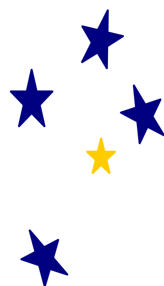
Seclusion Patterns Within a NSW (Australia) Rural Area Health Service

Lynn Davies

Final Report for the Rural Research Capacity Building Program (2006 Intake)

NORTH COAST
AREA HEALTH SERVICE
NSW HEALTH



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Davies, L., Andrews, D. & van der Zwan, R. 2007. Seclusion – Demographics and Beyond (Poster Presentation). 42nd APS Annual Conference. Brisbane.

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Table of Abbreviations

AHS	Area Health Services
ARHRC	Australian Rural Health Research Collaboration
DMHF	Declared Mental Health Facilities
IRCST	Institute of Rural Clinical Services and Training
MHIU	Mental Health Inpatient Unit
MRN	Medical Record Number
NCAHS	North Coast Area Health Service
NSWHDPD	NSW Health Department Policy Directive
RRCBP	Rural Research Capacity Building Program

Project History

Clinical Leadership Program

In 2005 I became a participant in the pilot NSW Health Department 'Clinical Leadership Program' based on the United Kingdom model which had been successfully implemented in South Australia. I was the Allied Health, and Mental Health representative, of the six Clinical Leaders representing North Coast Area Health Service (NCAHS). This program ran over a one year period, where participation involved attending a workshop two consecutive days per month. The 1st day was a training day with guest speakers providing information on management and leadership issues. The 2nd day involved an 'Action Learning Workshop' whereby each of the six clinical leader trainees brought a local issue to the group and an action learning process was completed.

One of the action learning sets introduced by myself was a topic which arose following feedback from NCAHS Official Visitors, who raised questions over the use of seclusion within the Coffs Harbour Mental Health Inpatient Unit (MHIU).

Activities identified for follow-up from this Action Learning Set were identified as:

1) Investigate seclusion practices within the Coffs Harbour MHIU.
2) Compare those practices and seclusion rate with other similar MHIU within the NCAHS.
3) Investigate for the NCAHS, and the Coffs Harbour MHIU, in particular, compliance with seclusion related legislation and policy.

A subsequent review of the seclusion rates within the MHIU at Coffs Harbour and the other two NCAHS declared mental health facilities (DMHF) indicated considerable fluctuations in seclusion rates across facilities. These preliminary audits indicated that Coffs Harbour MHIU did *not* demonstrate a higher than area (NCAHS) seclusion rate.

A literature search regarding the use of seclusion in mental health facilities was subsequently initiated. An overview of the literature suggested a high level of inconsistency and use of emotive language. Consequently I became interested in conducting a research project within the Coffs Harbour MHIU which could facilitate a better local understanding of the use of seclusion.

Rural Research Capacity Building Program

At the completion of my participation in the Clinical Leadership Program arose an opportunity to apply for the 'Rural Research Capacity Building Program' (RRCBP) (2006). That program is run by the NSW Institute of Rural Clinical Services and Teaching (IRCST), a "virtual institute" established with the aim the supporting of rural clinicians across all career stages to promote good practice in rural health delivery.

The main aim of the RRCBP is to support health professionals to develop their health care evaluation and research skills. That aim is achieved by offering successful candidates research methods training and financial support to complete a research project for 97 days over a two year period. In addition, fortnightly teleconferences to enable group discussion regarding ongoing issues associated with participants' projects and, access to a range of services including mentoring and specialist statistical advice is provided.

Requirements were to submit a proposal for a research project to be conducted in a rural health setting with the primary researcher not currently enrolled in a Post Graduate research program. I applied with the proposal to replicate an El-Badri & Mellsop (2002) paper which looked at seclusion patterns in a New Zealand acute MHIU.

I was one of 26 successful applicants across rural NSW. Following the initial four day workshop held at the University of New South Wales in October 2006 I decided to enrol in a PhD program with Southern Cross University to complete a broader project regarding the use of seclusion within the NCAHS.

Australian Government: Department of Health Post Graduate Scholarship Program (Mental Health)

In 2007 I applied for and was successful in obtaining a $1000.00 per year scholarship offered by NSW Health: Mental Health Postgraduate Scholarship Scheme: Mental Health Nursing.

Seclusion Monitoring and Reporting Committee (NSW Health Department)

In 2007 I was requested to participate as the NCAHS Representative, on the NSW Health Seclusion Monitoring and Reporting Committee. The main aim of that committee was to develop a NSW-wide consistent approach to the monitoring of seclusion. The committee is

Mental Health Program Council-approved and conducts business via face to face meetings held in Sydney with teleconferencing capabilities for rural representatives.

Australian Rural Health Research Collaboration (ARHRC) – Research Higher Degree Network

As a participant in the RRCBP and PhD student I was invited to participate in the 'Research Higher Degree Network'. The Postgraduate Network was established in February 2008 by the Australian Health Research Collaboration. The aim of the program is to strengthen public health research capacity in rural NSW by increasing the number of skilled rural health researchers. I attended the initial face to face meeting at Dubbo (NSW) in April 2008. I have since participated in the quarterly teleconference link up focused on developing Terms of Reference and meeting structure for the research network.

This report has been compiled to meet the final requirements for the RRCBP. It constitutes a detailed report of research activities completed during my tenure as a participant in this program. That tenure concludes in June 2008.

Lynn Davies

Demographic Abstract

The use of seclusion in acute mental health services is controversial. Legislation dictates that seclusion should be a patient management strategy utilised only in extreme circumstances. A review of existing literature suggests, however, that there are considerable variations in working definitions of seclusion and in the methodologies used in its implementation across locations. Previous studies have infrequently compared practices across MHIU to determine whether such variations as have been reported occur within or between Area Health Services (AHS). With that in mind the data presented here were collected to review the use of seclusion in three DMHF within a single AHS. The NCAHS includes rural and regional settings in NSW (Australia) with no major metropolitan centres. The three urban centres captured are Tweed Heads, Lismore and Coffs Harbour. As expected, the demographics of individuals secluded at these three sites reveal both consistencies and inconsistencies. The results obtained are intended for the use of developing education and training aimed at maximising the usefulness of seclusion as a patient management strategy, whilst minimising potential negative impacts upon patients.

Demographic Introduction

Within the field of mental health, concern regarding deaths and serious injuries during hospitalisation, patients' rights, and the legislated requirement to deliver the least restrictive mental health service possible have lead to an increase in research into the use of seclusion (Honberg & Miller 2003; Sourander, Ellilä, Välimäki & Piha, 2002; NSW Mental Health Act, 2007). Current seclusion legislation and policy both consistently assert that seclusion should be a strategy reserved for extreme circumstances (as a last resort) following the failure of less restrictive measures to contain and/or manage behaviour (NSW Mental Health Act, 1990 & 2007; NSW Health Department Policy Directive (NSWHDPD) PD2007_054: World Health Organization, 2003; Sailas & Wahlbeck, 2005; Donovan, Plant, Peller, Siegel & Martin, 2003). The aim of this document is to examine the use of seclusion within such a legislative and policy driven environment.

Within existing literature analyses of seclusion fall broadly within two distinct groups. Seclusion has variously and emotively been described as a 'dangerous', 'overused', and 'misused' management strategy (Alty & Mason, 1994; Meiners, 2006; LeBel, Stromberg, Duckworth, Kerzner, Goldstein, Weeks, Harper, & Sudders, 2004), often implemented for the 'greatest good for the greatest number' rather than as a management strategy implemented solely to assist the secluded individual (Foucault 1967 cited Muir-Cochrane, 1995). In contrast, others have argued that seclusion is only initiated when all other less restrictive patient management strategies have proven unsuccessful (Wynaden, Chapman, McGowan, Holmes, Ash & Boschman, 2002; Wynn, 2002; Gullick, McDermott, Stone & Gibbon, 2005). In that context seclusion is seen as a management strategy most likely initiated following an aggressive incident (Sourander et al, 2002; Wynn, 2002); and for clinically relevant reasons (Gullick et al, 2005).

In order to assess the role of seclusion as a mental health management technique it is critical first to establish a definition of the practice of seclusion. Currently definitions vary and are dependant on local interpretations of seclusion practice (Alty & Mason, 1994). In Australia the definition of seclusion is both legislated and policy driven. Therefore, for the purpose of this paper, seclusion is defined as *"the supervised confinement of a patient alone in a locked room, from which the patient cannot leave of their own accord, at any time and for any duration and for any purpose"* (NSWHDPD2007_054, p3). This Policy Directive (NSWHDPD2007_054) is consistent with a key principle of the NSW Mental Health Act (1990) which states in Section

4(2)(b) that *"in providing for the care and treatment of persons who are mentally ill or who are mentally disordered, any restriction on the liberty of patients and other persons who are mentally ill or mentally disordered and any interference with their rights, dignity and self respect are kept to the minimum necessary in the circumstances."* The revised NSW Mental Health Act (2007) maintains this key principle.

In an attempt to understand existing seclusion patterns, researchers have compiled various statistics including seclusion rates (ratios transformed into percentages of seclusion episodes by admissions and/or separations), characteristics of seclusion episodes (duration of the seclusion episode; time of day, day of the week, and month of the year the seclusion episode was initiated), and the demographics of those secluded (age, gender, ethnicity). To date few consistent patterns have been identified (Kaltiala-Heino, Tuohimaki, Korkeila, & Lehtinen, 2003; Busch & Shores, 2000; El-Badri & Mellsop, 2002; Tunde-Ayinmode & Little, 2004; Yung, Organ, and Harris, 2003). That is, the statistics and demographics collected have added little to our understanding of when, why and how seclusion is used.

For example:

- Brown and Tooke (1992) in a review of the literature examining the use of seclusion documented the rate of seclusion episodes as being somewhere between 0% and 66%.

- El-Badri & Mellsop (2002) observed the median duration of a period of seclusion as 14 hours, whereas Tunde-Ayinmode & Little (2004) observed a mean period of seclusion as 9 hours. Alty and Mason (1994) cite studies that observed average durations of seclusion as ranging from 1.25 hours (Oldham, Russakoff & Prusnofsky,1983 cited by Alty & Mason, 1994) to 25 hours (Wells, 1972 cited by Alty & Mason, 1994).

- El-Badri & Mellsop (2002) identified a higher rate of seclusion occurring on day duty, whereas Tunde-Ayinmode & Little (2004) observed that seclusion episodes were more likely to occur in the evening.

- El-Badri & Mellsop (2002) observed no significant differences between the ages of those secluded whereas others have observed that both younger (Tunde-Ayinmode & Little, 2004; Way and Banks, 1990; Stolker, Hugenholtz, Heerdink, Nijman, Leufkens &

Nolen, 2005; Fisher, 2003) or, conversely older, patients more likely to be secluded (Wynn, 2002).

- Some studies have reported significant gender differences between secluded individuals. For example, studies have identified males as more likely to be secluded (El-Badri & Mellsop, 2002; Fisher, 2003; Wynn, 2002; Gudionsson, Rabe-Hesketh & Szmukler, 2004; Fryer, Beech & Byrne, 2004). While others have observed that females are more likely to be secluded (Way & Banks, 1990). Price, David, and Otis (2004) concluded that when adjusted for other variables no significant differences in the gender of those secluded were evident.

It could be argued that such variations are the result of:

- Discrepancies across researchers in the definition of seclusion. Much of the literature originating in the US draw conclusions from research based on the concept that restraint and seclusion are not mutually exclusive (Alty & Mason, 1994; LeBel et al, 2004; Knight, 2003).

- Sampling bias and/or variations in the populations of secluded patients. For example population samples described in the seclusion literature can be drawn from adult patients, child/adolescent patients, forensic patients, and patients with primary diagnoses ranging from mental retardation, mental illness, and dementia (Alty & Mason, 1994; Way & Banks, 1990).

- The reported and/or calculation of the seclusion statistics of interest varies from study to study. For example, monthly, quarterly, bi-yearly, etc and either total seclusion episodes by admissions and/or separations or unique seclusion episodes by admissions and/or separations.

- How the seclusion statistics were documented, that is, which measures of central tendency were reported. For example duration of seclusion is recorded as a mean or median (El-Badri & Mellsop, 2002; Tunde-Ayinmode & Little, 2004).

- Data collection period varies from study to study. For example El-Badri and Mellsop (2002) collected their data over a nine month period, whereas the current audit is based on data collected over a 2 ½ year period.

In an attempt to address some of these issues, several strategies have been implemented in the research reported here. These included targeting seclusion episodes within a defined AHS which is governed by the same policy-driven definition of seclusion; taking participants from an acute adult mental health patient group; collecting and transforming seclusion data in a common way; and reporting all demographics in a consistent fashion.

The current paper is arranged in three components. The first focuses on providing an overview of seclusion usage across the NCAHS by comparing statistical and demographic data from the three DMHF within this AHS. DMHF are those NSW MHIU which have been authorised to admit involuntary patients under the NSW Mental Health Act (2007). The second phase focuses on developing an understanding of the knowledge and attitudes held by staff in relation to the use of seclusion. The third and final phase addresses the appropriateness of the implementation of strategies aimed at the reduction and/or eventual elimination of seclusion within the NCAHS given the legislative and policy compliance requirements.

Previously it has been hypothesised that proper implementation of legislation and policies/procedures should result in similar patterns of seclusion use across service groups (Way & Banks, 1990; O'Connor, Morgan, Cheung, Fisher, George, & Stafrace, 2004). In NSW (Australia) the commencement of a period of seclusion and the management of an individual while in seclusion is guided by both legislation and policy (NSWHDPD2005_079: NSW Mental Health Act 2007) within the framework of service provision in the least restrictive environment whilst maintaining the safety of all parties (NSW Mental Health Act, 2007).

To examine that hypothesis, the current audit examined the demographics of Mental Health Inpatients secluded within the NCAHS (NSW – Australia see Figure 1). Data were analysed to give both an overall area (NCAHS) summary and a unit by unit (Tweed Heads, Lismore, Coffs Harbour) summary.

The statistics and demographics selected for this audit were both research and policy driven:

1. Previous Research
    - Unique Rate of Seclusion (see page 20 for definition)
    - Gender of those Secluded
    - Age of those Secluded
    - Time of Day Secluded
    - Day of the Week Secluded

2. Policy Directive
    - Duration of Seclusion Episode
    - Frequency of Seclusions

Patterns in seclusion-related data across the NCAHS were assessed for similarities and differences. It was anticipated that the nature of this research would identify interventions that could be initiated to ensure that the use of seclusion, although the most restrictive of patient management techniques, maximises positive outcomes for both staff and patients.

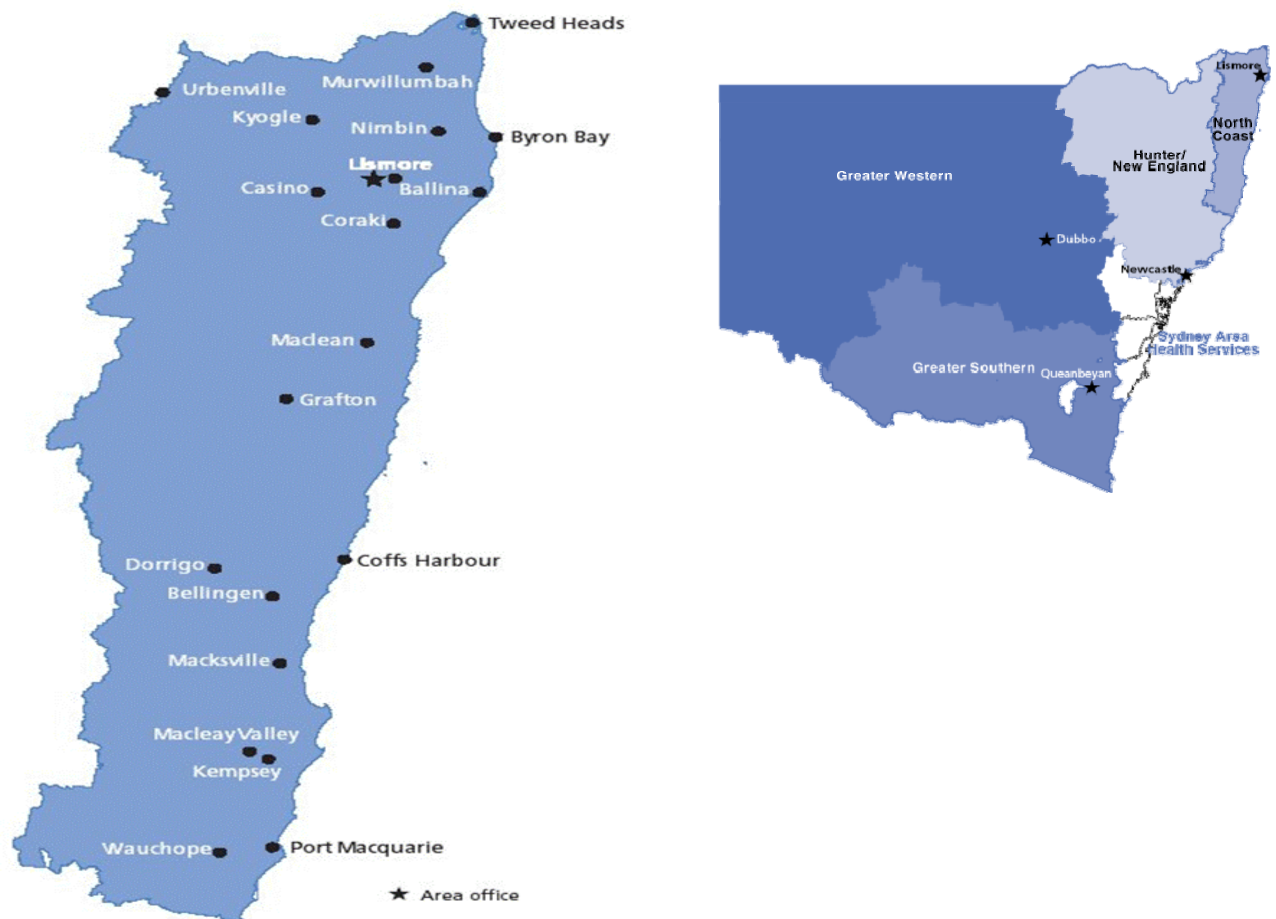

Figure 1: Map of NSW divided into Area Health Services with an enlarged view of the NCAHS and locations of Tweed Heads, Lismore and Coffs Harbour Mental Health Declared Facilities.

Demographic Methods

The protocols for this study were developed as the baseline data collection phase for an audit cycle and quality improvement project based within the NCAHS. The audit cycle had the aim of summarising current practice to determine where there are site differences and to determine where there are variances in compliance from existing legislations and protocols. The quality improvement project was aimed at developing a consistent, area-wide approach to the management of seclusion. In particular, this aspect of this project had the goal of providing data that would enable the development of an area-wide mechanism for recording and managing seclusion within the NCAHS in such a way that each DMHF was in compliance with all aspects of existing legislation and protocols.

All data reported here were initially recorded as a normal part of seclusion management and reporting at each survey site. So, seclusion statistics and other demographic information analysed and reported here are normal components of ongoing service performance indicators.

Ethics approval for the data collection and analysis was obtained from the NCAHS Human Ethics Committee (391N) and then approval was ratified by expedited approval from the Southern Cross University Human Research Ethics Committee.

The data reported here describe demographic and statistics of inpatients of the three DMHF located within the NCAHS. In particular the data describe individuals who experienced at least one episode of seclusion during the data collection period. The data were de-identified (patient names substituted for an anonymous Medical Record Number – MRN - via the North Coast Area Patient Administration System).

The audit was conducted on information recorded in the seclusion registers of the three DMHF and covered a 2 ½ year period – 1/1/2005 to 30/6/2007 inclusive. These data were collected on site by the primary researcher. Examples of the data collected at each of the sites are provided in Appendix 2. The audited data, and their availability by site, are shown in Table 1. The statistics and demographics of interest for this study were both previous research and policy driven (see Table 2).

Recorded Data	Coffs Harbour	Lismore	Tweed Heads
Patient Identifiers	√	√	√
Date of seclusion	√	√	√
Time seclusion initiated	√	√	√
Time seclusion ceased	√	√	√
Duration		√	√
Precipitants of seclusion	√	√	
Comments		√	After 1/8/06
Authorising Doctor	√	√	After 9/3/06
Nurse Initiating Seclusion	√		After 9/3/06
Nurse Terminating Seclusion	√		
Legal Status	√	√	After 9/3/06
Police Notification		√	
Staff Signature		√	
Medications Administered	√		

Table 1: Data obtained from NCAHS seclusion registers

The following data for each seclusion episode were recorded and are summarised here**:**

- Date of seclusion event
- MRN (medical record number)

- Unique – (coded u = unique; blank if not unique) (unique = 1st episode of seclusion per MRN per calendar month)
- Total Admissions (data obtained from the NCAHS Patient Administration System giving total admissions per calendar month)
- Sex
- Age at time of seclusion
- Age Group (Calculated by Excel formula to identify the following age groupings – Under 16; 16-20; 21-25; 26-30; 31-35; 36-40; 41-45; 46-50; 51-55; Over 55)
- Legal Status
- Time Into seclusion
- Time Out of seclusion
- Duration of each unique seclusion event
- Day of the Week (day of the week seclusion initiated – obtained from calendar)

The data entry process was checked for accuracy by random sampling and comparisons of entered and raw data across all sites. Four records from each site, 12 in total, were examined to check the data entry process. No data entry inconsistencies were observed as a result of this process.

'Unique Rate of Seclusion' is defined as a count of all patients experiencing at least one episode of seclusion as a ratio with admissions, both within each calendar month across the NCAHS (Tweed Heads, Lismore, and Coffs Harbour).

Calculated by:

1. Identifying the number of individuals who experienced at least one episode of seclusion in a calendar month. Data obtained from the respective seclusion registers.
2. Identifying the number of admissions to each specific unit in a calendar month.
3. Calculating the unique seclusion rate by dividing 1 by 2 for each calendar month.

All rates were transformed to percentages to allow comparison between units.

Demographic Results

Table 2 summarises the variables to be explored in detail within this report. These variables were selected in order to allow comparison with data collected in previous research (items 1 to 5) and to examine compliance with NCAHS policy (NSWHDPD2007-054) requirements (items 6 and 7).

Previous Research	Policy Directive
1. Unique Rate of Seclusion	6. Duration of Seclusion Episode
2. Gender of those Secluded	7. Frequency of Seclusions
3. Age of those Secluded	
4. Time of Day Secluded	
5. Day of the Week Secluded	

Table 2: Statistical and Demographic data described in these results. Items 1 – 5 have previously been identified, by other researchers, as factors affecting seclusion. Items 6 - 7 are items recorded under policy (NSWHDPD2007_054).

1. Unique Seclusion Rate

Unique seclusion is defined as a count of all in-patients experiencing at least one episode of seclusion within an individual MHIU (Tweed Heads, Lismore, Coffs Harbour) across a calendar month. Unique seclusion rate is defined as a count of unique seclusions and total admissions to each specific unit within a specified calendar month (data obtained from the NCAHS Patient Administration System - PAS) then dividing the unique seclusions by admissions and transforming this ratio to a percentage to allow comparison between units.

Figure 2a shows the unique seclusion rate across the NCAHS by month and year. Data have been averaged across the three DMHF so, for each year described, the unique seclusion rate is an average within the NCAHS. These data suggest no consistent monthly pattern of unique seclusion rate across this AHS. They also demonstrate clearly the importance of reviewing unique seclusion rate over an extended period of time in order to obtain an overview of

seasonal variation (or its absence). For example, review of the mean number of unique seclusions in 2006 data alone might suggest a peak in seclusion incidents in January. However, a review of the 2005 and 2007 data suggests the seclusion rate in January 2006 to be amodal.

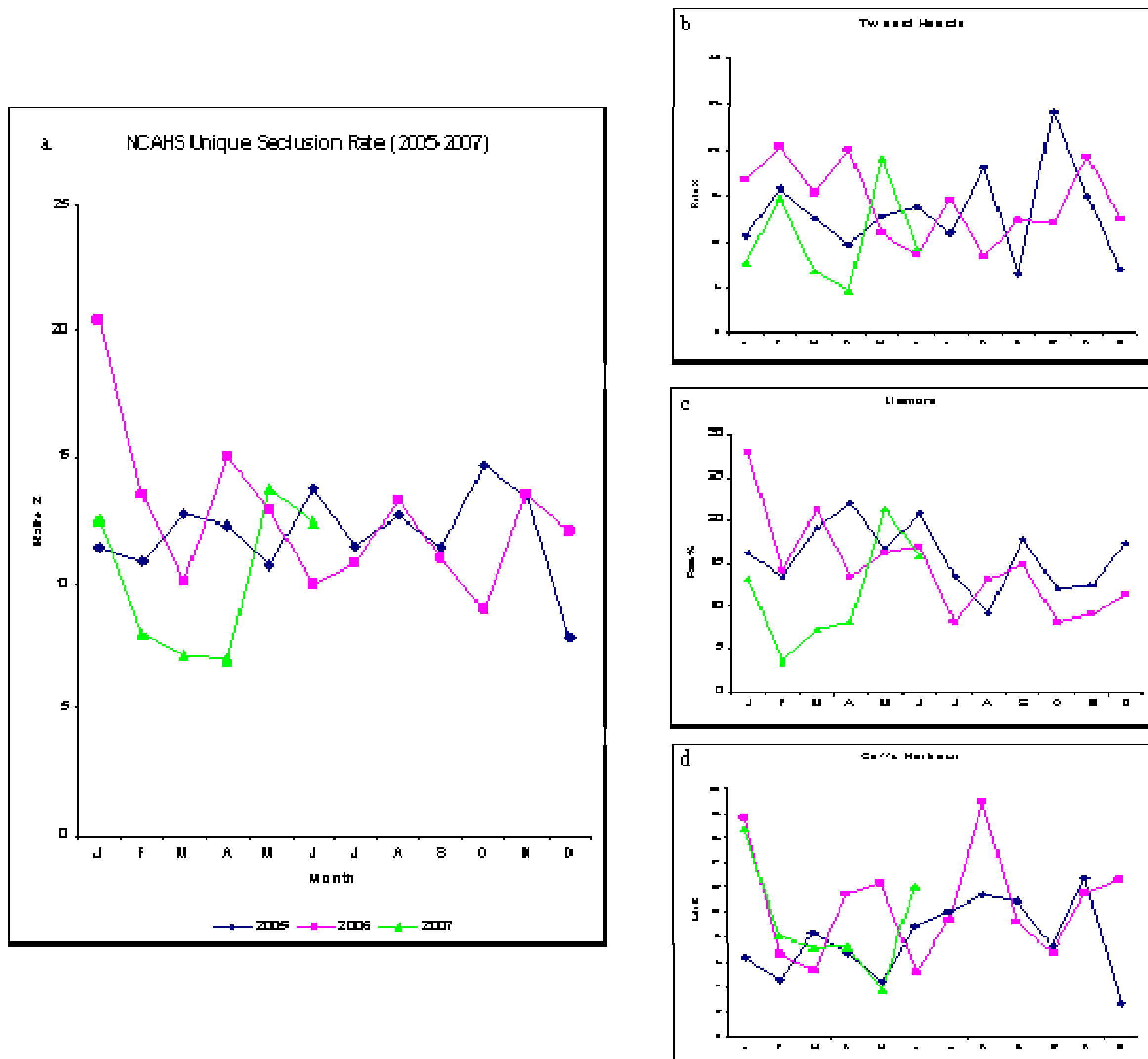

Figure 2: Unique seclusion rate by month and year. a. Illustrates the mean rates across the NCAHS. b. – d. illustrate unique seclusion rates by site; Tweed Heads, Lismore, & Coffs Harbour respectively. Total seclusion frequencies and unique seclusion rates across the NCAHS are described in Appendix 3 Tables 8 to 10.

The data were examined on a unit by unit basis (Figures 2b – 2d.) to assess any monthly patterns within individual units. Unique seclusion rates for each unit are actual rates and not mean values (Appendix 3 Tables 14 to 16). Those data suggest no systematic changes in unique seclusion rates across a calendar year at any of the three sites within the NCAHS. Again, the data show the importance of reviewing seclusion rates across longer temporal windows; longer term analyses suggest similar patterns of unique seclusion rates across sites.

To further examine the patterns of unique seclusions within the AHS average unique seclusions by site by year were calculated and compared (Figure 3). Inspection suggests there to be no yearly consistent pattern of unique seclusion rate.

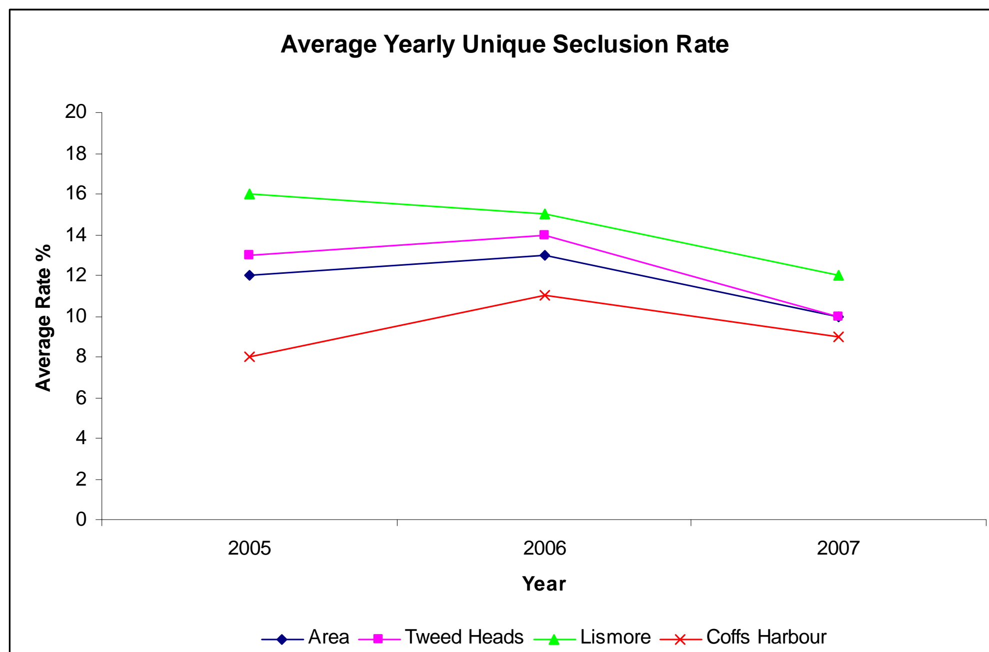

Figure 3: Unique seclusion rates by site by year. The mean area rates are shown in dark blue with each individual site also represented separately. Average yearly unique seclusion rates across the NCAHS are described in Appendix 3 Table 17.

2. Unique Gender:

Previous research offers inconsistent results when the gender of those secluded is examined. Here we examined the gender rates of unique seclusions, separating male and female unique seclusions at each site and also as means across the AHS. Each rate was

calculated as a function of the total number of unique seclusions within the area (Figure 4a), and at each of the audit sites (Figures 4b – d).

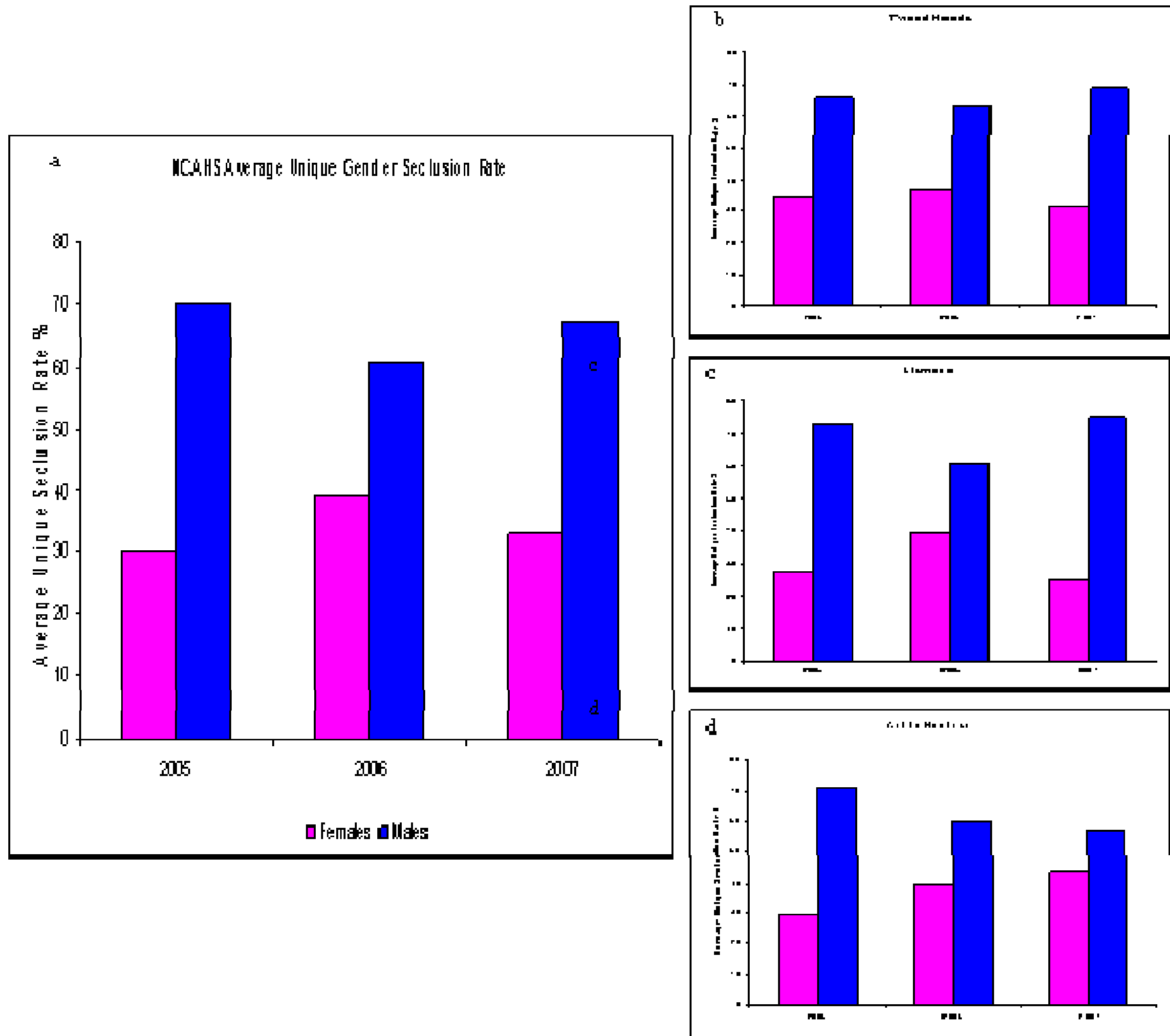

Figure 4: Unique gender seclusion rate by year. a. Illustrates the mean rates across the NCAHS. b. – d. illustrate unique gender seclusion rates by site; Tweed Heads, Lismore, & Coffs Harbour respectively. Appendix 3, Tables 18 to 20, contain the unique gender seclusion rates for the NCAHS.

The data suggest that within the NCAHS males are more commonly secluded than females, and that same trend is observed also within each of the three separate units. The common rate observed was between 60 – 70 percent male to 30 – 40 percent female seclusions at each site. Without taking into account admission rates for each gender within each unit and the

NCAHS more broadly care must be taken when interpreting these data. It may well be that males are more likely to be secluded than females, or it may be that seclusions rates simply reflect biases in general admission rates into the audited DMHF. Those alternatives are the subject of on-going data collection and analysis.

3. Unique Age

Previous research offers inconsistent results when the age of those secluded is examined. Here we examined unique seclusions by age groupings, from under 16 to over 55, with the range between 16 and 55 separated into five year increments. This was done individually for each site and as means across the AHS. Each rate was calculated as a function of the total number of unique seclusions within the area (Figure 5a), and at each of the audit sites (Figures 5b – d). The data suggest that for all three audited sites, the age of those secluded fell most commonly into the 20 – 45 year age groupings. Once again the question of whether this result is due to the possibility that those in the 20-45 age range are more likely to be secluded, or whether individuals in the range are admitted at a greater frequency is raised. Additionally, there is some support from the literature to indicate that secluded males more often fall into the younger age groupings than those males not secluded, and conversely, older females are more likely to be secluded than their younger cohort. It would be of interest therefore, to examine unique gender by age in order to answer the question 'are males and females within the NCAHS more likely to be secluded in similar age groupings?' Those questions are the subject of on-going data collection and analysis.

4. Time of Day Seclusion Initiated

Previous analyses of the relationship between time of day and seclusion use yield inconsistent results. Here we examined total seclusions by time of day the seclusion episode was initiated, divided into four hour time periods, at each site and also as means across the AHS. Each rate was calculated as a function of the total number of seclusions within the area (Figure 6a), and at each of the audit sites (Figures 6b – d). The data suggest that seclusion episodes were more likely to be initiated across all three sites during the time period 11am to 11pm. Of interest here would be a review of significant daily activities occurring during this period and the impact of these activities on seclusion episodes. For example, activities such as magistrate hearings, doctor's rounds, and other staffing issues may have an impact. An examination of such factors on time of day of seclusion initiation may indicate unit environmental issues, both common and

individual to the units, associated with the initiation of seclusion. Consistencies in patterns across the three sites may suggest the involvement of common/global staff factors rather than local staff factors.

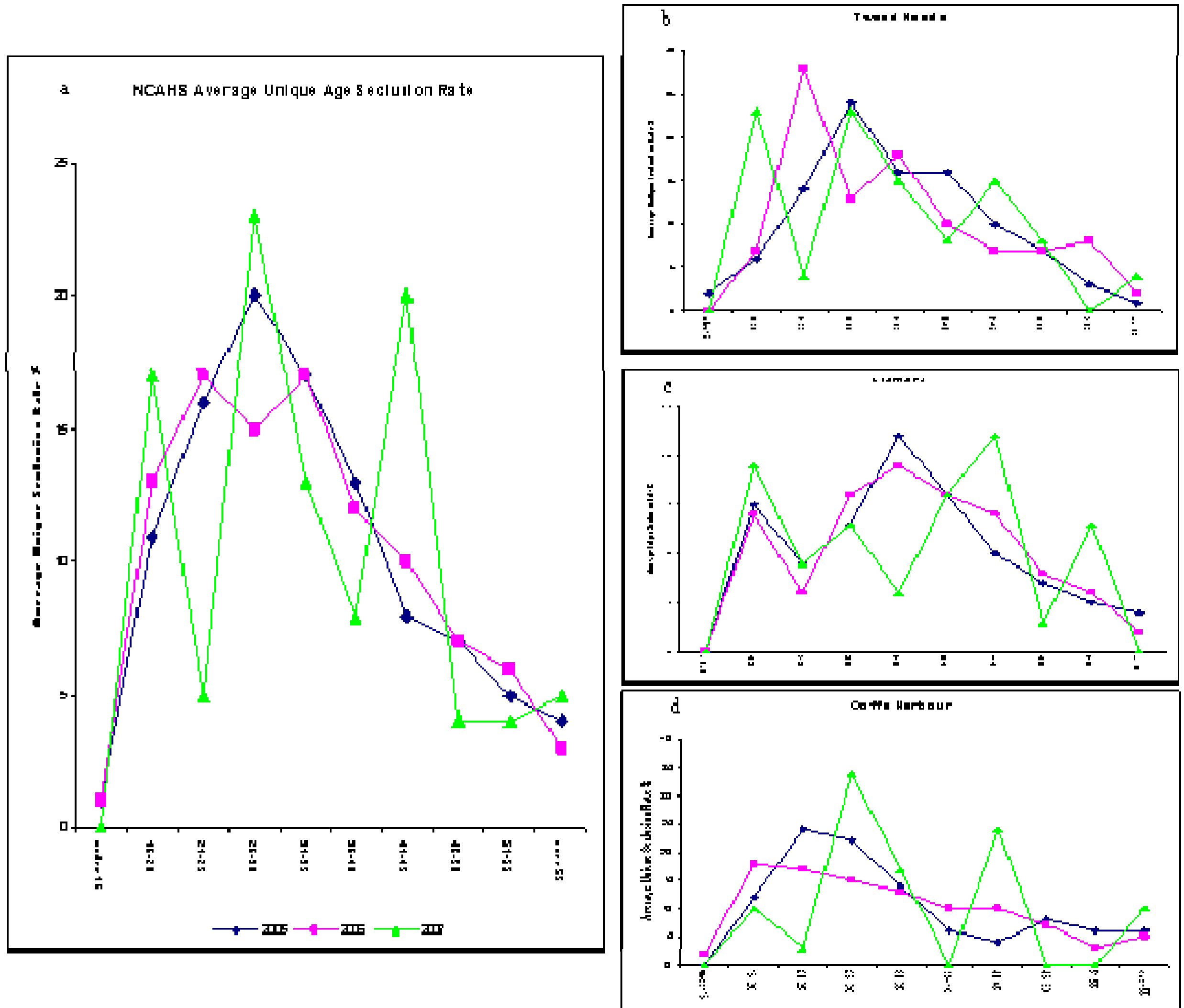

Figure 5: Unique age of those secluded by age group a. Illustrates the mean rates across each site. b. – d. illustrate age group seclusion rates by site; Tweed Heads, Lismore, & Coffs Harbour respectively. Appendix 3 Tables 21 to 23 reports the unique ages of individuals secluded as calculated by grouping the ages of patients having at least one episode of seclusion in a calendar month.

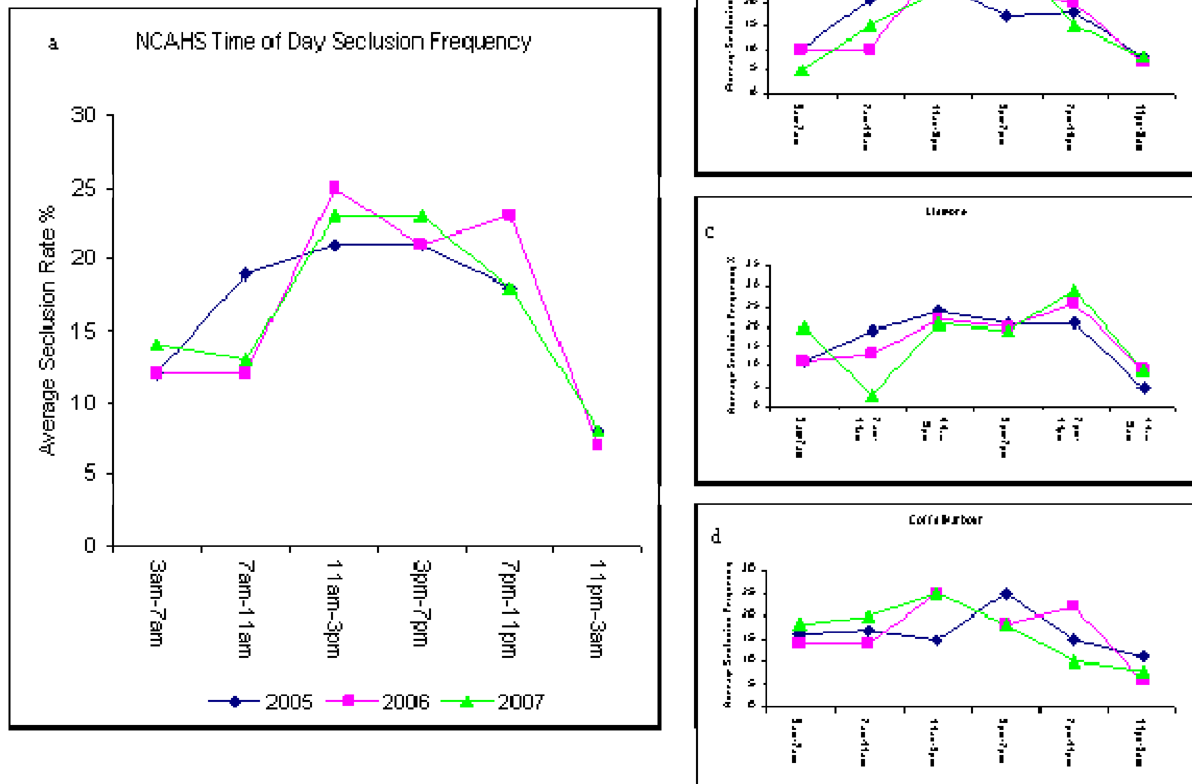

Figure 6: Time of Day of Seclusion Initiation a. Illustrates the mean rates across each site. b. – d. illustrate age group seclusion rates by site; Tweed Heads, Lismore, & Coffs Harbour respectively. Appendix 3 Tables 24 to 26 reports the frequency of time seclusion episode was commenced in 4 hour time periods.

5. Day Of The Week

Here we examined total seclusions by day of the week the seclusion episode commenced. Data represent the means across the NCAHS and also total numbers for individual sites. Each rate was calculated as a function of the total number of seclusions within the area (Figure 7a), and at each of the audit sites (Figures 7b – d). The data suggest no consistent pattern across the three audited sites in relation to the day of the week the seclusion episode was initiated. Again, the data suggest that such audits should be carried out over extended periods of time.

In addition, they suggest seclusion is most likely being initiated due to the local factors of patient acuity (which are random) rather than staffing factors (which are constant).

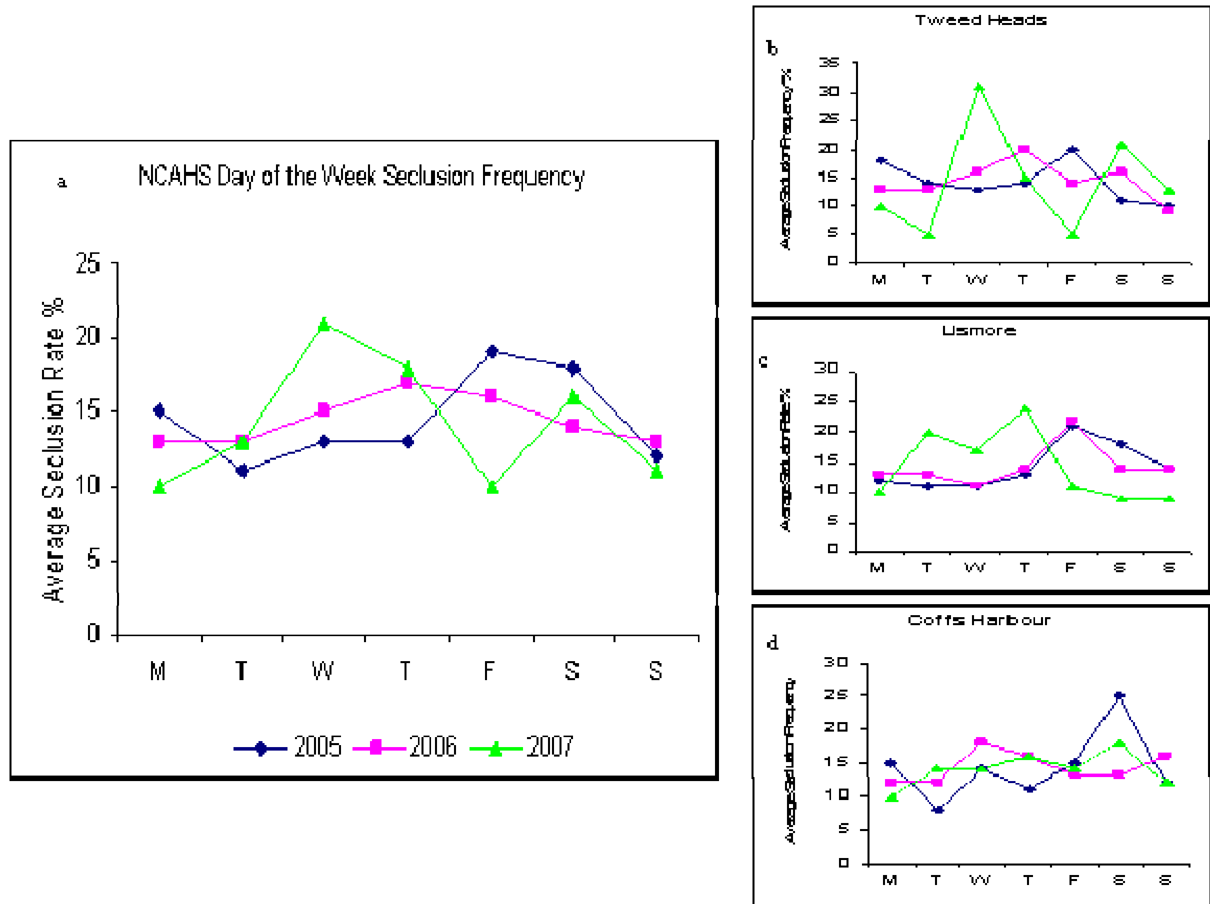

Figure 7: Day of the Week Seclusion Initiated a. Illustrates the mean rates across each site. b. – d. illustrate age group seclusion rates by site; Tweed Heads, Lismore, & Coffs Harbour respectively. Appendix 3 Tables 27 to 30 contain the data related to the day of the week each seclusion episode was commenced.

6. Duration of Seclusion Episode

Previous research into average duration of seclusion episodes is marred by the use of inconsistent units. Figure 8a - c suggests that the average monthly duration of seclusion episodes varied widely both between and within MHIU. Although not consistent across all three years there is some indication that Lismore, during 2006, had a tendency to seclude for shorter periods than either Tweed Heads or Coffs Harbour.

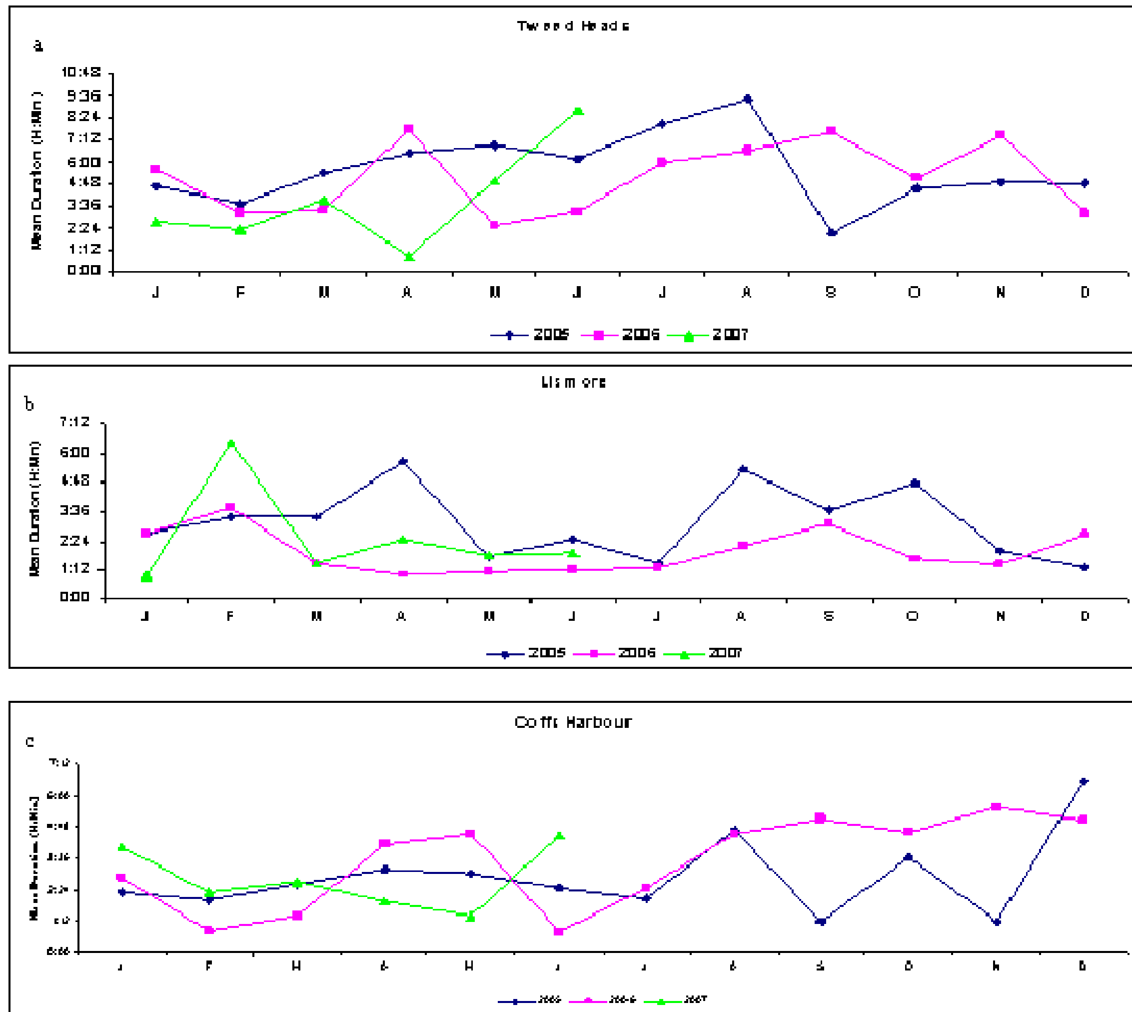

Figure 8: Average Monthly Seclusion Duration across the 3 sites. a. – c. Illustrates the mean rates across time for Tweed Heads, Lismore, and Coffs Harbour respectively. Appendix 3 Tables 31, 33 and 35 document the average duration of seclusion episodes per calendar month for each site and year.

Episodes of seclusion with a duration of greater than eight hours are required by policy (NSWHDPD2007_054) to instigate a review of the patient's management plan. Figure 9a - c suggests that Lismore demonstrated a lower percentage of seclusion episodes of greater than eight hours duration in 2006 than the other DMHF within NCAHS and additionally that Tweed Heads tended to record a higher percentage of episodes of greater than eight hours across all three years.

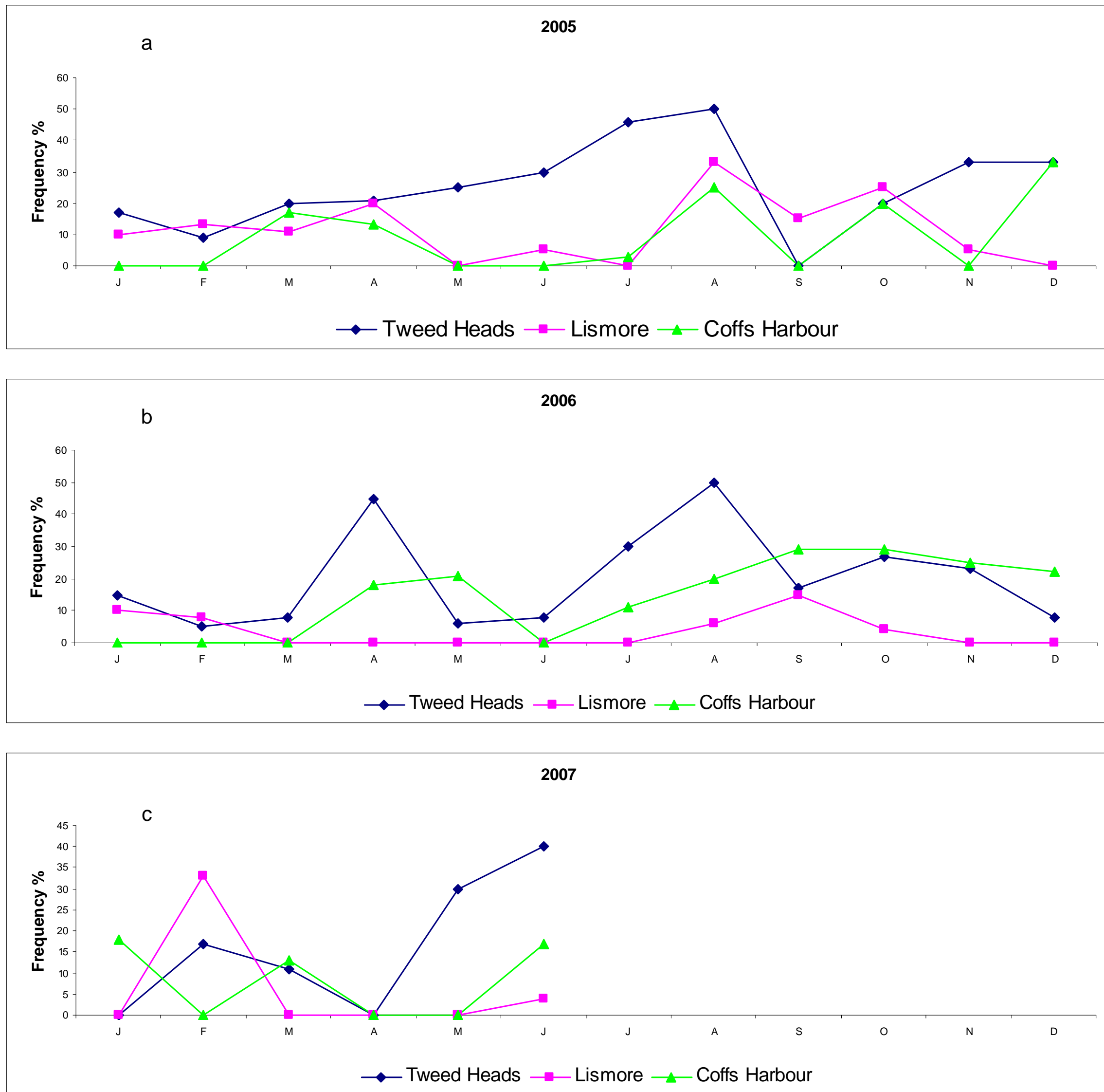

Figure 9: Percentage of Seclusion Episodes with a Duration Greater than 8 Hours a. Illustrates the percentage duration for 2005; b. for 2006 and c. for the first 6 months of 2007. Appendix 3 Tables 32, 34 and 36 contain a record of seclusion episodes of greater than 8 hours duration for each calendar month.

NCAHS policy (NSWHDPD2007_054) requires that the Medical Superintendent must review the management plan of a patient if their cumulative seclusion durations exceed 24 hours within a seven day period. Table 3 contains the percentage of individual patient's cumulative seclusion episodes which are 24 hours or more in a seven day time period in relationship to

total admissions across the NCAHS. These figures suggest that such occurrences are highly unusual.

Site	% of Cumulative Seclusion Episodes in 7 day time frame by NCAHS Admissions
Tweed Heads	0.8
Lismore	0.9
Coffs Harbour	0.5

Table 3: The percentage of an individual patient's cumulative seclusion episodes of 24 hours or more within a 7 day period by NCAHS admissions across the NCAHS. This result indicates that such occurrences are infrequent; less than 1% at each site. Appendix 3 Table 37 contains the data examining NCAHS secluded individuals who experience a cumulative duration of seclusion of 24 hours, or more, within a 7 week period.

This result is supported by Figure 10 which suggests that the occurrence of such cumulative seclusion durations in relation to overall seclusion episodes is rare.

7. Repeated Episodes

NCAHS policy (NSWHDPD2007_054) requires a review of a patient's management plan should an individual experience more than five episodes of seclusion, of any duration, within a seven day period. Figure 11 suggests that individuals in Lismore were by this index more commonly secluded than individuals in either Tweed Heads or Coffs Harbour. Figure 12 supports this observation as when total frequencies of seclusion were examined for the audited period a clear difference was identified; Lismore initiated almost double the number of seclusion episodes of Tweed Heads or Coffs Harbour.

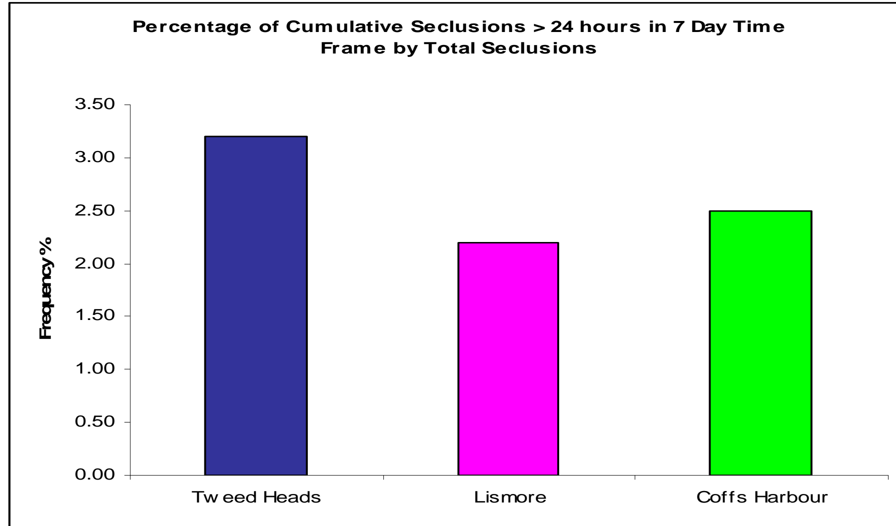

Figure 10: Individual patient's percentage of Cumulative Seclusions greater than 24 hours within a 7 day time period. Appendix 3 Table 37 contains the data examining NCAHS secluded individuals who experience a cumulative duration of seclusion of 24 hours, or more, within a 7 week period.

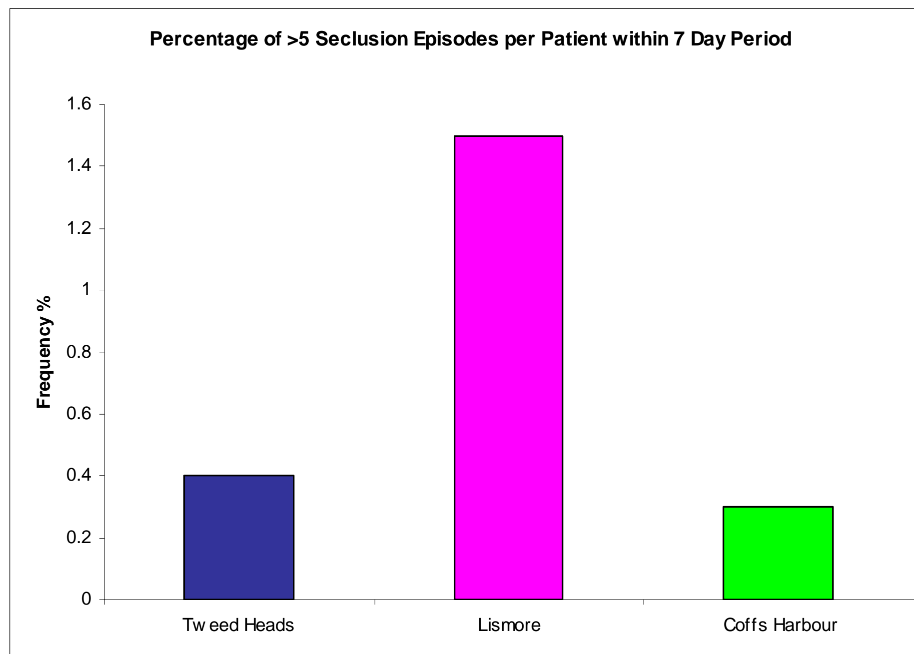

Figure 11: Frequency of more than 5 seclusions per individual within a 7 day period during the current audit cycle. Appendix 3 Table 50 contain data of individuals who experienced more than 5 episodes of seclusion, of any duration, within a 7 day period.

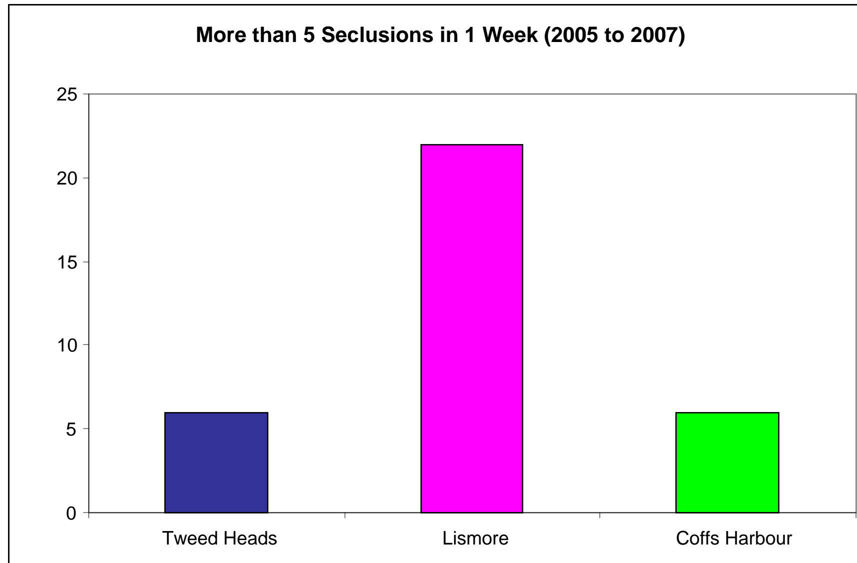

Figure 12: Frequency of more than 5 seclusions per individual within a 7 day period during the current audit cycle. Appendix 3 Table 51 contain data of individuals who experienced more than 5 episodes of seclusion, of any duration, within a 7 day period.

Demographic Discussion

It was hypothesised that services operating under the same legislation and policies/procedures would demonstrate similar patterns of seclusion usage (Way & Banks, 1990; O'Connor, et al, 2004). To assess that hypothesis a pre-selected group of seclusion statistics and patient demographics recorded by the three DMHF within the NCAHS, was examined.

The statistics and demographics selected were:

- Unique rate of seclusion (Month of the Year)
- Gender of those secluded
- Age of those secluded
- Time of day seclusion episode was initiated
- Day of the week seclusion episode was initiated
- Duration of the seclusion episode
- Frequency of seclusion episodes

Data recorded over a 2 ½ year audit period were examined (January 1 2005 to June 30 2007). Legislated and policy/procedures under which the units were operating remained unchanged throughout the audit period. A discussion of each statistic and demographic follows.

- **Seclusion Rate**

The results obtained from this audit consistently demonstrated the importance of longitudinal examination of seclusion data. Seclusion rate fluctuated both within and across MHIU operating within the same legislative and policy environment. The table (Table 4) documents the ranges (2.74% to 24%) observed in monthly unique seclusion rates observed during the audit period across the NCAHS. The current findings are consistent with those observed by Brown and Tooke's (1992) literature review in which considerable variation in seclusion rates between mental health services was observed. In addition, this audit also demonstrates variation in the seclusion rate within mental health services, especially when short discrete time periods (such as months) are utilised.

No consistent results were observed to indicate any patterns such as seasonal fluctuations. In addition it appears seclusion rate is not impacted upon by discrete time intervals such as month of the year. These results support an hypothesis that unique seclusion rate

fluctuates as a result of local variable factors (for example patient acuity and staffing) rather than global factors stable factors (for example legislation and/or policy/procedures).

Site	Unique Seclusion Rate Range (By Month)		
	2005	**2006**	**Jan-July 2007**
Tweed Heads	6.35%-24%	8.33%-20.37%	4.65%-19.05%
Lismore	9.26%-22%	8.33%-21.28%	3.7%-21.43%
Coffs Harbour	2.74%-12.7%	5.17%-18.87%	3.7%-16.67%
NCAHS	7.9%-14.7%	9%-20.4%	7%-13.8%

Table 4: NCAHS Unique Seclusion Rate Ranges across the NCAHS. The unique seclusion rate ranges described indicate that during the audited period the unique seclusion rates observed ranged from a low of 2.74% to a high of 24%. Appendix 3 Tables 8-10 and 14-16 contain the unique seclusion rates throughout the audited period.

Those findings are supported by some of the literature. For example, it has been argued that variations in the use of seclusion result from differences in levels of aggression and/or acuity of patients admitted across services (Outlaw & Lowery 1994; Wynaden et al, 2002). In addition it has been reported that staffing issues affect the use of seclusion (Betemps, Somoza & Buncher, 1993). For example, staff attitude and behaviour (Mattson & Sacks, 1978); clinical skills (Spokes, Bond, Lowe, Jones, Illingworth, Brimblecombe & Wellman, 2002); interpersonal skills (Spokes et al, 2002; Ilkiw-Lavalle & Grenyer, 2003); employment profile such as casual/permanent (Ford, Durcan, Warner, Hardy & Muijen, 1998), experienced/inexperienced (Morrison & le Roux 1987; Williams & Myers, 2001; Humpel & Caputi, 2001; McGowan, Wynaden, Harding, Yassine, & Parker, 1999: Mattson & Sacks 1978), and gender ratio (Kirkpatrick,1984 – cited Alty & Mason, 1994); staff : patient ratios (Alty & Mason 1994; Wynn, 2003; Mattson & Sacks 1978); and, local culture which includes staff attitudes to management strategies more likely to be initiated locally (Hopton 1995: Wynaden et al, 2002). Conversely other authors have concluded that staffing factors do not impact on the use of seclusion (Fryer et al, 2004: Daffern, Mayer & Martin, 2006).

Given the current results, the reporting of seclusion rates (total or unique) without the context of data on patient activity and staffing issues may be of limited explanatory power. By examining these variables together, research may more appropriately address the question of what is an acceptable rate of seclusion.

- **Gender of those secluded**

When not adjusted for respective admission rates, this audit suggests that males are more often secluded than females across all three DMHF within the NCAHS. The common rate observed was between 60 - 70 percent male to 30 - 40 percent female. These results will, at a later stage, be compared with the rate of male to female admissions. It may well be that males are more likely to be secluded than females, or it may be that a greater percentage of males are admitted to the audited DMHF than females.

- **Age of those secluded**

The age of those secluded fell most commonly into the 20 – 45 year range. This pattern was common for all three audited sites. Once again the issue of whether this result is due to the possibility that those within the range are more likely to be secluded or whether individuals in the range are admitted to these MHIU at a greater frequency is raised. By comparing the results obtained in this audit with age groupings of all admissions the issue of patient age and likelihood of seclusion will be more appropriately investigated.

- **Time of day seclusion episode initiated**

The data indicate that seclusion episodes were more likely to be initiated across all three sites between 11am and 11pm. The consistency across sites suggests common or global factors (for example environmental issues), rather than local factors (for example patient acuity) influence time of day seclusion is initiated. Of interest here would be a review of significant daily activities occurring during this period and the impact of these activities on seclusion episodes. By reviewing time of initiation of seclusion with documented precipitants, unit environmental factors, for example, magistrate hearings, doctor's rounds, staff availability, etc, may be identified and utilised to identify high risk activities with the possibility of implementing strategies focused on minimising the identified risks.

- **Day of the week seclusion episode initiated**

No consistent pattern across the three audited sites was observed in relation to the day of the week the seclusion episode was initiated. The result obtained from this demographic further supports the belief that such audits should be carried out over extended periods of time. For example if the Tweed Heads data from 2007 was examined in isolation it would appear individuals are more likely to be secluded on Wednesdays. However when the data from Wednesdays are combined across years and units this pattern is less pronounced. This result supports a conclusion of seclusion being initiated due to local, variable factors

(for example patient acuity) rather than global, consistent factors (for example environmental factors such as staffing issues and unit activities).

- **Duration of the seclusion episode**

As with seclusion rates – the duration of seclusion episodes varied greatly both within and between MHIU.

The importance of reviewing duration of the seclusion episodes relates to a number of actions specifically directed by NSW Health policy (NSWHDPD2007_054).

- The patient must be assessed by the Medical Officer or Senior Nurse within the 1st hour (irrespective if the seclusion episode does not last for one hour) of an episode of seclusion commencing and then every four hours following the initial examination.

- The patient must be commenced on a fluid balance chart if the seclusion episode exceeds two hours (continuous seclusion).

- A seclusion episode of longer than eight hours (continuous seclusion) should flag that that the patient's condition and treatment plan requires review.

- The Medical Superintendent must be informed if a patients cumulative seclusion episodes total 24 hours within any given week period (7 days).

No clear evidence from the current descriptive examination of this data indicates that the three MHIU differ greatly in their pattern of duration of seclusion episode. There is some (albeit inconsistent) indication that Lismore may seclude for shorter periods than the other two units (Tweed Heads and Coffs Harbour). Further statistical examination of the data obtained may assist in clarifying this issue.

- **Frequency of initiation of seclusion episodes**

Large differences in frequency in initiation of seclusion episodes were observed during the audited period. More specifically, Lismore initiated almost double the number of seclusion episodes observed at either Coffs Harbour or Tweed Heads. No systematic difference was observed between Coffs Harbour and Tweed Heads during this period.

Demographic Conclusion

The results obtained in the current audit suggest MHIU operating within the same legislative environment and under the same policies and procedures demonstrate considerable variation in the statistics and demographics related to the use of seclusion.

The seclusion statistics and demographics collected in this audit are commonly utilised as national indicators, key performance indicators, reported during accreditation and benchmarking (Skews, Meehan, Hunt, Hoot, & Armitage, 2000). The value of utilizing these demographics to describe the use of seclusion within and between services is valuable but not sufficient to provide a comprehensive picture of its use. The current audit has identified that by combining seclusion demographics with additional factors such as patient acuity, unit environmental factors and staffing issues a clearer picture of the risk factors associated with the use of seclusion would be obtained.

Abstract
Staff Questionnaire

Discussion continues over best practice regarding the management of mentally ill individuals exhibiting behavioural disturbances, especially the use of seclusion as a management strategy. Legislation (NSW Mental Health Act 2007) and policy (NSWHDPD2005_079) dictate that seclusion should be a management strategy utilised only in “extreme” circumstances when other less restrictive management strategies have failed. Researchers have argued that the patterns of seclusion use should be consistent across services operating under identical legislation and policy (O’Connor et al, 2004). However, there have been reported variations in the use of seclusion between such equivalent services (Way and Banks,1990); findings that are supported by the demographic audit conducted in the first phase of the current project. Based on the current data it is concluded that although useful, the statistic and demographic factors addressed were not sufficient to provide a comprehensive picture of seclusion use within the NCAHS MHIUs.

With that in mind the second phase of the current project has as its aim to provide additional, vital information to the analysis of seclusion practices. To achieve that aim, a questionnaire developed by Heyman (1987) and previously used to document staff attitudes and knowledge regarding the use of seclusion within mental health services (Meehan, Vermeer & Windsor, 2000; Meehan, Bergen & Fjeldsoe, 2004) will be employed. It is anticipated that the results obtained from reviewing staff responses to the questionnaire will, when combined with the statistic and demographic data be useful in developing strategies aimed at maximizing the value of seclusion use across the NCAHS.

The following report includes only the initial components of the second research phase (Introduction and Methods) with the remaining components to be completed within the requirements of the primary author’s PhD.

Introduction - Staff Questionnaire

A review of the literature indicates that patients and staff are often polarised in their assessment of the use of seclusion (Alty & Mason, 1994; Meehan, et al, 2004; McElroy,1985; Soliday 1985; Ilkiw-Lavalle & Grenyer, 2003).

Patient Attitudes:

A considerable body of the available literature indicates that the impact of seclusion on the patient is predominantly negative (LeBel et al, 2004; Wadeson & Carpenter 1976; Binder & McCoy 1983; Hamill, 1987; Hamill, Evooy, Koral & Sneider, 1989; Richardson, 1987; Norris & Kennedy, 1992; Meehan et al 2000; Tooke and Brown, 1992). For example, patients have stated that seclusion has minimal therapeutic value, is commonly used for inappropriate reasons such as minor disturbances, is a behavioural control strategy, and that it results in negative patient experiences, inducing for example feelings of fear, punishment and abandonment (Amos, 2004; Meehan, et al, 2004; LeBel et al, 2004).

Some authors supporting the elimination of seclusion as a management strategy have argued that individuals who experience a mental health hospitalisation where seclusion is practiced can experience both personal and vicarious trauma (Frueh, Knapp, Cusack, Grubaugh, Sauvageot, Cousins, Yim, Robins, Monnier, & Hiers, 2005; Hoekstra, et al, 2004) as a consequence of the use of seclusion. McFarlane, Schrader, Bookless, and Browne (2006) concluded that as clinicians focused primarily on the patient's presenting mental health issues they were unlikely to identify the hospital experience as resulting in exposure to personal or vicarious trauma. As such clinicians were less likely to identify the need to reduce the use of aversive management strategies such as seclusion.

In contrast, there is evidence to suggest seclusion is associated with positive patient experiences. Some patients have been reported as associating the seclusion experience with inducing feelings of safety and security (Mann, Wise & Shay, 1993). Sourander et al (2002) argued that seclusion could have both a positive and negative effect on the secluded patient. Indeed, Hoekstra, Lendemijer and Jansen (2004) have suggested a temporal factor is involved in reports of the quality of seclusion episodes; they argue that time since a seclusion episode impacts reports of positive experiences (they become more likely to be reported) but not negative experiences, which remain stable over time.

Staff Attitudes:

Sailas and Wahlbeck (2005) concluded that staff attitudes regarding the use of seclusion have remained stable across time. Staff commonly consider seclusion to be beneficial to the patient and an acceptable patient management strategy (Tooke and Brown, 1992; Muir-Cochrane, 1995). For example, Lemonidou, Priami, Merkouris, Kalafati, Tafas and Plati (2002) concluded from their study that 80% of nurses supported the use of seclusion, 16.8% of nurses opposed the use of seclusion, and the remaining 4% neither supported nor opposed the use of seclusion. Other studies seeking staffs beliefs regarding seclusion have concluded that nurses often believe seclusion to be a necessary, therapeutic strategy that can assist patients to settle (Meehan, et al, 2004) which is utilised appropriately (Wynn, 2003).

It has been reported that injuries to staff as a result of assaults by patients make health care one of the most dangerous occupations in the United States (Little 1999). Added to this already difficult work situation is the staff perception that any strategies aimed at reducing and/or eliminating the use of seclusion would result in an increase in injuries to staff, a view that is supported by some research (Knight, 2003; Khadivi, Patel, Atkinson, Levine, 2004).

Executive Summary:

On balance, then, and as suggested by Alty and Mason in their 1994 review, it appears experiences of seclusion for both patients and staff is a combination of positive and negative experiences. More specifically in the case of patients the balance is more heavily weighted towards negative experiences and for staff the balance is more heavily weighted towards positive experiences.

In conclusion a balance between safe practice and therapeutic treatment is needed (Meehan, McIntosh, & Bergen, 2006), with the clinical staff developing an understanding of how patients feel about seclusion, and patients developing an understanding why and how seclusion is implemented (Meehan, et al, 2004).

Aim of 2nd Phase Of This Project:

It has been argued that although legislation and policy clearly dictate the circumstances under which seclusion can be initiated, managed and terminated, a lack of understanding of these legislative requirements and policies result in inappropriate use of seclusion by staff (Belkin, 2002). Results from this project will be utilised to examine any differences, if any, between the

knowledge and attitudes of staff in the three NCAHS DMHF. Based on the results training programs targeting shortfalls in knowledge and the up-skilling of new mental health staff will be developed and initiated. Part of that training will focus on improving staff understanding of the appropriate NSW legislation and policy. The aim will be to offer all MHIU staff the opportunity to complete a questionnaire, giving broad picture of staff attitudes and knowledge (both in number and discipline) to seclusion use across the NCAHS.

Methods – Staff Questionnaire

The current project aims to collate data related to staff attitudes and knowledge of the use of seclusion within the NCAHS. To that end, a questionnaire developed by Heyman (1987) will be used. However items of the questionnaire will be revised to capture understanding and knowledge of NSW seclusion relevant legislation and policy terminology of NCAHS staff. The revised questionnaire is presented in Appendix 4. Table 5 provides a list of the revised items and details of each revision.

Revised Question Number	**Rational for Question Revision**
Question 5	Added to explore any patterns of seclusion related to day of the week an individual is secluded.
Questions 6 and 11	Comments section were revised to reflect local terminology for NCAHS high dependency area, that is, HDU.
Question 16	Added to explore staff's understanding of NCAHS seclusion policy related to medical review.
Question 17	Added to explore staff knowledge of the documentation that must be completed whenever a patient is secluded.
Questions 6 and 7 (Staff Demographic Information on the final page of the questionnaire)	Added to obtain information on the usual place of work of the respondents.

Table 5: Revised staff questionnaire items.

Ethics approval was obtained from the NCAHS Human Ethics Committee (390N) and expedited ethics approval from the Southern Cross University Ethics Committee. Consent was sought by requesting that participating staff read and sign a Staff Participant Information sheet (Appendix 5). Participants included all clinical staff employed either permanently or casually at the three DMHF located within the NCAHS (Tweed Heads, Lismore, and Coffs Harbour). Participating staff were not required to provide personal identifying information.

Following an information briefing (individual or group) where the primary researcher explained superficially the components of the project, the questionnaire was distributed to NCAHS clinical mental health staff. All staff members operate within the same legislative and policy framework. Each questionnaire was distributed in a return addressed envelop with the Participant Information Sheet (Appendix 5) attached. The Participant Information Sheet stated that participation in this research was voluntary. As per ethics approval guidelines for the project, consent to participate was assumed following the completion and return of the questionnaire to the primary researcher.

Results and Discussion – Staff Questionnaire

Results

Data from the returned staff questionnaires were entered into Excel spreadsheet. Appendix 6 contains an SPSS Code Book for the variables of interest. Data analysis of the Staff Questionnaire will be completed as part of the broader PhD project.

Table 6 documents legislative and policy compliance within the Coffs Harbour Mental Health Unit. Tweed Heads and Lismore's compliance will be documented as components of the broader PhD project.

Legislative/Policy Requirement	**Compliance**
Weekly seclusion-specific multidisciplinary meeting – • If an individual has more than 2 episodes of seclusion their treatment plan must be reviewed. • If an individual has an episode of seclusion longer than 8 hours – their treatment plan must be reviewed. The Senior Medical Officer must formally review all incidents – preferably weekly in concert with multidisciplinary treating team.	Weekly reviews of seclusion episodes currently are not standard practice within the Coffs Harbour Mental Health Unit.
Cumulative statistics must be kept • Prolonged and repeated seclusion (> 5 seclusion episodes and or > 24 hours cumulative seclusion in a 7 day period)	Cumulative duration seclusion data is collected and reported to the 'NSW Seclusion Monitoring and Reporting Committee'. However, those data are not examined in relation to the policy directive definition of 'Prolonged and Repeated'

The Medical Superintendent must be informed of Prolonged and Repeated instances of seclusion.	seclusion. The Medical Superintendent is not informed of Prolonged or Repeated instances of seclusion.
Monthly report prepared for Official Visitors	The Official Visitors are not provided with a pre-prepared seclusion report.
All staff involved in secluding a patient must be trained in Aggression Minimisation Techniques	Some compliance with the mandatory Zero Tolerance To Violence (Module 1) training. Some compliance with the recommended Zero Tolerance To Violence (Module 2) training. Zero compliance with the NCAHS approved PMVA training.
All staff briefed prior to and offered an opportunity to debrief following the procedure.	Compliance with pre seclusion briefing, however non compliant with post debriefing.
Providing patients the opportunity to participate in management plan development (Advanced Care Directives and Care Planning)	Zero compliance with the development of specific seclusion focused, patient participated, care plans or advanced care directives.
Patients offered debriefing after seclusion events, offered at clinically appropriate time, within 24 hours of seclusion termination.	Not standard practice to debrief a patient specifically regarding a seclusion event.
Documentation • Seclusion Register • Fluid Balance Chart (initiated if clinically indicated or if seclusion	Seclusion Register maintained and reviewed and commented on monthly by Official Visitors. Initiation of Fluid Balance Chart as directed

episode duration exceeds 2 hours) • Documentation of patients consciousness. • Observation chart	by policy not standard practice. Patient's level of consciousness not routinely documented. Observation Chart not routinely initiated at the beginning of a seclusion episode.
Risk status should be updated after each incident.	Specific risk assessment not documented following a seclusion episode.
IIMS documentation	Standard practice to complete IIMS documentation for each seclusion event.
Monthly Quality Improvement Meeting to discuss seclusion episodes.	A monthly Safety and Quality Meeting is conducted with Seclusion as a standing Agenda item.
Implementation of a Seclusion reduction plan.	No specific seclusion reduction plan is in effect.

Table 6: Coffs Harbour's Legislative and Policy Compliance

Discussion

It is anticipated that the local benefits of conducting the current research will include, but not be limited to, the identification of consistent and inconsistent interpretations, understandings and implementations of area health service policies and state legislation. Consistencies support current processes aimed at informing staff of their responsibilities in relation to the use of seclusion. Inconsistencies can assist in the re-evaluation of current training practices and focus attention on possible areas for modification to ensure a consistent implementation of policy.

Global benefits of this research would be to the wider mental health community. It is anticipated that the results obtained from this questionnaire will be presented to the mental health community via conference presentations and journal publications. Such presentations and publications facilitate an ongoing conversation regarding the use of seclusion. Discussion

of the results will assist in leading debate as to the use of seclusion within mental health services.

It has been argued that although legislation and policy clearly state the circumstances under which seclusion can be initiated, a lack of understanding of these legislative and policy requirements result in staff inappropriately using seclusion (Belkin, 2002). It is anticipated that an analysis of the data collected from the current distribution of the questionnaire will assist in determining whether NCAHS mental health staff have a clear understanding of current seclusion legislation and policy requirements.

A repeat distribution of the questionnaire will occur approximately 12 months following the implementation of the above education/debate on the use of seclusion. This will assist in determining if any changes in knowledge and/or attitudes towards the use seclusion have occurred.

The results and discussion specifically related to the Staff Questionnaire will be completed within the broader PhD project.

Discussion – Combined Statistical/Demographic Audit and Staff Questionnaire

The audit reported earlier demonstrated that although the collected statistics and demographics aid in understanding seclusion related usage patterns, other data such as staff, patient and environmental factors need also to be collected in order to provide a comprehensive review of the use of seclusion within and between MHIU. Meehan, et al (2006) identified a combination of patient (patient acuity), staff (staff communication skills) and environmental (lack of unit activities/programs, use of medications) factors as contributing to the aggression observed within the mental health units participating in their study. It is commonly accepted that the main precipitant to a seclusion episode is aggression towards either self or others (Wynn, 2003).

Locally accepted staff and/or patient behaviours, not necessarily based on official policies or procedures, express the units 'culture'. Culture is defined as the development of habits, be they appropriate or inappropriate. In relation to decision making in particular, culture relates to the choosing of the same set of management strategies given the same precipitants.

Alty & Mason (1994) propose 3 theoretical constructs regarding the use of seclusion

1. Therapeutic intervention where the use of seclusion assists in one or more of the following: the decrease of medication use to control difficult behaviour; stimulus reduction as some patients may be overloaded with internal stimuli so require reduction in external stimuli; and, the opportunity to allow intensive one on one nursing.

2. Containment intervention where the use of seclusion can protect the unit's therapeutic and program activity offer therapeutic containment for patients (for example patients experiencing manic symptoms) and containment of patients who demonstrate a significant absconding risk.

3. Punishment intervention (this constitutes emotive language and it could re named 'risk reduction') where the use of seclusion is considered the safest option for all concerned; as a strategy to encourage compliance with policies; and, to ensure protection of self and others.

It could be argued that the use of seclusion appropriately fits into all three of Alty and Mason's (1994) interventions, if the third intervention was renamed to risk assessment. The Medical Officer and/or Nurse in Charge utilise their clinical judgement skills to appropriately (according to legislation and policy) seclude patients.

However, some seclusion literature argues that the decisions made to seclude an individual are inappropriate. Authors of these studies appear to take the position that staff make the decision to seclude an individual based on ‘value judgements’ rather than ‘clinical judgements’ (Alty & Mason, 1994; Meiners, 2006; LeBel, et al, 2004).

One possible way to assess the decision making process made by staff is to examine compliance with legislation and policy in relation to the seclusion of individuals. It could be argued that compliance with legislation and policy supports the hypothesis of appropriate clinical decision making while non compliance with policy might suggest inappropriate use of seclusion.

Future Directions

There is considerable literature supporting the notion that the use of seclusion can, without adverse impact to staff or patients, be reduced and/or eliminated (Donovan, et al, 2003; Donat, 2003; Honberg & Miller 2003; Khadivi, et al, 2004; Glover, 2005). For example, Currier and Fareley-Toombs (2002) argued that they were able to reduce by 50% the number of seclusion and restraint episodes, and simultaneously they reduced the duration of each event by 41%. Unfortunately this study and many like it do not distinguish a seclusion episode from a restraint episode (Glover, 2005; Sailas & Fenton, 2000; Donovan, et al, 2003). Such studies leave unanswered a number of important questions including; what were the initial seclusion and restraint numbers – is the reduction of statistical or clinical relevance (for example, a reduction of 2 episodes to 1 episode is a reduction of 50% and may seem statistically significant but does it have any clinical significance)?

Numerous studies have documented programmes aimed at reducing seclusion and managing aggressive patients without the use of seclusion (Ozarin, 2005; Fisher, 2003; Sailas & Wahlbeck, 2005). Some authors have argued that the implementation of policy/procedure/regulation alone can reduce seclusion episodes (Currier & Fareley-Toombs, 2002; Donovan, et al, 2003). By contrast Curie (2005) argued that policy changes are necessary but not sufficient to reduce or eliminate the use of seclusion. A further position is taken by Muir-Cochrane and Holmes (2001) who argued that supporting seclusion in any form via legislation and/or policy supports its continued use and reduces the effectiveness of any implemented measures aimed at the reduction and/or elimination of seclusion.

The NSW Health policy directive related to the use of seclusion in psychiatric inpatient facilities (NSWHDPD2007-054, p2) states *"This policy will be reviewed and revised in the future in response to a range of related strategies currently in development that will impact on the use of seclusion. These include workforce development strategies such as further development of aggression management training, and potential recommendations on procedures and inpatient environmental changes arising from the national working group currently identifying strategies to reduce the use of seclusion."*

It is argued in this report that many of the strategies discussed in the literature aimed at reducing or eliminating the use of seclusion are already key components of the policy requirements of NCAHS regarding the management of aggression and the use of seclusion

(NSWHDPD2007-054; NSWHDPD2005_315; NCAHS Area Policy NCPOL 41-05). Table 7 describes the Policy and Legislative requirements supported by strategies identified in the literature to support seclusion reduction programs. Developing strategies to ensure compliance with strategies already mandated, rather than the development of new strategies, may be a more appropriate focus for working parties such as the one described above in the policy directive.

Current NSW Legislation/Policy	Literature based strategies for reducing and/or eliminating seclusion
1) Identification of Precipitants: Section 11.1 'Documentation components' – (NSWHDPD2007-054, p12) *"The patient notes and seclusion register must state:" second dot point "The precipitants to the use of seclusion"*	Morrison (1990) argued that an individuals aggressive behaviour was often associated with identifiable precipitants and common triggers. Soloff (1987 cited by Alty & Mason, 1994) concluded that identifying precipitants of a seclusion episode provided useful information in describing the use of seclusion.
2) Ongoing Assessment: Section 9.2 'Medical Authorisation and Examination' (NSWHDPD2007-054, p11) *"The medical officer (MO) must examine the patient in seclusion within the first hour of commencement" the policy also goes a step further to ensure ongoing review by stating ...*"	Honberg and Miller (2003) argued that by implementing the 'One Hour Rule' whereby the secluded patient had to be reviewed in a face to face setting by a Medical Officer within one hour of the initiation of the seclusion episode the use of seclusion could greatly be reduced.
3) Patient Information: Section 7.1 'Communication' (NSWHDPD2997-054, p8) *"Patients for whom there is deemed no safe alternative to seclusion should be clearly informed of the rationale and planned timeframe for seclusion, and the conditions upon which seclusion will be*	Meehan, et al (2000) identified that by providing information to patients about seclusion, why and how it was to be initiated the patient's experience was likely to be less traumatic.

ceased."	
4) Advanced Care Directives and Collaborative Patient Management Plans: Section 7.1 'Communication' (NSWHDPD2007-054, p8) *"Except in an emergency, staff should explore strategies to reduce agitation with the patient. Discussion should include what kind of treatment or intervention the patient feels would be most helpful and least traumatic to ensure safety."* And Section 14 'Advanced Instructions' (NSWHDPD2007-054, p13) *"Advanced instructions involve discussing seclusion with the patient prior to the seclusion occurring. This process engages and empowers the patient, can establish mutual trust and reduce the perception that seclusion will be used as punishment. This strategy can increase the predictability of the disturbed behaviour and promote opportunities for therapeutic communication. The process also promotes consistency in the management approach".*	Cowin, Davies, Estall, Berlin, Fitzgerald and Hoot (2003) concluded that by involving patients in developing an agreed management plan the need for seclusion could be reduced. This was achieved by the development of a better understanding of the factors that contributed to the aggressive behaviour (Meehan, et al, 2006) and what strategies the patient could identify as assisting or hindering their own ability to control their aggressive behaviour (Hoekstra, et al, 2004).
5) Patient Debriefing: Section 10.2 'Patient's Perception' (NSWHDPD2007-054, p11) *"….the patient should be offered an opportunity to engage with the treating team in a reflective review of the incident with the view to averting future episodes of seclusion"* and	Meehan, et al (2000) observed that by debriefing the patient following a seclusion episode the emotional impact of seclusion on the patient and the need for seclusion episodes could be reduced.

(NSWHDPD2007-054, p11) *"Following the termination of seclusion, the patient should be offered the opportunity to review the event with a nurse and/or medical officer at a clinically appropriate time within 24 hours of the incident"*.	
6) Staff Debriefing: Section 10.3 'Staff Perceptions' (NSWHDPD2007-054, p11) *"A senior nurse should facilitate a reflective review of the incident with all staff involved (including medical officers) following an episode of seclusion".*	Wynaden, et al (2002) discussed the importance of providing staff debriefing and an opportunity for staff to reflect on their clinical practice in the management of the incident leading up to and including the seclusion. This reflective practice provided an opportunity for ongoing education and quality improvement in the management of aggressive incidents.
7) Least Restrictive Practice: NSW Policy Directive (NSWHDPD2007-054, p5) which states *"Seclusion is an option of last resort when less restrictive alternative interventions have failed or are unsafe".* Section 2.3 Alternative Interventions (NSWHDPD2007-054, p5) Table 2 documents common causes of behaviour disturbance and includes de-escalation strategies. Along with the current mandatory training available to all NSW Health staff, Zero Tolerance to Violence Module 1 and Module 2 (non mandatory but recognised as important for at risk workers eg Mental Health staff), (NSWHDPD2005_315) emphasises the importance of de-escalation techniques and the	Cowin, et al (2003) proposed that by utilising a combination of both verbal and physical aggression minimisation techniques successful defusing of an aggressive incident was more likely. Morrison (1990) stressed the importance of verbal de-escalation prior to the use of seclusion in the management of aggressive behaviour. Wynaden, et al (2002) stressed the importance of the development of an aggression management hierarchy, both for staff and patients, in order to interrupt the aggression escalation cycle.

development of self management plans for staff focusing on non physical aggression management strategies.	
8) Staff Aggression Minimisation Training: Section 8.1 'Staffing' (NSWHDPD2007-054, p9) *"Only staff trained in aggression management/physical intervention strategies should be involved in the seclusion procedure".* Zero Tolerance to Violence Module 1 (NSWHDPD2005_315) is a NSW Health mandatory training requirement and NCAHS has just endorsed PMVA training to be rolled out to all MH staff.	Knight (2003) argued that staff training should primarily be focused on de-escalation strategies rather than on learning physical restraints.
9) Staff/Patient Interaction: Section 15.4 of the NSW Health Policy Directive (NSWHDPD2007-054, p15) which states *"During waking hours the observations should involve verbal communication with the patient and other interactions that do not compromise safety but acknowledges the need for meaningful human contact including opportunities for supervised interaction with other patients where possible".*	Meehan, et al (2000) supported an increased interaction between staff and patients during seclusion as such interactions aided the reduction of any emotional impact of the seclusion episode on the patient. Ilkiw-Lavalle & Grenyer (2003) concluded that when communication between staff and patients improved the likelihood of ongoing aggression decreased. decreased aggression.

Table 7: Policy and Legislative requirements supported by strategies identified in the literature to support seclusion reduction programs.

When asked outside of the hospital setting about the use of seclusion mental health consumers and their carers identified the following issues as being of significant importance (TheMHS, 2000):

- Seclusion rooms to be used as a last resort
- Constant re-evaluation of a person in seclusion room
- Constant re-assuring and communicating with people in seclusion rooms
- The seclusion room should be a safe and appropriate place, used only for original intentions (ie treatment not punishment).
- De-briefing opportunities to work through the issues and feelings caused by seclusion
- Patients should have available the support from a consumer advocate during and after the seclusion

All the above (apart from the last dot point) are already components of NSW and NCAHS legislative requirements and policy directions regarding the use of seclusion.

Questions of Interest:

1. Does non compliance with policy indicate that the policy needs review or that practice requires updating or is some form of compromise required?

2. Are staff and patient perceptions of the causes of aggression, management of aggression and strategies for reducing aggression similar (Ilkiw-Lavalle & Grenyer, 2003; Fagan-Pryor, Harber, Dunlap, Nall, Stanley and Wolpert, 2003)?

3. How could we more appropriately examine the use of seclusion across the NCAHS? Usefulness of continued reporting of rates and demographics. Are they adequate or should they be reported in conjunction with other measures such as observations of care to record patterns of staff behaviour before, during and after patient aggressive events (Bee, Richards, Loftus, Baker, Bailey, Lovell, Woods & Cox, 2006). Such observations of care along with staff and patient interviews, patient stories, and focus groups have assisted in the development of strategies for dealing with aggressive patients (Wynn, 2002; Schreiner, Crafton, Sevin, 2004; Fagan-Pryor, et al, 2003).

Recommendations proposed by the author following the current report are:

1. As has been discussed above, NSW policy documents procedures, supported by research, which the literature suggests are effective seclusion reduction strategies. Policy implementation and compliance needs to be examined and strategies to aid staff in policy compliance initiated.

2. Continued NCAHS participation in NSW Health Seclusion Monitoring and Reporting Committee.

   - Number of inpatients having at least 1 episode of seclusion in a calendar month period

   - The number of inpatients having at least 2 episodes of seclusion in a calendar month period

   - The number of inpatients having seclusion for more than 4 hours in a calendar month

   - The total number of inpatients having a seclusion episode in a calendar month

   - Total number of hours of seclusion in a calendar month.

   With a focus on supporting the consistent monitoring and reporting of seclusion statistics which encourage clinically useful seclusion use assessment rather than just the collection of statistics which add little to the understanding of the local use of seclusion.

3. The initiation of consistent seclusion recording and data collection across the NCAHS with the aim of the development and implementation of an area based on-line seclusion log and reporting process. The long term aim would be to encourage such consistent State and National data collection.

4. Regular review (monthly) of within and between MHIU compliance with seclusion policy by reporting to the area based quality and safety committee and implementing annual quality activity audit cycle, with the primary aim of developing, implementing and

evaluating a seclusion reduction plan aimed at identifying the variables associated with reductions in the use of seclusion.

5. Development and/or use of risk assessment documentation that supports assessment of decision making process in the pathway to each seclusion episode.(Exworthy, Mohan, Hindley, Basson, 2001; .Sailas & Wahlbeck, 2005). With a primary focus on a balance between security and treatment (Meehan, et al, 2006) which supports the continued use of seclusion to prevent harm to others (Exworthy, et al, 2001). Management support of appropriate staff patient ratios based on risk assessment. A measure of the safety of both staff and patients should be included as an outcome measure (Sailas & Wahlbeck, 2005). With the focus on safety not just seclusion reduction which has resulted in an increase in staff and patient assaults (Khadivi, et al, 2004).

6. Management support to ensure new staff education and ongoing refresher training, both verbal and physical, regarding aggression minimisation and the use of seclusion (Hopton, 1995; Wynaden, et al, 2002; McGowan et al. 1999; Mattson & Sacks 1978; Cowin, et al, 2003; Donat, 2003). The inclusion of patients in aggression minimisation education programs (Sailas & Wahlbeck, 2005; Meehan, et al, 2006).

7. Staff education identifying the impact on patients of management strategies such as seclusion and how best to include the patient in the development of individual management plans (Frueh, et al, 2005; Wynaden, et al, 2002; Meiners, 2006).

8. Ongoing research support which allows an appropriate comparison between units with non seclusion policies and those utilising seclusion to examine factors such as:

    - Ongoing clinical assessment of patient acuity. It would be of interest to identify factors, pre seclusion, which patients would be more likely to benefit from the initiation of seclusion reduction strategies. For example the use of aggression risk scales or pathology/acuity scales, such as, Bigelow's Psychiatric Symptom Assessment Scale (PSAS) and the Overt Aggression Scale (OAS) have been used to determine pathology scores and aggression ratings respectively.

    - Medication use in the management of aggressive incidents. The use of medication before, during and after an episode of seclusion has been examined

in a number of studies (Stolker, et al, 2005). Authors have argued that the use of medications to manage aggressive behaviour is a form of restraint and more restrictive than seclusion alone (Cowin, et al, 2003). By using medication to control aggressive behaviour clinicians reduce the patients ability to implement self control strategies aimed at minimising their own aggressive behaviour (Cowin, et al, 2003; Wynaden, et al, 2002). Alty and Mason (1994) argued that the effectiveness of policies aimed at reducing and or eliminating seclusion should be evaluated alongside an examination of any increases in the use of chemical restraint in the management of aggression.

- Staff perception of adequate medication levels. Illkiw-Lavalle and Grenyer (2003) observed that staff members perceived the patient's acuity was often the cause of the aggression and believed that, to manage aggression, changes in a patients routine antipsychotic medication would reduce the need for seclusion (Hoekstra, et al, 2004).

- Ongoing evaluation of any strategies, such as the above recommendations, which have been implemented to reduce and/or eliminate the use of seclusion (Sailas & Fenton, 2000; Sailas & Wahlbeck, 2005; Outlaw & Lowery 1994; Wynaden et al 2002). For example, do assault rates decrease if staff are encouraged and trained in verbal de-escalation Fagan-Pryor, et al, 2003; Khadivi, et al, 2004).

- Examination of the impact of staffing issues (Fryer, Beech and Byrne, 2004; Wynn, 2003) and their impact on aggressive incidents, for example, staff patient ratios and training (Mattson & Sacks 1978; Alty & Mason 1994); staff and management attitudes to the use of seclusion (Hopton 1995; Wynaden, et al, 2002). Staff gender and skill mixes (Humpel & Caputi, 2001; Lemonidou, et al, 2002; Daffern, et al, 2006; Kirkpatric 1984 cited Alty & Mason, 1994; Morrison & le Roux 1987).

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