prn medication administrations documented in the clinical notes when the client had requested prn medication. The nursing notes of the staff working the afternoon shift documented some form of assessment 26.31% (n = 5) of the time. The most frequent medication

administered by nurses after a client request on the afternoon shift was clonazepam (n = 5). Only two of the 12 administrations by staff working night shift were by client

Table 10 Source of information as documented by nursing staff

Source of Information	Day Shift		Afternoon Shift		Night Shift	
	n	%	n	%	n	%
Client Request	12	21.43%	19	21.11%	2	16.67%
Nurse Observed or Doctor ordered	6	10.71%	17	18.89%	1	8.33%
Source Undocumented	38	67.86%	54	60.00%	9	75.00%
Total (N)	56	100.00%	90	100.00%	12	100.00%

request. One of these had an assessment and the other mentioned that prn had been given. Both were for paracetamol.

For six of the prn medications administered by nurses on day shift, it was possible from the nursing documentation to establish that the nurse had observed the behaviour or symptoms, or been advised to administer the prn medication after consultation with a doctor. Five of these entries had some form of documented assessment, with four deemed to be comprehensive. The one dose of prn medication administered by nurses on night shift, documented as Doctor ordered, had a comprehensive assessment.

A high proportion of nurses, across all three nursing shifts, did not document the source of their information. Of the administrations by nurses working day shift, 89.47% (n = 34) had no mention of both the prn being administered at all in the nursing notes and no source documented. The two most frequent prn medications given without the source of the information being documented and no documentary evidence of their being administered were paracetamol (n = 9) and 'Mylanta' (n = 9). The nursing

documentation by those on the afternoon shift did not state a source of the information in 60% (n = 54) of the administrations and 68.52% (n = 37) of these had no documentary evidence that prn had been administered at all. Thirteen of these administrations, without documentation in the clinical notes indicating it had been administered, were for paracetamol. Twelve doses of zopiclone administered by staff on the afternoon shift had no evidence of assessment.

Planning documentation per nursing shift.

Of the 50 doses of prn medication administered from prescriptions without a stated frequency, nurses on the day shift administered 18; 26 by nurses on the afternoon shift and 6 were administered by nurses on the night shift. Nearly half (n = 7) of the doses of medication administered by nurses working on the day shift were from prescriptions for lorazepam where the frequency was not stated on the prescription. Similar results were found for nurses working on the afternoon and night shift with 50% of the prn medication administered being lorazepam (Afternoon, n = 13; Night, n = 3). The one dose of prn medication that was administered by a nurse earlier than the prescribed frequency occurred on the afternoon shift and was for paracetamol.

Of the 15 doses of prn medication administered from prescriptions without the maximum dose in 24 hours shown, 2 were administered by nurses on night shift, 8 by nurses on day shift and 5 by nurses on afternoon shift. No administration exceeded the maximum dose in 24 hours where this was stated on the prescription.

Of the 74 doses of prn medication administered from prescriptions without a stated indication, a little over 36% (n = 27) were administered by nurses on day shift, 56.76% by nurses on afternoon shift and 6.76% (n = 5) by nurses on night shift. Of the 84 doses of prn medication administered from those prescriptions with a stated indication, 34.52% (n = 29) were administered by nurses working day shift, 57.14% (n = 48) by nurses working afternoon shift and 8.33% (n = 7) by nurses working night shift. As can be seen in Table 11, over half of the nursing notes completed by the staff working day shift did not state why the medication was administered, even though the prescription had an indication. Over one-third of prn medication administrations by staff working the afternoon and night shift were not given for what they were prescribed.

The 10 nursing entries that stated a route were written by day shift nursing staff on 3 occasions, 6 times by afternoon nursing staff and once by night shift nursing staff. As a percentage of all administrations per nursing shift, the nurses on day shift

Table 11 Nursing shift comparison of prn medication being administered for what it was prescribed.

Nursing Shift	Medication was given for what it was prescribed		Medication not given for what it was prescribed		Not stated why medication administered		Total N
	n	% of N	n	% of N	n	% of N	
Night shift	2	28.57%	3	42.86%	2	28.57%	7
Day shift	12	41.38%	1	3.45%	16	55.17%	29
Afternoon shift	19	39.58%	16	33.33%	13	27.08%	48
Total	33	39.29%	20	23.81%	31	36.90%	84

documented the route 5.36% of the time, nurses on afternoon shift 6.67% and nurses on night shift 8.33%. Of the 45 doses of prn medication administered where the prescription allowed a choice of route, only one entry was found that provided a rationale for the choice of route. This entry was written by day shift nursing staff. Of the nursing entries that did not state a rationale for the choice of route (N = 44), 29.55% (n = 13) were written by nurses on day shift, 65.91% (n = 28) by nurses on afternoon shift and 6.82% (n = 3) by nurses on night shift.

Forty-five doses of prn medication were administered from prescriptions that allowed a choice of dose. Twelve of these medication administrations were by nurses on day shift, 28 by nurses on afternoon shift and five by nurses on night shift. In no instance did the nursing documentation indicate the rationale for the choice of dose. No nursing shift administered medication that exceeded the 24 hour maximum where this was stated on the prescription.

Intervention documentation per nursing shift.

As stated earlier, less than half the nursing entries had the dose administered documented in the nursing notes. The notes from nurses working day shift documented the dose 32.14% (n = 18) of the time, nurses on afternoon shift 45.56% (n = 41) and nurses on night shift 58.33% (n = 7). Only 50.63% (n = 80) nursing entries documented the name of the prn medication administered. Notes written by nurses working day shift documented the name of the medication in only 39.29% (n = 29) of their entries. Whilst

the nurses working afternoon shift documented the name of the medication 56.67% (n = 51) of the time and nurses working night shift had a similar percentage, 58.33% (n = 7).

A little over 41% (n = 66) of the nursing notes had the dose administered documented. This represented 32.14% (n = 18) of the notes written by nurses on day shift, 45.56% (n = 41) of notes written by nurses working the afternoon shift and 58.33% (n = 7) of the notes written by nurses working the night shift. The time of administration was documented in the nursing notes only 34.18% (n = 54) times. Approximately 27% (n = 15) of these were written by nurses working on day shift, 36.76% (n = 33) by nurses working on the afternoon shift and 50.00% (n = 6) by nurses working the night shift.

Approximately 60% (n = 34) of all nursing notes written by nurses on the day shift had no mention that any prn medication was administered. Of these three had no nursing notes written at all for the entire nursing shift. Just over 41% (n = 37) of nursing notes written by staff working on the afternoon shift had no mention of any prn medication being administered and a little over 33% (n = 4) of nursing notes written by those working the night shift had no mention of prn medication being administered. Just over 10% (n = 16) of all medications administered occurred between 08:00 and 09:00 hours, yet nearly 94% (n = 15) of these administrations were not documented by nursing staff on the day shift. Similarly slightly more than 6% (n = 10) of all medications were given between 20:00 and 20:59 hours and 80% (n = 8) of these were not documented by the nursing staff on the afternoon shift.

The percentage of medications per shift for which there was no documented evidence in the nursing notes of the medication having been administered are detailed in Table 12. It was found that the highest incidence of non-documentation occurs with non-psychotropic drugs by both the day and afternoon nursing staff.

From the day shift nursing notes, it was possible to ascertain that the RN who administered the prn medication wrote the nursing notes in 41.07% (n = 23, N = 56) of the administrations. From nursing notes written by staff on the afternoon shift, it could be ascertained that the RN who administered the prn medication wrote the nursing notes

in 42.22% (n = 38, N = 90) of the administrations. Whilst for notes written by staff on night shift, it occurred in 66.67% (n = 8, N = 12) of the prn medication administrations.

Table 12 Medications administered per nursing shift with no documented evidence of administration in the nursing notes

Medication	Day shift		Afternoon shift		Night shift	
	n	%	n	%	n	%
Benztropine	1	33.00%	2	40.00%	-	-
Chlorpromazine	1	20.00%	1	25.00%	1	50.00%
Clonazepam	1	25.00%	1	5.26%	-	-
Haloperidol	-	-	-	-	-	-
Zopiclone	-	-	2	15.38%	1	50.00%
Lactulose	3	75.00%	3	100.00%	-	-
Lorazepam	2	28.57%	3	25.00%	-	-
Mylanta	9	100.00%	5	71.43%	1	100.00%
Panadeine	5	100.00%	6	75.00%	-	-
Paracetamol	10	58.82%	13	76.47%	1	33.33%
Salbutamol Inhaler	2	100.00%	-	-	-	-
Voltaren	-	-	1	100.00%	-	-
Total	34	60.71%	37	41.11%	4	33.33%

Outcome documentation per nursing shift.

From the sample of 83 nursing entries from which data relating to outcome was collected, 22 were for prn medication administered by staff on day shift, 53 by staff on afternoon shift and 8 by staff on night shift. Only 8 (36.36%) of the 22 administered by staff on day shift had evidence of a documented outcome written by nursing staff on day shift. A further 3 (13.64%) of these 22 had a documented outcome written by the staff on the afternoon shift. Therefore the total of the prn medication administered by the staff on day shift for which an outcome was documented was 11 (50.00%).

Twenty (37.74%) of the 53 doses of prn medication administered by afternoon shift nurses had evidence of a documented outcome written by nursing staff on the afternoon shift. A further one (1.89%) of these 53 had a documented outcome written by the nurse on day shift the next day. Therefore the total of the prn medication administered by the staff on afternoon shift for which an outcome was documented was 21(39.62%). Two (25.00%) of the eight doses of prn medication administered by staff working on night shift had evidence of a documented outcome written by nursing staff

on the afternoon shift. A further one (12.50%) of these eight had a documented outcome written by staff on the day shift the next day. This made a total of three (37.50%) of the prn medications administered by staff on the night shift with a documented outcome either on that nursing shift or another. In total staff on day shift wrote 10 outcomes, staff on afternoon shift 23, and staff on night shift 2.

It was found that 58.83% (n = 48) of the 83 prn medication administrations under consideration for a documented outcome, had no outcome documented. When the time of administration per nursing shift was investigated in relation to a documented outcome, the following was found. Staff administered eighteen doses of prn medication on the day shift two hours or earlier before the end of the nursing shift. Of these, 55.56% (n = 10) had no documented outcome written by day shift nursing staff or any other nursing shift. For afternoon shift 41 doses of prn medication were administered by staff two hours or earlier before the end of the nursing shift. Of these, 58.54% (n = 24) had no documented outcome written by afternoon shift nursing staff or any other nursing shift staff. For night shift eight doses of prn medication were administered by staff two hours or earlier before the end of the nursing shift. Of these, 62.50% (n = 5) had no documented outcome written by night shift nursing staff or any other nursing shift.

The quality of the documented outcome written by the nursing staff on the various shifts is detailed in Appendix P. It was found that approximately half of the outcome documentation on each nursing shift stated that prn was “given with good effect.” Staff on the afternoon shift was more likely to write a comprehensive outcome (26.09%) than staff on the day shift (10.00%).

As mentioned earlier, not one nursing entry on any shift was complete. Therefore no nursing entry on any shift met the criteria for accuracy.

Discussion

Documentation is deemed to be a reflection of nursing practice. A lack of documentation reflecting the quality of the care received may be grounds for negligence (Morrissey-Ross, 1988). Although the purpose of this project was only to describe nursing documentation, the results have led to questions about nursing practice during prn medication administration and the care received. That not one nursing entry fulfilled the documentation requirements of the DHB, local forensic psychiatry clinic, New Zealand Mental Health Sector Standards (Ministry of Health, 1997) or the Code of Conduct for Nurses and Midwives (Nursing Council of New Zealand, 1999) is of concern. It is a further concern that nearly 50% of the nursing entries did not document that prn medication was administered at all. One of the purposes of documentation is to inform other nurses and clinical personnel. It is clear from this finding that other personnel would be uninformed in these instances and the care of the client may be compromised by missing information.

The finding that approximately 62% (this includes the 50% with no documentation) did not state a reason for administration was the highest among the research found. Such entries as “door opened and given prn” or more simply just “given prn” are grossly inadequate. It is difficult to ascertain why this figure should be so high. Is it related to HAs writing notes? It was found that HAs had the highest level of not documenting prn administration at all ($\approx 66\%$) but RNs were not far behind ($\approx 45\%$). The question that needs to be asked here is why HAs are documenting prn administrations at all. The DHB policy is very clear that the nurse involved in the care of the client is responsible for documenting the care provided. At the time of administering prn medication the RN who administered it must be considered the one responsible for the client’s care at this point in time. Therefore HAs should not, under any circumstances, be writing documentation related to the administration of prn medication. However this does not excuse the finding that approximately 45% of RNs did not document prn medication in the clinical notes.

There was an anomaly between non-prescription medications and prescription medications with regards to no documentation in the clinical notes. Approximately 42%

of the medications administered were non-prescription medicines, yet 75% of these were lacking any documentation in the clinical notes indicating that they had been administered. Conversely only about 25% of prescription medications were missing documentation. This raises questions about nurses' knowledge of medications and its effects. Do they devalue non-prescription medication because it is available "over the counter?" Do they not view these medications as having the potential to be as dangerous as prescription medications? Paracetamol was the most frequently administered medication. It has the potential to cause damage to the liver with overdose (Adis International, 2003), yet approximately 65% of its administration were not documented.

Written evidence in the clinical notes of assessment of the client prior to prn medication administration is essential. Lack of this evidence inhibits communication about the client's care and even brings into question the care given. That just over 15% of the prn medication administrations had any evidence of an assessment being done is a startling finding. Nearly 21% of the administrations were given after "patient request." This was higher than the 15% found by Curtis and Capp (2003, p. 232) but lower than the 36.2% found by Usher et al. (2001, p. 387). An interesting finding in this study is that approximately 82% of the administrations as a result of "patient request," had no evidence of an assessment ever being carried out. Many questions arise from this finding. Why is an assessment not done? Do nurses believe that "patient request" negates their responsibility to assess? Without a documented assessment how are other health personnel to know that the prn was rightly given? Previous researchers have also questioned whether assessments are done when the client requests prn medication. The converse of the above finding, as this study has found, is that when the nursing documentation indicates that the nurse observed some behaviour or symptoms necessitating the administration of prn, nearly 72% of the documentation showed some form of assessment. An odd finding was that where it was not possible from the nursing documentation to establish who initiated the prn medication administration, then in all instances there was no evidence of any assessment being carried out.

Evidence of planning by nurses found some unintentional results not only with nurses but also doctor's prescribing practices. As evidence of planning, data was collected from the prescription. The forensic psychiatry clinic policy for prn medication administration states the prn medication must not be administered unless the doctor on

the prescription records the indication and maximum dose in 24 hours. It further states that a doctor must be contacted if there is no indication on the prescription. Nearly 29% of the prescriptions did not state what the medication was prescribed for. This raises questions about doctor's knowledge of the policies covering their prescribing practices. From these prescriptions without an indication approximately 50% of the prn medication was administered. No documented evidence was found that nurses had contacted the Doctor to address this issue. It is possible however that this was done but not documented. This gap in the documentation raises questions not only about nurse's knowledge about the policies that govern their work but also the need to document information. An assumption could be made by a court of law that these prn medications were administered in contravention of the policy purely from a lack of documentation.

That approximately 39% of medication were administered for reasons other than that prescribed is a clear violation of Section 19 of the Medicines Act (1981). This act states that medication must be administered only in accordance with that prescribed. It was not the intention of this study to ascertain what it was prescribed for and administered for. However findings that the prescription stated for "agitation" and it was administered "to aid sleep" when there was no reference in the nursing notes of the client being agitated was a common occurrence. Such prn medication administration would be considered in breach of the Medicines Act (1981). This raised an interesting issue, as it appeared that nurses were also administering prn medication prophylactically. This was certainly the case in one nursing entry when the medication was prescribed for agitation and the afternoon nurse's documentation recommended that the prn be given at a regular time for the next three nights (which it was) to see if the client slept. This suggestion must surely be considered prescribing and nurses do not have that authority. Again this is clearly in breach of the Medicines Act (1981).

The forensic psychiatry clinic policy also requires that the maximum dose be recorded on the prescription. Nine prescriptions (20%) did not have this documented on the form. Fifteen doses of medication ($\approx 10\%$) were administered from these prescriptions. The policy is silent on the action nurses should take in this situation. As the prescription is incorrect per the policy a prudent nurse should contact the doctor for the maximum dose to be charted. There was no indication in the nursing notes that this had happened. It is of concern that doctors are contravening the policy by not

documenting the maximum dose, especially when some medications have a recommended maximum dosage in 24 hours, for example Chlorpromazine (1000 mg), Paracetamol (4g).

Section 41 of the Medicines Regulations 1984 states that any medication “inserted into any cavity... of the body” must indicate the dose and the frequency of the dose. That nearly 49% of the prescriptions did not state a frequency questions the knowledge of doctors about the law surrounding the writing of prescriptions. This practice clearly contravenes the law and places the onus on the nurse not to administer medication from these prescriptions. It is concerning that several of these inaccurate prescriptions were for psychotropic medications. Nearly 32% of prn medication was administered from these erroneous prescriptions. The nurses’ documentation did not state whether a doctor had been contacted to have this corrected. It is, however, possible that this was done and not documented. Again the question is asked about nurses’ knowledge of the laws governing prescriptions and actions they should take when a prescription is incorrect.

Nurses’ planning around the dose or route to administer, where a choice was prescribed, was impossible to ascertain. That not one nursing entry documented the rationale for the choice of dose or route, is a major omission. For communication between nurses and other clinical personnel such information is essential. Overall, the documentation by the nurses around planning, revealed illegalities in administrations and contraventions of the local policies. A substantial lack of documentation about planning also questions whether nurses are aware of their obligations not only to the law or policies but also their knowledge of the importance of documentation.

It is not a requirement of the DHB policy that the dose administered be recorded in the nursing documentation, as it is recorded on the medication-recording chart. However a prudent nurse would document this especially where a choice of dose is allowed. Similarly where no choice of route is allowed it may also be prudent to document this. However when a choice of route is permitted, this should be documented. Less than 7% of the nursing notes indicated the route of administration. A major finding with this study was that nearly 50% of the nursing notes did not mention the name of the medication administered and less, approximately 34%, stated the time

of administration. For the nursing notes to be effective as a communication tool and a reflection of nursing practice, these two items must be present.

That approximately 60% of the administrations considered for outcome were found to have no documented outcome was also a surprising finding. However this finding was not too different from three recent Australian studies by Usher et al. (2001), Geffen et al. (2002) and Curtis and Capp (2003). That approximately 7% had a comprehensive outcome documented is abysmal. For prn documentation to be complete a documented outcome is essential. A documented outcome is essential as an evaluation of the benefit or otherwise of prn medication for a client. Although the documentation on outcome was sparse or missing, those that made some attempts at an outcome were predominantly RNs and all the comprehensively documented outcomes were by RNs. Unlike assessment documentation, there was little difference between the quality of the documented outcome between prescription and non-prescription medications. Although non-prescription medications were more likely to have the terminology as “given with good effect.” Terminology referred to by Geffen et al. (2002) as uninformative.

This research did not find major differences in the documentation practices between the nursing shifts. Staff on the afternoon shift administered nearly 60% of the prn medication. This was the highest percentage administered on this shift from the literature reviewed. However this figure may not be a true comparison with previous research as times of shifts differ between health services. In this study, day and afternoon nursing staff were less likely to write the date in the heading compared to the night shift. A possible explanation for this is that documentation by the night shift is the first of the day to be written and staff on the other two shifts continue underneath not being aware that they should also write the date. Not one entry written by staff on night shift had the time in the heading. Staff on the other two shifts also did this poorly.

Nurses on day shift were less likely to document that prn medication was administered than staff on afternoon or night shift. This may possibly be accounted for in that medication administered by staff on day shift between 0800 and 0900 hours may not have been remembered later in the day when the notes were written. Further research may be able to ascertain if this is so. However the DHB and forensic psychiatry clinic policies both state that notes should be written as near to the event as possible.

Little difference was found in the data collected around planning, intervention or outcome documentation. A reason for the lack of differences between the nursing shifts may be that the nurses rotate through the shifts and therefore their documentation practices would not necessarily alter because of a change of shift.

The reason why the documentation was not complete was not investigated in this study. Whether any of the multiple findings of past studies as to why nurses do not document apply here would be an interesting area of further research. Is time a factor, as found by Allen (1998), Edelstein (1990), Howse & Bailey (1992), Scoates et al. (1996) and Tapp (1990)? Is there some sort of peer pressure or group norm operating (Howse & Bailey; Tapp)? Is it nursing attitude to documentation (Edelstein) or a lack of knowledge about reasons for documentation (Bernick & Richards, 1994; Edelstein)? This is certainly an area where further research needs to be done.

A finding that was surprising was the high incidence of prn paracetamol administered ($\approx 24\%$). Strangely it followed a pattern of diminishing administration similar to psychotropic medication over the four weeks. Considering the research was investigating the first four weeks of admission this was an interesting finding. It was not the purpose to establish why this level of paracetamol was administered and the documentation associated with it was extremely poor. Often the documentation stated "given prn paracetamol" or "given paracetamol for pain" without elaborating on where the pain was. Is it due to the nature of the clinic that clients entering the service arrived with injuries requiring pain relief? However consideration should also be given to the possibility that clients are stressed and presenting with headaches or that they are unwilling to reveal their voices to nursing staff and are seeking prn paracetamol as a way to ease these symptoms. Another possibility that can not be discounted is drug-seeking behaviour. Without comprehensive assessments documented, the high incidence of paracetamol can not be explained. Further research should be undertaken in this area.

Limitations

The findings from this research do have some limitations. Due to the non-random sampling technique used the findings can not be generalized. The results can

only be said to apply to the sample and may not be localized. The non-random sampling and the primary use of nominal data also limited the level of statistical analysis that could be done. Retrospective file auditing relies on the documentation being true and accurate. It is by its nature historical information and may not reflect current practices.

The tool developed for the research, although tested for inter-rater reliability and content validity, was found to need further development especially in the area of assessment and outcome to remove or reduce the subjective component. However this does not detract from the findings which required an objective yes/no or present/absent response. In constructing the data questionnaire, the researcher assumed that if a prn medication administration were not documented at all in the clinical notes, then no outcome would be documented. This entry was then excluded from the sample for outcome measurement. It is therefore possible if the contrary were true that the findings related to outcome could be higher or lower. It is also possible that prn medication was administered and not recorded on the medication-recording charts. Data from such entries would not have been collected in this instance and may have affected the results.

Illegibility in the nursing entries was based on one word unreadable on the first reading. Legibility findings have a large subjective component. It is therefore possible that another researcher with the same files may have found a different result. The low finding of the documentation following a logical pattern should be treated with caution. An explicit pattern of assessment, planning, intervention and outcome was sought. If an item was missing it was deemed to be not following a logical pattern. Likewise if the intervention appeared before the assessment it was deemed illogical. However this does not mean it was irrational. It is unknown how the four files that could not be accessed would have affected the results presented here.

Recommendations

A further study needs to be undertaken to ascertain why the findings from this study are so poor. As nurses have an autonomous role in deciding to administer prn medication, clarity and evidence of assessment, planning, intervention and outcome are essential ingredients in their documentation. Retrospective chart auditing limits the answer to this question. Action research would help to involve clinic staff in establishing why documentation practices are so poor and help correct the problem.

Further investigation is needed into the disparity found in documentation practices between prescription medications and non-prescription medications. A multi-unit research project within the forensic psychiatry clinic might establish whether this documentation practice is similar throughout the various units.

Another study should be undertaken to ascertain why the level of prn paracetamol administered is so high and why it follows the decreasing pattern over the four weeks. This could take the form of prospective research to accurately gauge the rationale for this.

Finally, nurses' knowledge of the laws, policies, standards and codes that govern their documentation practice needs to be assessed and remedial action taken by the forensic psychiatry clinic. Likewise the prescribing practices of doctors also need to be addressed in the area of prn medication. The lack of documentation found in this study is startling and calls out for further research in this area.

Conclusion

That such a low level of compliance with nursing documentation was found is a surprising finding in this research. The lack of evidence in the clinical notes of administration of prn, assessments, evidence of planning and a high proportion with no outcome documented suggests further research in the area of both prn administration and nurses' documentation. The finding of major differences in the documentation of prescription and non-prescription medications is another area that needs to be investigated. That there were no major differences in the documentation practices of the various nursing shifts was not an unexpected result and as mentioned is probably a reflection of the nurses carrying their documentation practices through the shifts.

This research has highlighted not only deficits in nurses' documentation but has brought into question their practice in prn medication administration. It was not the intention of this research to question practice, but the results are such, that a prospective study following nurses through a prn administration and documentation may enhance our understanding of this process.

This research has added to the body of research already done on nursing documentation. It has also added to the very small body of research done on prn medication. The results of this research will be useful to both nurses and in-service educators within the forensic psychiatry clinic. It will also give a New Zealand perspective to prn medication documentation practices.

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Appendix A: Documentation Requirements

Requirement	DHB	Forensic Psychiatry Clinic	Code of Conduct for Nurses	New Zealand Mental Health Standards
Accurate	✓	✓	✓	✓
Complete	✓	✓		
Documentation is factual		✓		✓
Timely (after each contact)		✓		
Documentation is written after each nursing shift or client contact	✓			
Information is recorded as soon after the event as possible	✓			
Timely (within each working practitioners day)		✓		
Legible	✓	✓		✓
Time of notes in heading	✓	✓		
Date in heading	✓	✓		✓
Discipline in heading	✓			
Source of information identified		✓		
Signature at end of notes	✓	✓		✓
Designation at end of notes	✓	✓		✓
Name printed in capitals at end of notes	✓	✓		
Notes written in permanent ink (black or blue)	✓			
Records significant changes in condition and significant observations	✓			
Document the medication administered	✓			
Document the assessment	✓			
Document the key interventions	✓			
Information on the treatment given is documented				✓
Document actions taken	✓			

Requirement	DHB	Forensic Psychiatry Clinic	Code of Conduct for Nurses	New Zealand Mental Health Standards
Follows a logical pattern	✓			
Behavioural responses are noted	✓			
Document response to treatment	✓			
HA documentation countersigned by an RN	✓			
Health professional involved in the care of the patient is responsible for the timely and appropriate documentation in the clinical record	✓			

PRN Documentation Audit

**Data Collection Instructions
And Data Collection Form**

Data Collection Instructions

<p>Code Number: A six-digit code number is to be used as follows. The first three digits of the code represent the number of the file read e.g first file the first three digits are 001, second file is 002 etc. The last three digits represent the number of prn administrations for that file. E.g first prn dose, last three digits will be 001, 2nd dose 002. Examples: First file, first prn dose: Code as 001001 First file, 2nd prn dose: Code as 001002 Third file, 4th dose: Code as 003004 etc.</p>	<p>Code Number:.....</p>
<p>Notes: Where instructed use the notes column. No identifying patient or staff data is to be recorded at any time. No dates to be entered at all.</p>	<p>Week number: 1 2 3 4 (Circle)</p>

Section One (Medication Chart)

Place code number in check boxes on the collection form.

Question	Coding instructions	Code	Notes
1. Medication name	Write medication name.		
2. Dose prescribed	Write dose prescribed. If a range of dose then write range.		
3. Dose administered	Write dose administered.		
4. Frequency prescribed	Write frequency prescribed e.g 4hr or TDS. If no frequency code 0.		
5. Is this dose administered earlier than the frequency prescribed?	Yes (code as 2) No (Code as 1).		
6. Maximum amount or times allowed in 24 hours e.g 400mg or TDS	Write amount. If no maximum amount prescribed code 0.		
7. Does giving this dose exceed 24hr maximum?	Yes (code as 2) No (Code as 1). This will need to be calculated from previous doses.		
8. Indication(s)	Write indication(s). If no indication(s) Code 0.		
9. Route prescribed	State route. If more than one route state both.		
10. If there is a choice of route, does the Med. Chart state the route administered.	Yes (Code as 2) State route in notes column if given. No (code as 1). N/A (code as 0) i.e. no choice of route		
11. Time drug administered	State time in 2400 hour clock e.g. 0600		

Section Two (Progress notes)

Question	Coding Instructions	Code	Notes
12. Is the date in the heading?	Yes (code as 2) No (Code as 1)		
13. Is the discipline in heading?	Yes (code as 2) No (Code as 1)		
14. Is the time of notes written in heading?	Yes (code as 2) No (Code as 1) Stating a time period covered e.g 0900-1000hrs = No (code 1). Make a note of time period		
15. Write the shift letter here if time not shown	Only use if time not written in Q14		
16. What is the time that the note is written?	State time in 2400 hour clock e.g. 0600. Enter 0 if no time		
17. Is there a signature at the end?	Yes (code as 2) No (Code as 1)		
18. Is the designation shown at the end?	Yes (code as 2) No (Code as 1)		
19. Is the author's name printed in capitals?	Yes (code as 2) No (Code as 1)		

Question	Coding Instructions	Code	Notes
20. Is the note written in permanent ink (blue or black only)?	Yes (code as 2) No (Code as 1) If written in anything other than ink, or a colour that is not blue or black code as 1.		
21. Has the RN who administered the prn written the notes?	Yes (code as 2) No (Code as 1), if unable to determine, Code as 0 and make note why unable to determine		
22. If documentation is written by an HA or PA, has an RN countersigned?	Yes (code as 2) No (Code as 1). If not applicable code as 0 and make note that RN wrote note.		
23. Are all words legible on first reading?	Yes (code as 2) No (Code as 1). Code as 1 for one or more words that can not be read. You must be able to read each word on first reading.		
24. Is source of information identified?	e.g. Dr ordered, Nurse observed, Client reported etc. Yes (code as 2) No (Code as 1).		
25. State Source	State whether Doctor, Nurse, Client, other client etc in notes Enter 0 if Question 24 is No		
26. Is there a comprehensive assessment of client prior to administration of medication? NB If there is no mention at all in nursing notes of prn being given, Code as 9 . Do not answer further questions, draw a diagonal line through the rest of the questions.	Code 0 = Complete absence of assessment or description of presenting symptoms. Code 1 = Presenting symptoms only, are described. Code 2 = Presenting symptoms and some evidence of assessment, but not complete e.g. asked about duration of voices but not intensity etc. Code 3 = Presenting symptoms described and full assessment e.g. mini mental health status, full description of events.		
27. Does the note state who decided to administer prn?	Yes (code as 2) No (Code as 1). E.g. Doctor, nurse, patient requested. Make a note of this person's designation only in the notes		

Questions	Coding Instructions	Code	Notes
28. Do nursing notes indicate that medication was given for what it was prescribed?	Yes (code as 2) If it was given for what it was prescribed, make a note of the indication as there may be two or more indications prescribed. No (Code as 1). If it is not given for what it was prescribed, make a note of what it was prescribed for & for what it was given. If there was no indication written in med. Chart, code as 0.		
29. Is the route of medication documented in progress notes?	Yes (code as 2) No (Code as 1).		
30. If choice of route, is reason given for choice in progress notes?	Yes (code as 2) No (Code as 1). Code as 0 if there is no choice prescribed		
31. If choice of dose, is reason given for choice in progress notes?	Yes (code as 2) No (Code as 1). Code 0 if there is no choice prescribed		
32. Is the dose given documented in progress notes?	Yes (code as 2) No (Code as 1).		
33. Is name of drug documented in progress notes?	Yes (code as 2) No (Code as 1).		
34. Is time of administration documented in progress notes?	Yes (code as 2) No (Code as 1).		
35. Is time of administration in progress notes the same as documented in the medication chart?	Yes (code as 2) No (Code as 1). If question 34 is No then code here is 0		
36. Is nursing assessment note written before Dr's note, if Dr called to assess client after prn administration?	Yes (code as 2) No (Code as 1). Code as 0 if not applicable.		
37. Is there a documented outcome as to effectiveness or otherwise?	Yes (Code as 2) Code 2 regardless of the quality of the documentation e.g if states "with good effect" code as 2. Continue to answer questions. No (Code as 1) If Code 1 then draw a diagonal line through questions 38-40, answer question 41 and complete section 3.		

Question	Coding Instructions	Code	Notes
38. Is the documented outcome comprehensive?	<p>Code 0 There is reference to prn being beneficial (or not) but no specific details eg. "given prn with good effect."</p> <p>Code 1 There is mention to specific symptoms abating (or not) or reference to client having been approached about prn as to its beneficence or not.</p> <p>Code 2 There is mention of specific symptoms abating (or not) and that client has been approached about prn as to its beneficence or not.</p>		
39. What time is outcome written?	State time in 2400 hour clock e.g. 0600. This may be the same time as Q14. Enter 0 if no time or a range of times.		16
40. Enter shift if time not written	This may be the same shift as Q15.		15
41. Does this entry, in relation to prn only follow a logical pattern of assessment, intervention and evaluation?	Yes (code as 2) No (Code as 1) Code as 2 if logical pattern is followed even if documented outcome is missing.		
<p>If the answer to question 37 is Yes (Code 2) then stop at question 41 and draw a diagonal line through section 3 (Questions 42-55). Otherwise continue.</p> <p>Section Three Look at the following entry of nursing notes.</p>			
42. Is there a documented outcome as to effectiveness or otherwise?	Yes (code as 2) No (Code as 1) Code 2 regardless of the quality of the documentation e.g if states "with good effect" code as 2. If Code 2, draw a line through Q43, then go to question Q44 and continue to answer the following questions. If Code 1 go to question 43.		37
43. Is there a documented outcome as to effectiveness or otherwise?	<p>Look at the next nursing entry to answer this question.</p> <p>Yes (code as 2) No (Code as 1) Code 2 regardless of the quality of the documentation e.g if states "with good effect" code as 2. If code 2 complete the following questions for this entry.</p> <p>If Code 1 then stop and draw a diagonal line through questions 44-55).</p>		37

Question	Coding Instructions	Code	Notes
44. Is the documented outcome comprehensive?	Code 0 There is reference to prn being beneficial (or not) but no specific details eg. "given prn with good effect." Code 1 There is mention to specific symptoms abating (or not) or reference to client having been approached about prn as to its beneficence or not. Code 2 There is mention of specific symptoms abating (or not) and that client has been approached about prn as to its beneficence or not.		38
45. Is the date in the heading?	Yes (code as 2) No (Code as 1)		12
46. Is the discipline in heading?	Yes (code as 2) No (Code as 1)		13
47. Is the time of notes written in heading?	Yes (code as 2) No (Code as 1) Enter 0 if no time or a range of times.		14
48. Write the shift letter here if time not shown	Only use if time not written in Q47		15/40
49. What is the time that the note is written?	State time in 2400 hour clock e.g. 0600 Code 0 if no time shown		16/39
50. Is there a signature at the end?	Yes (code as 2) No (Code as 1)		17
51. Is the designation shown at the end?	Yes (code as 2) No (Code as 1)		18
52. Is the author's name printed in capitals?	Yes (code as 2) No (Code as 1)		19
53. Is the note written in permanent ink (blue or black only)?	Yes (code as 2) No (Code as 1) If written in anything other than ink, or a colour that is not blue or black code as 1.		20
54. If documentation is written by an HA or PA, has an RN countersigned?	Yes (code as 2) No (Code as 1). If not applicable code as 0 and make note that RN wrote note.		22
55. Are all words legible on first reading?	Yes (code as 2) No (Code as 1). Code as 1 for one or more words that can not be read. You must be able to read each word on first reading.		23

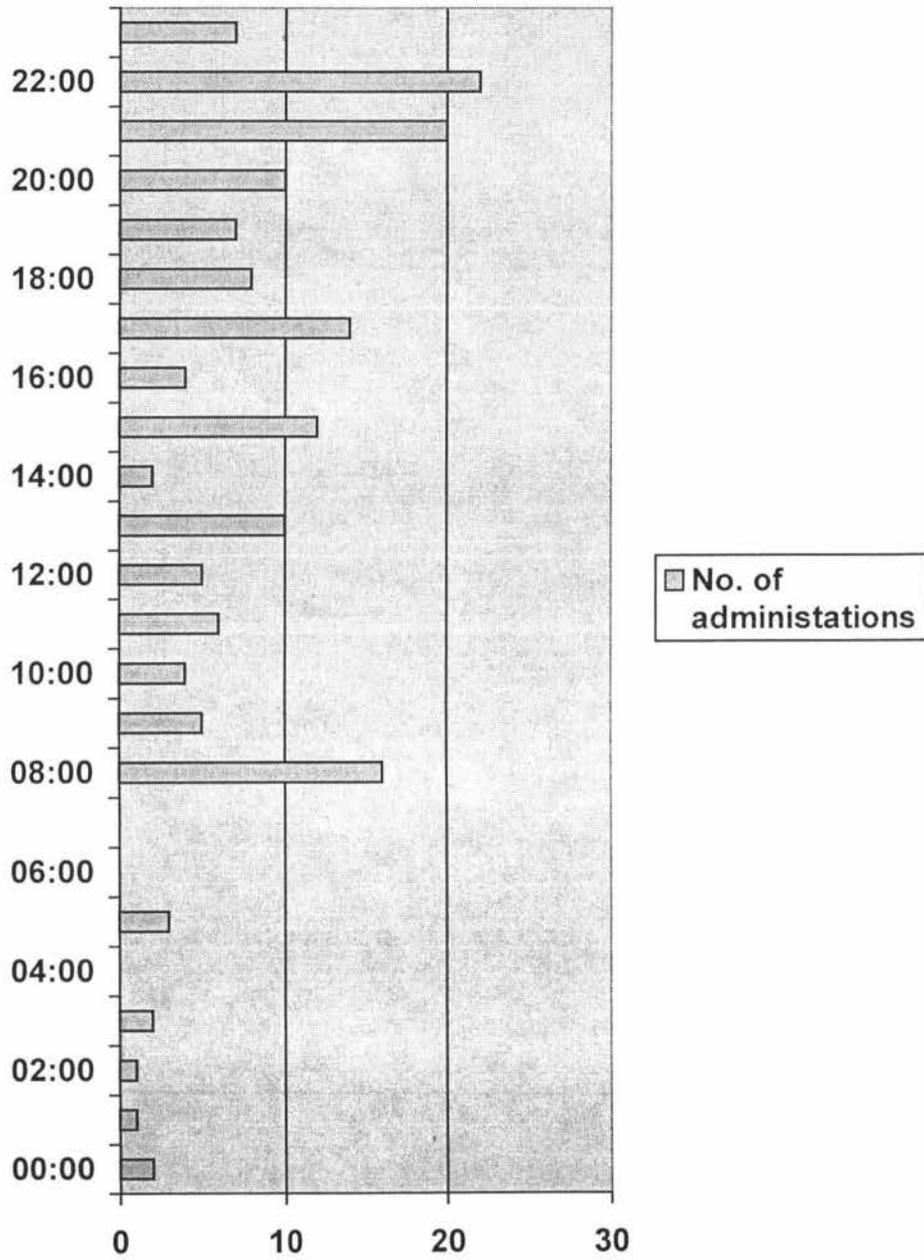
Appendix C: Occurrence of variables

Variable	Occurrence (N)	Rationale
Prn doses administered	158	Number of medication doses administered in the first four weeks
Number of prescriptions	45	
Number of different medications	12	
Number of nursing entries from which data was gathered	170	Includes entries written for medication administration plus those for outcome
Date in heading	170	Includes entries written for medication administration plus those for outcome
Time in heading	170	Includes entries written for medication administration plus those for outcome
Timeliness of entry	170	Includes entries written for medication administration plus those for outcome
Discipline in heading	170	Includes entries written for medication administration plus those for outcome
Signature at end of entry	170	Includes entries written for medication administration plus those for outcome
Author's name in capitals at end	170	Includes entries written for medication administration plus those for outcome
Nursing designation at end	170	Includes entries written for medication administration plus those for outcome
Written in permanent blue or black ink	167	Excludes 3 entries for which there were no notes
Legibility	167	Excludes 3 entries for which there were no notes
Notes written by HA	26	
Assessment	158	Number of prn administrations
Planning	158	Number of prn administrations
Intervention	158	Number of prn administrations
Outcome	83	Excludes 75 administrations that did not mention that prn was administered.

Appendix D: Number of Prn Doses Administered per Drug per Week

Drug name	Week 1	Week2	Week 3	Week 4	Total
Paracetamol	12	13	9	3	37
Clonazepam	18	5	1	0	24
Lorazepam	12	6	4	0	22
Mylanta	8	4	3	2	17
Zopiclone	2	2	8	3	15
Panadeine	13	0	0	0	13
Chlorpromazine	7	1	2	1	11
Benztropine	6	2	0	0	8
Lactulose	0	2	1	4	7
Salbutamol Inhaler	2	0	0	0	2
Haloperidol	0	0	0	1	1
Voltaren	1	0	0	0	1
Total	81	35	28	14	158

Appendix E: Number of Prn Administrations per Time of Day



Appendix F: Documented Evidence of Assessment per Drug

Table F1 Benztropine - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	37.50%	3	37.50%
2. Documented that prn was administered only	0	0.00%	3	37.50%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	4	50.00%	7	87.50%
4. Some evidence of assessment	1	12.50%	8	100.00%
5. Comprehensive assessment documented	0	0.00%	-	-

Table F2 Chlorpromazine - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	27.27%	3	27.27%
2. Documented that prn was administered only	2	18.18%	5	45.45%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	3	27.27%	8	72.73%
4. Some evidence of assessment	1	9.09%	9	81.82%
5. Comprehensive assessment documented	2	8.18%	11	100.00%

Table F3 Clonazepam - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	8.33%	2	8.33%
2. Documented that prn was administered only	6	25.00%	8	33.33%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	10	41.67%	18	75.00%
4. Some evidence of assessment	5	20.83%	23	95.83%
5. Comprehensive assessment documented	1	4.17%	24	100.00%

Table F4 Haloperidol - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	0	.00%	0	0.00%
2. Documented that prn was administered only	0	0.00%	0	0.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	0	0.00%
4. Some evidence of assessment	0	00%	0	0.00%
5. Comprehensive assessment documented	1	100.00%	1	100.00%

Table F5 Zopiclone - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	20.00%	3	20.00%
2. Documented that prn was administered only	10	66.67%	13	86.67%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	13.33%	15	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table F6 Lactulose - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	6	85.71%	6	85.71%
2. Documented that prn was administered only	0	.00%	6	85.71%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	1	4.29%	7	100.00%
4. Some evidence of assessment	0	.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table F7 Lorazepam - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	5	2.73%	5	22.73%
2. Documented that prn was administered only	2	9.09%	7	31.82%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	6	27.27%	13	59.09%
4. Some evidence of assessment	4	18.18%	17	77.27%
5. Comprehensive assessment documented	5	22.73%	22	100.00%

Table F8 Mylanta - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	15	88.24%	15	88.24%
2. Documented that prn was administered only	0	0.00%	15	88.24%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	15	88.24%
4. Some evidence of assessment	1	5.88%	16	94.12%
5. Comprehensive assessment documented	1	5.88%	17	100.00%

Table F9 Panadeine - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	11	84.62%	11	84.62%
2. Documented that prn was administered only	0	0.00%	11	84.62%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	15.38%	13	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table F10 Paracetamol - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	24	64.86%	24	64.86%
2. Documented that prn was administered only	2	5.41%	26	70.27%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	9	24.32%	35	94.59%
4. Some evidence of assessment	1	2.70%	6	97.30%
5. Comprehensive assessment documented	1	2.70%	37	100.00%

Table F11 Salbutamol Inhaler - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	100.00%	2	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table F12 Voltaren - frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	100.00%	1	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Appendix G: Documented Evidence of Assessment per Nursing Rank

Table G1 Frequency of RNs' documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	51	44.35%	51	44.35%
2. Documented that prn was administered only	17	14.78%	68	59.13%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	28	24.35%	96	83.48%
4. Some evidence of assessment	9	7.83%	105	91.30%
5. Comprehensive assessment documented	10	8.70%	115	100%

Table G2 Frequency of Ens' documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	42.86%	3	42.86%
2. Documented that prn was administered only	2	28.57%	5	71.43%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	1	14.29%	6	85.71%
4. Some evidence of assessment	0	-	6	85.71%
5. Comprehensive assessment documented	1	14.29%	7	100%

Table G3 Frequency of Has' documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	17	65.38%	17	65.38%
2. Documented that prn was administered only	5	19.23%	22	84.62%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	7.69%	24	92.31%
4. Some evidence of assessment	2	7.69%	26	100%
5. Comprehensive assessment documented	0	-	-	-

Table G4 Frequency of Unknown nursing ranks' documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	4	40%%	4	40%
2. Documented that prn was administered only	1	10%	5	50%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	3	30%	8	80%
4. Some evidence of assessment	2	20%	10	100%
5. Comprehensive assessment documented	0	-	-	-

Appendix H: Documented Evidence of Assessment per Prescription and Non-Prescription Drugs

Table H1 Frequency of assessment per prescription drugs

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	25	27.47%	25	27.47%
2. Documented that prn was administered only	20	21.98%	45	49.45%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	26	28.57%	71	78.02%
4. Some evidence of assessment	11	12.09%	82	90.11%
5. Comprehensive assessment documented	9	9.89%	91	100.00%

Table H2 Frequency of assessment per non-prescription drugs

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	50	74.63%	50	74.63%
2. Documented that prn was administered only	2	2.99%	52	77.61%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	11	16.42%	63	94.03%
4. Some evidence of assessment	2	2.99%	65	97.01%
5. Comprehensive assessment documented	2	2.99%	67	100.00%

Appendix I: Prescription Non-compliance

Table I1 Prescriptions without a frequency and number of administrations

Medication	Number of prescriptions	Number of doses administered
Benztropine	2	2
Chlorpromazine	4	9
Clonazepam	5	12
Haloperidol	1	1
Lorazepam	7	22
Mylanta	2	3
Paracetamol	1	1
Total	22	50

Table I2 Prescriptions without a maximum dose in 24 hours and number of administrations

Medication	Number of prescriptions	Number of doses administered
Benztropine	1	1
Chlorpromazine	1	5
Clonazepam	1	1
Haloperidol	1	1
Lorazepam	1	1
Mylanta	2	3
Paracetamol	1	1
Salbutamol Inhaler	1	2
Total	9	15

Table I3 Prescriptions without an indication and number of administrations

Medication	Number of prescriptions	Number of doses administered
Benztropine	1	6
Chlorpromazine	1	5
Clonazepam	1	2
Zopiclone	1	5
Lactulose	1	4
Lorazepam	1	6
Panadeine	1	13
Paracetamol	5	31
Salbutamol Inhaler	1	2
Total	13	74

Appendix J: Documented Evidence of Outcome per Drug

Table J1 Benztropine - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	3	60.00%	3	60.00%
Documentation indicated prn was effective	1	20.00%	4	80.00%
Specifically mentions symptoms abating	1	20.00%	5	100.00%
Comprehensive outcome documented	0	0.00%	-	-

Table J2 Chlorpromazine - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	4	50.00%	4	50.00%
Documentation indicated prn was effective	1	12.50%	5	62.50%
Specifically mentions symptoms abating	3	37.50%	8	100.00%
Comprehensive outcome documented	0	0.00%	-	-

Table J3 Clonazepam - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	10	45.45%	10	45.45%
Documentation indicated prn was effective	6	27.27%	16	72.73%
Specifically mentions symptoms abating	2	9.09%	18	81.82%
Comprehensive outcome documented	4	18.18%	22	100.00%

Table J4 Haloperidol - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	1	100.00%	1	100.00%
Documentation indicated prn was effective	0	0.00%	-	-
Specifically mentions symptoms abating	0	0.00%	-	-
Comprehensive outcome documented	0	0.00%	-	-

Table J5 Zopiclone - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	10	83.33%	10	83.33%
Documentation indicated prn was effective	1	8.33%	11	91.67%
Specifically mentions symptoms abating	1	8.33%	12	100.00%
Comprehensive outcome documented	0	0.00%	-	-

Table J6 Lactulose - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	1	100.00%	1	100.00%
Documentation indicated prn was effective	0	0.00%	-	-
Specifically mentions symptoms abating	0	0.00%	-	-
Comprehensive outcome documented	0	0.00%	-	-

Table J7 Lorazepam - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	9	52.94%	9	52.94%
Documentation indicated prn was effective	4	23.53%	13	76.47%
Specifically mentions symptoms abating	2	11.76%	15	88.24%
Comprehensive outcome documented	2	11.76%	17	100.00%

Table J8 Mylanta - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	2	100.00%	2	100.00%
Documentation indicated prn was effective	0	0.00%	-	-
Specifically mentions symptoms abating	0	0.00%	-	-
Comprehensive outcome documented	0	0.00%	-	-

Table J9 Panadeine - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	0	0.00%	0	0.00%
Documentation indicated prn was effective	2	100.00%	2	100.00%
Specifically mentions symptoms abating	0	0.00%	-	-
Comprehensive outcome documented	0	0.00%	-	-

Table J10 Paracetamol - Frequency of documented outcome

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
No outcome documented	9	69.23%	9	69.23%
Documentation indicated prn was effective	3	23.08%	12	92.31%
Specifically mentions symptoms abating	1	7.69%	13	100.00%
Comprehensive outcome documented	0	0.00%	-	-

Salbutamol Inhaler and Voltaren not included, as there were no documented notes on the medication being administered.

Appendix K: Documented Evidence of Outcome per Nursing Rank

Table K1 Frequency of documented outcome by RNs

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	16	53.33%	16	53.33%
Specifically mentions symptoms abating	8	26.67%	24	80.00%
Comprehensive outcome documented	6	20.00%	30	100.00%

Table K2 Frequency of documented outcome by ENs

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	1	100.00%	1	100.00%
Specifically mentions symptoms abating	0	0.00%	1	100.00%
Comprehensive outcome documented	0	0.00%	1	100.00%

Table K3 Frequency of documented outcome by HAs

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	1	100.00%	1	100.00%
Specifically mentions symptoms abating	0	0.00%	1	100.00%
Comprehensive outcome documented	0	0.00%	1	100.00%

Table K4 Frequency of documented outcome by Unknown rank

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	1	33.33%	1	33.33%
Specifically mentions symptoms abating	2	66.67%	3	100.00%
Comprehensive outcome documented	0	0.00%	3	100.00%

Appendix L: Prn Medication Administered per Nursing Shift

Medication	Day Shift	Afternoon Shift	Night Shift	Total
Benzotropine	3	5	0	8
Chlorpromazine	5	4	2	11
Clonazepam	4	19	1	24
Haloperidol	0	1	0	1
Zopiclone	0	13	2	15
Lactulose	4	3	0	7
Lorazepam	7	12	3	22
Mylanta	9	7	1	17
Panadeine	5	8	0	13
Paracetamol	17	17	3	37
Salbutamol	2	0	0	2
Voltaren	0	1	0	1
Total	56	90	12	158

Appendix M: Assessment per Nursing Shift

Table M1 Day shift frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	34	60.71%	34	60.71%
2. Documented that prn was administered only	1	1.79%	35	62.5%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	15	26.79%	50	89.29%
4. Some evidence of assessment	2	3.57%	52	92.86%
5. Comprehensive assessment documented	4	7.14%	56	100.00%

Table M2 Afternoon shift frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	37	41.11%	37	41.11%
2. Documented that prn was administered only	17	18.89%	54	60.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	19	21.11%	73	81.11%
4. Some evidence of assessment	11	12.22%	84	93.33%
5. Comprehensive assessment documented	6	6.67%	90	100.00%

Table M3 Night shift frequency of documented evidence of assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	4	33.33%	4	33.33%
2. Documented that prn was administered only	4	33.33%	8	66.67%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	3	25.00%	11	91.67%
4. Some evidence of assessment	0	0.00%	11	91.67%
5. Comprehensive assessment documented	1	8.33%	12	100.00%

Appendix N: Prescription/Non-prescription Assessment per Nursing Shift

Prescription Medication – Assessment per Nursing Shift

Table N1 Frequency of assessment by day shift

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	11	44.00%	11	44.00%
2. Documented that prn was administered only	2	8.00%	13	52.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	7	28.00%	20	80.00%
4. Some evidence of assessment	2	8.00%	22	88.00%
5. Comprehensive assessment documented	3	12.00%	25	100%

Table N2 Frequency of assessment by afternoon shift

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	12	20.69%	12	20.69%
2. Documented that prn was administered only	18	31.03%	30	51.72%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	13	22.41%	43	74.14%
4. Some evidence of assessment	10	17.24%	53	91.38%
5. Comprehensive assessment documented	5	8.62%	58	100%

Table N3 Frequency of assessment by night shift

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	25.00%	2	25.00%
2. Documented that prn was administered only	4	50%	6	75.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	1	12.50%	7	87.50%
4. Some evidence of assessment	0	0.00%	7	87.50%
5. Comprehensive assessment documented	1	12.50%	8	100%

*Non-prescription Medication – Assessment per Nursing Shift***Table N4 Frequency of assessment by day shift**

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	24	77.42%	24	77.42%
2. Documented that prn was administered only	1	3.23%	25	80.65%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	5	16.13%	30	96.77%
4. Some evidence of assessment	0	0.00%	30	96.77%
5. Comprehensive assessment documented	1	3.23%	31	100%

Table N5 Frequency of assessment by afternoon shift

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	24	75.00%	24	75.00%
2. Documented that prn was administered only	1	3.13%	25	78.13%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	4	12.50%	29	90.63%
4. Some evidence of assessment	2	6.25%	31	96.88%
5. Comprehensive assessment documented	1	3.13%	32	100%

Table N6 Frequency of assessment by night shift

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	50.00%	2	50.00%
2. Documented that prn was administered only	0	0.00%	2	50.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	50.00%	4	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Combined Prescription Medication Assessment per Shift

Table N7 Combined Prescription Medication Assessment per Shift

Level of assessment documented	Cumulative percentage frequency per nursing shift		
	Day Shift	Afternoon Shift	Night Shift
1. No prn medication administration documented	44.00%	20.69%	25.00%
2. Documented that prn was administered only	52.00%	51.72%	75.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	80.00%	74.14%	87.50%
4. Some evidence of assessment	88.00%	91.38%	87.50%
5. Comprehensive assessment documented	100.00%	100.00%	100.00%

Combined Non-prescription Medication Assessment per Shift

Table N8 Combined Non-prescription Medication Assessment per Shift

Level of assessment documented	Cumulative percentage frequency per nursing shift		
	Day Shift	Afternoon Shift	Night Shift
1. No prn medication administration documented	77.42%	75.00%	50.00%
2. Documented that prn was administered only	80.65%	78.13%	50.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	96.77%	90.63%	100.00%
4. Some evidence of assessment	96.77%	96.88%	-
5. Comprehensive assessment documented	100.00%	100.00%	-

Appendix O: Documented Evidence of Assessment per Nursing Shift and Drug

Table O1 Benztropine – day shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	33.33%	1	33.33%
2. Documented that prn was administered only	2	66.67%	3	100.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O2 Benztropine – afternoon shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	20.00%	1	20.00%
2. Documented that prn was administered only	2	40.00%	3	60.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	3	60.00%
4. Some evidence of assessment	2	40.00%	5	100.00%
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Benztropine administered on night shift.

Table O3 Chlorpromazine – day shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	20.00%	1	20.00%
2. Documented that prn was administered only	0	0.00%	1	20.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	40.00%	3	60.00%
4. Some evidence of assessment	1	20.00%	4	80.00%
5. Comprehensive assessment documented	1	20.00%	5	100.00%

Table O4 Chlorpromazine – afternoon shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	25.00%	1	25.00%
2. Documented that prn was administered only	1	25.00%	2	50.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	1	25.00%	3	75.00%
4. Some evidence of assessment	0	0.00%	3	75.00%
5. Comprehensive assessment documented	1	25.00%	4	100.00%

Table O5 Chlorpromazine – night shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	50.00%	1	50.00%
2. Documented that prn was administered only	1	50.00%	2	100.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O6 Clonazepam – day shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	25.00%	1	25.00%
2. Documented that prn was administered only	0	0.00%	1	25.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	50.00%	3	75.00%
4. Some evidence of assessment	1	25.00%	4	100.00%
5. Comprehensive assessment documented	0	0.00%	-	-

Table O7 Clonazepam – afternoon shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	5.26%	1	5.26%
2. Documented that prn was administered only	5	26.32%	6	31.58%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	8	42.11%	14	73.68%
4. Some evidence of assessment	4	21.05%	18	94.74%
5. Comprehensive assessment documented	1	5.26%	19	100.00%

Table O8 Clonazepam – night shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	0	0.00%	0	0.00%
2. Documented that prn was administered only	1	100.00%	1	100.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O9 Haloperidol – afternoon shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	0	0.00%	0	0.00%
2. Documented that prn was administered only	0	0.00%	0	0.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	0	0.00%
4. Some evidence of assessment	0	0.00%	0	0.00%
5. Comprehensive assessment documented	1	100.00%	1	100.00%

No prn Haloperidol administered on Day or night shift

Table O10 Zopiclone – afternoon shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	15.38%	2	15.38%
2. Documented that prn was administered only	9	69.23%	11	84.62%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	15.38%	13	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O11 Zopiclone – night shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	50.00%	1	50.00%
2. Documented that prn was administered only	1	0.00%	2	100.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Zopiclone administered on day shift

Table O12 Lactulose – day shift -frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	4	100.00%	4	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O13 Lactulose – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	100.00%	3	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Lactulose administered on night shift.

Table O14 Lorazepam – day shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	28.57%	2	28.57%
2. Documented that prn was administered only	0	0.00%	2	28.57%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	3	42.86%	5	71.43%
4. Some evidence of assessment	0	0.00%	5	71.43%
5. Comprehensive assessment documented	2	28.57%	7	100.00%

Table O15 Lorazepam – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	3	25.00%	3	25.00%
2. Documented that prn was administered only	1	8.33%	4	33.33%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	16.67%	6	50.00%
4. Some evidence of assessment	4	33.33%	10	83.33%
5. Comprehensive assessment documented	2	16.67%	12	100.00%

Table O16 Lorazepam – night shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	0	0.00%	0	0.00%
2. Documented that prn was administered only	1	33.33%	1	33.33%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	1	33.33%	2	66.67%
4. Some evidence of assessment	0	0.00%	2	66.67%
5. Comprehensive assessment documented	1	33.33%	3	100.00%

Table O17 Mylanta – day shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	9	100.00%	9	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O18 Mylanta – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	5	71.43%	5	71.43%
2. Documented that prn was administered only	0	0.00%	5	71.43%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	5	71.43%
4. Some evidence of assessment	1	14.29%	6	85.71%
5. Comprehensive assessment documented	1	14.29%	7	100.00%

Table O19 Mylanta – night shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	100.00%	1	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O20 Panadeine – day shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	5	100.00%	5	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O21 Panadeine – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	6	75.00%	6	75.00%
2. Documented that prn was administered only	0	0.00%	6	75.00%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	25.00%	8	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Panadeine administered on night shift.

Table O22 Paracetamol – day shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	10	58.82%	10	58.82%
2. Documented that prn was administered only	1	5.88%	11	64.71%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	5	29.41%	16	94.12%
4. Some evidence of assessment	0	0.00%	16	94.12%
5. Comprehensive assessment documented	1	5.88%	17	100.00%

Table O23 Paracetamol – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	13	76.47%	13	76.47%
2. Documented that prn was administered only	1	5.88%	14	82.35%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	11.76%	16	94.12%
4. Some evidence of assessment	1	5.88%	17	100.00%
5. Comprehensive assessment documented	0	0.00%	-	-

Table O24 Paracetamol – night shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	33.33%	1	33.33%
2. Documented that prn was administered only	0	0.00%	1	33.33%
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	2	66.67%	3	100.00%
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

Table O25 Salbutamol Inhaler – day shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	2	100.00%	2	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Salbutamol administered on afternoon or night shift.

Table O26 Voltaren – afternoon shift –frequency of documented assessment

Level of assessment documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
1. No prn medication administration documented	1	100.00%	1	100.00%
2. Documented that prn was administered only	0	0.00%	-	-
3. Documented that prn was administered and presenting symptoms but no evidence of assessment	0	0.00%	-	-
4. Some evidence of assessment	0	0.00%	-	-
5. Comprehensive assessment documented	0	0.00%	-	-

No prn Voltaren administered on day or night shift

Appendix P: Outcome Documentation per Nursing Shift

Table P1 Quality of outcome documentation by day shift nursing staff

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	5	50.00%	5	50.00%
Specifically mentions symptoms abating	4	40.00%	9	90.00%
Comprehensive outcome documented	1	10.00%	10	100.00%
Total	10	100.00%		

Table P2 Quality of outcome documentation by afternoon shift nursing staff

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	13	56.52%	13	56.52%
Specifically mentions symptoms abating	4	17.39%	17	73.91%
Comprehensive outcome documented	6	26.09%	23	100.00%
Total	23	100.00%		

Table P3 Quality of outcome documentation by night shift nursing staff

Level of outcome documented	Number	Percentage	Cumulative Frequency	Cumulative Percentage Frequency
Documentation indicated prn was effective	1	50.00%	1	50.00%
Specifically mentions symptoms abating	1	50.00%	2	100.00%
Comprehensive outcome documented	0	00.00%	-	-
Total	2	100.00%		