An Evaluation of the Nimbin Integrated Service Project (NIS)

Final Report

25 July 2012

Launch of Nimbin Integrated Community Care -
Nurse Practitioner position.

Wet weather may have caused the official opening of the expanded Nimbin Neighbourhood and Information Centre (NNIC) on 18 April 2008 to be moved indoors to the Nimbin Bowling Club but no one’s enthusiasm was dampened.

The event included the launch of an official history of the NNIC, researched and written by its hard-working Team Leader, Natalie Meyer and local identity, Lisa Yeates.

The Centre’s roots date from 1978 (five years after the famed Aquarius Festival) and since then it has been central to the local community, providing a focus for various important services, both Government and Non-Government.

This happy event was an ideal opportunity to highlight the role of the Nimbin Integrated Service Delivery Partnership Project, which is committed to achieving a sustainable, accessible and equitable delivery of human services. The Partners include NSW Premier’s Department and North Coast Area Health Service.

During the planning process, the community had identified that a major priority was the addressing of mental health issues, as well as the usage of alcohol and other drugs.

In response to this local concern, NCAHS took the step of employing a Nurse Practitioner in Mental Health.

The appointment was taken up by Genevieve Beggs who has been in place for the past eight months, forging close links with local residents who have been benefiting from her specialized skills.

Genevieve is clearly enjoying her role and we wish her every success in this challenging position.

Suggested citation:

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Executive Summary

Nimbin is a small rural town in Northern NSW, situated in a beautiful valley region 35km north of Lismore. The Nimbin area has a population of 1,560 people. It is a socio-economically deprived area and has unusually high prevalence of drug and alcohol use, mental health problems, violence, crime and homelessness, alongside unusually high tolerance and acceptance, and community orientation.

The Nimbin Integrated Services Project (NIS) is an innovative community originated and based mental health initiative now in its fourth year of operation. The NIS consists of a full-time nurse practitioner specialising in mental health who is permanently based in a well-used, non-health community organisation in the town (the Nimbin Neighbourhood and Information Centre - NNIC). The NNIC is a not-for-profit charitable NGO which operates as one-stop-shop with an open-door/drop-in model of service delivery. NNIC has many functions including providing generalist welfare services, a Soup Kitchen and Vacation Care. It is an outlet agency for Brighter Futures Far North Coast (CONC) and a Centrelink Agency. The NNIC also provides access to facilities such as PCs, phones, fax and copiers, as well as accommodating outreach service providers such as Job Service Providers, Probation and Parole and Legal Aid.

The Nurse Practitioner (NP) works through close street-based contact with the community of Nimbin. The NP sees a wide range of clients, 20% of whom she classifies as "in crisis". She offers flexible, immediate, short and longer-term support to clients with a range of mental health problems including those with a dual diagnosis of mental health and drug and/or alcohol dependence. The NIS includes a proactive and preventative (of escalation) approach as well as having the capacity to deal with crises as and when they occur where possible.

Over the 4.67 years (4 years and 8 months) of the NIS, there were 578 listed clients. The NP sees around 5 clients a day, the vast majority of whom are adults with a median age of 40.

The NIS was established in response to community concerns about the amount of violence and anti-social incidents that were occurring in Nimbin. These incidents were often highly visible in the street and had a significant mental health dimension. There were concerns about the limited, fractured, ‘outreach’ and reactive nature of health services provided to Nimbin leading to a lack of response, lack of local presence, absence of continuity of care and lack of preventative focus. There were apparent service gaps particularly for dual diagnosis clients as well as a significant reluctance of mental health (MH) and drug and alcohol (D&A) clients to access health services. The establishment of the NIS was built on a foundation of community concern and considerable effort over many years by the community itself. The NIS aimed to:

- provide an effective and efficient human services delivery model that addresses the health, social and welfare needs of the Nimbin community
- work collaboratively to ensure the sustainable and equitable delivery of human services to the Nimbin community
- employ a full-time Integrated Health Care Worker
- provide triage, assessment and short term case management of people wanting health and welfare related assistance
- provide front door to other services such as MH, D&A, community services and allow for referrals to be made and followed up by tertiary services
- share information between agencies and the community re service planning, monitoring, evaluation and reporting
- ensure sustainable funding, management and maintenance of the service
- improve the integration of services offered by each agency.

The University Centre for Rural Health- North Coast undertook an evaluation of the NIS in late 2011-Autumn 2012. The evaluation produced a review of the literature on rural integrated service models for mental health and a description of the development and implementation of the NIS. Qualitative and quantitative findings of the effectiveness of the NIS including a cost-effectiveness analysis were included. The evaluation also considered the application of the model to other rural sites.
The evaluation found no models similar to the NIS reported in either research literature or government reports on the dimensions of originating from the community, being led by an NP, or located in a non-health community organisation.

Participants in the evaluation offered universal praise for the NP’s skills, knowledge and expertise at dealing with the diverse client group. The NP was reported to be accepted by and integrated into the community, confident and willing to intervene. The evaluation concluded that it is unlikely the role could be delivered as it is currently is, by anyone other than an authorised MH NP or a GP with MH skills.

There is anecdotal evidence across a range of institutions, groups and clients that the NIS is a highly regarded and useful service, in particular at dealing with crisis situations with dual diagnosis clients that occur in the Nimbin community. Participants described the NIS as an accessible service due to its approach, the skills of the NP, location, availability and flexibility.

The location of the NIS, in a non-health, community based, one-stop-shop open door NGO, was reported to be of particular importance. Participants reported that the location of the NIS had removed some of the stigma of mental illness, and this was supported by findings that a third of clients were self-referred.

It is possible to speculate from population based data that the NIS is making a contribution to reducing mental health hospital Emergency Department presentations, and reducing assault offences in the Nimbin community. The quantitative findings included that there had been a statistically significant reduction in the number of MH Emergency Department presentations and assault Emergency Department presentations to Nimbin hospital since the NIS began in 2007. There had also been a stabilisation of numbers of interventions by the Acute Care Service for clients resident in Nimbin.

The evaluation demonstrated integration between services/partners at a strategic, worker and client level across a range of services, and particularly between the NIS and other services within the NNIC. This improved coordination and integration between services such as the Nimbin Neighbourhood and Information Centre (NNIC), the hospital, General Practice, housing, justice/corrections, employment, and immigration is noteworthy and unusual, and contrasts greatly with the ‘siloed’ services antithetical to effective care of dual diagnosis clients. The integration with acute mental health care and extended care services at the institutional levels of strategy, professional development and systems could be further developed.

Importantly, integration is reflected in the NSW State Plan 2021. Goal 11 [1] for example prioritises early intervention in the community for mental health clients, moving treatment away from the hospital and emergency departments. Goal 11 also articulates ensuring that people with a mental illness are diverted from the criminal justice system where possible. Anecdotal evidence suggests the NIS contributes to achieving both of these goals.

A summary of features that are associated with the success of the NIS includes:

- Community-based needs assessment and community-based drivers established the NIS from the outset and the NIS includes input from a broad range of services/providers and is based on partnership between a number of agencies
- The NIS is based in Nimbin, a rural Australian town with an unusual population, a strong sense of community and high level of tolerance
- The service is predicated on genuine integration of the NP into the local community, and some of her work is “street-based” as opposed to functioning in a hospital or General Practice setting with clients on an appointment only basis like many other services. For example, in the NIS the NP is actually able to hear when an issue is developing in the street due to the location of the service, and intervenes at that point
- The NIS is located in a non-health/clinical community based NGO setting. This location has reportedly contributed significantly to both the success of the service and to reducing the stigma of mental health problems
- The NIS can offer both immediate crisis management and support and also provide ongoing support (with a reported 3-6 months average client engagement with the NIS)
The NIS supports dual diagnosis clients
- The clinician at the heart of the NIS is an authorised NP
- The NP is reported to be accepted and integrated into the community, and is confident, skilled and willing to intervene
- The NIS aims to be proactive, and preventative (of escalation in a particular situation, and generally of mental ill health and D&A misuse/dependence) rather than purely reactive although it also has the capacity to deal with crises where possible as and when they occur.

Economic analysis showed that the NIS cost $148,620.30 in 2009/2010. The total clients serviced by the program in year 2009/10 were 160. The average costs per client were $928.88 and the average costs per hour of the service were $92.12.

The evaluation team randomly sampled data from 20 clients who were seen in 2010/11 and their usage of the NIS was investigated. The frequency of contact with the NIS ranged from 1 to 16 times and during each appointment their time with the NP varied from 0.5 to 4 hours. The total hours per client the NP spent ranged from 0.5 to 17.5 hours, and averaged 5.69 hours. The cost per client ranged from $46.05 to $1611.75, and averaged $523.82. If a GP did the equivalent hours (113.75 hours) for the sampled clients, based on the Medicare Fee Item 2721 ($87.5/30mins), it would cost $16,450, or $995.31 per client.

Before the NIS, there were 152 mental health, assault and drug and alcohol patients who presented to Nimbin Hospital Emergency Department (ED) in 2006. After the Nurse Practitioner was employed in June 2007, the presentations dropped to 30 in 2009. The cost-effective ratio (cost per ED presentation saved) was $1,218.

It is not possible to directly compare the results of the economic analysis of the NIS with other similar services, as the costs included and outcomes measured in other published studies are different. The NIS evaluation took the program perspective and included personnel costs and running costs only and no health outcomes were measured. However, most published economic studies of community psychiatric nursing took a broader perspective and measured health outcomes.

The evaluation was unable to produce evidence of crime reduction in Nimbin. Evaluation of crime statistics for Nimbin was hampered by a number of significant limitations, not least that appropriate Nimbin-specific data were not available, and that before and after measures would have been affected by both underlying secular trends and intervention by other agencies, in this case a number of key initiatives put in place during the period of the establishment of the NIS by the police service. The specifics (e.g. the type of crime) of any anticipated link between the NIS and crime rates in Nimbin were not clearly articulated in any documentation reviewed during the evaluation.

It is difficult to measure the effectiveness of a service when its aims and objectives are complex, undefined, and difficult to measure and there are no baseline measures established. Comparisons with other services are difficult in part due to paucity of detail in the published literature, and also differences in case-mix (participants from local MH services highlighted the less severe client group seen by the NP compared with their own service for example). The success of proactive activities of any service is also difficult to assess. However, qualitative data and the limited available and relevant quantitative data would suggest the broad aims and vision for the service have been achieved. In particular, the service has employed a full-time health worker, provides assessment, case management and referral to other services, there is evidence of collaborative working and sharing of information between agencies and excellent examples of improved integration of services.

There is no doubt that the NIS is unusual due to its location, population and history, but it is likely that there are other rural locations with some similarities and the need for community based integrated services. The evaluation identified key factors which should be in place before a similar service is introduced elsewhere including the engagement of the community from the outset, and careful consideration of management and funding, alongside considerations to maximise integration such as shared strategy, systems and management information across services and clearly defined roles and responsibilities.

A summary of features that are associated with the success of the NIS is presented above. These points require careful consideration if the model is to be implemented elsewhere.
There are a number of key factors identified in the literature and that participants reported should be in place before a similar service is introduced elsewhere:

- The involvement/engagement of the community from the outset
- The existence of senior management change-makers across organisations to champion the idea
- Considerable effort must be made to ensure ALL the key partners are ‘on-board’ from the beginning
- There should be commitment from all partners that integration is appropriate, how it is useful, what need it addresses
- There should be collaborative development of an MOU/code of practice which forms the basis of action, and that the MOU/code of practice should be regularly reviewed
- The service must have clearly defined aims and objectives, and an evaluation strategy as an integral part of the service, from the outset. Part of this includes clearly articulated roles and responsibilities of the clinician agreed and shared, and boundaries around what they are there to do and for whom
- Careful consideration should be given to the funding of the model – if it is genuinely aimed at integration this might best be reflected in shared responsibility for funding across agencies rather than funding from a single agency
- Consideration should be given to the opportunities which exist to refer on to other services
- The service should have clear referral processes and agreed referral protocols
- Appropriate formal clinical supervision should be established (either with a psychiatrist or another experienced MH NP)
- The clinician must have protected non-client time for meetings, professional development and supervision managed by someone other than the clinician. To maximise integration there must be time for “corridor conversations” or if there is no co-location then there must be time for people to get to know each other. Clinicians are more likely to refer to one another and take referrals if they know the other clinician – this can be facilitated by joint supervision, ongoing professional development across clinicians etc.

If the service is to be integrated:

- Management of the clinician which includes reviewing referrals, and designing and implementing systems across services to aid integration, should be in place
- There should be shared strategy across services
- There should be shared systems across services
- Management information should be shared across services and a management role in place to analyse the management information to improve integration
- The service should be co-located with as many partners as possible
- There should be multi-agency case management
- Each partner has to understand the role and responsibilities and boundaries of the other partners
- Ongoing opportunities for the education of other relevant professionals should be provided e.g. the placement of undergraduate students in medicine, nursing and allied health to improve their skills and knowledge of an effective integrated mental health model.

Whilst no similar models were identified in the literature, a number of participants identified services elsewhere which had similar features to the NIS. One participant reported considerable interest from other communities in developing services like the NIS, delivered out of a community based setting.

**For future consideration**

The NIS evaluation identified possible gaps or vulnerabilities of the service. The NIS Steering Committee is encouraged to consider the following points which might help enhance the impact of the NIS in the future:

- One of the successes of the model is the community-based nature and the availability of the NP. However, any sole practitioner with a growing workload of clients is vulnerable to potential ‘burnout’. This would compromise availability which would, in turn affect the impact of the model. Future models should consider more robust formalised contingency plans for
any absence of the sole practitioner, and strategies to guard against ‘burnout’ including reviewing the client load

- The NIS might benefit from the implementation of more formalised and funded clinical supervision for the NP (by a psychiatrist or experienced MH NP).
- The NP may benefit from additional professional support and development opportunities offered by increased integration with Mental Health teams.
- There is a lack of clarity in NIS documentation around the aims, objectives, KPIs, catchment and target client group for the NIS – this makes the single practitioner vulnerable to significant demand. The implementation of high level executive management such as the Local Health District’s Director of Nursing and Midwifery could assist with supporting and influencing this position at a strategic level.
- At present there is no funded administrative or secretarial support for the NP, no funding for rent or overheads for the NIS being located in the NNIC, no funding for the chairing role or advisory support role, and no funding for Nimbin Health for supervision and support of the NP. This is a potential risk for the NIS. According to the new NSW Health Policy Directive for Nurse Practitioners “adequate recurrent funding must exist to support the position outside of existing nursing workforce requirements, including relevant equipment, resources and funds for ongoing development”. Australia’s recent health reforms have created opportunities for funding innovative community based services through Medicare locals. The NIS, initiated and based in community facilities, appears to provide an example of an auspiced service that could be delivered through the Medicare Local. The evaluation team notes that the NIS Steering Committee is currently investigating a number of future funding models, including a potential partnership with the local Medicare Local.

The NIS Steering Committee might also take this opportunity to address the issue of the changing role of the DP&C and the future chairing of the Committee and corporate governance of the NIS. The Steering Committee was initially established as a temporary arrangement with the DP&C’s role coming to a close after the evaluation of the NIS. The committee might also review the Partnership Agreement including the aims and objectives, KPIs, target client group and catchment for the NIS as well as agreeing how the NIS will be evaluated in the future.
# Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACS</td>
<td>Acute Care Service (Mental Health service based in Lismore but servicing Nimbin)</td>
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<tr>
<td>DP&amp;C</td>
<td>NSW Department of Premier and Cabinet</td>
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<tr>
<td>ECS</td>
<td>Extended Care Service (Mental Health service based in Lismore but servicing Nimbin)</td>
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<tr>
<td>ED</td>
<td>Hospital Emergency Department</td>
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<tr>
<td>MH</td>
<td>Mental Health</td>
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<tr>
<td>NCAHS</td>
<td>North Coast Area Health Services</td>
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<tr>
<td>NIS</td>
<td>Nimbin Integrated Services project</td>
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<tr>
<td>NP</td>
<td>Nurse Practitioner (the sole practitioner at the heart of the NIS)</td>
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<tr>
<td>HREC</td>
<td>Human Research Ethics Committee</td>
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<tr>
<td>LNR</td>
<td>Low/Negligible Risk (ethics application)</td>
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<tr>
<td>RIVERLANDS</td>
<td>The multifunctional drug and alcohol treatment centre in Lismore</td>
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<tr>
<td>SSA</td>
<td>Site Specific Application (local ethics application at the relevant hospital/health site)</td>
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<tr>
<td>SCI-MHOAT</td>
<td>Mental Health Outcomes and Assessment Tools (assessment and data collection mechanism for mental health services in NSW)</td>
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1. **Background to this evaluation**

The proposal for the evaluation of the Nimbin Integrated Services project (NIS) was part of a contract between the University of Sydney and the Nimbin Neighbourhood and Information Centre (NNIC) dated 24 October 2011. The proposal included the following information:

The purpose of the evaluation was to:
- provide evidence of the effectiveness of the NIS model
- appraise the extent to which the model might be applied to other rural sites

The objectives of the evaluation were to:
- Establish what evidence exists for measuring the effectiveness of the NIS model
- Compare this evidence to baselines from 2007
- Explore how NIS compares with other integrated service models for mental health (MH) from the published literature
- Provide a description of the development and operation of the NIS including:
  - specifics of the Nimbin context
  - the NIS model
  - the activities of the service
  - governance and funding.

The main research questions to be answered in this evaluation were:
- How did the NIS develop and what did it aim to achieve?
- How does the NIS compare to other integrated MH services?
- What were the underlying principles of the development and operation of the NIS?
- What evidence exists which might offer a measure of the effectiveness of the NIS, and what does it tell us about the effectiveness of the NIS?

The evaluation produced the following outcomes, as outlined in the contract, which provide the structure for this report:
- A brief review of the literature on rural integrated service models for mental health
- A description of the development and implementation of the NIS including:
  - specifics of the Nimbin context
  - the model
  - the activities of the service
  - governance and funding
- The description will also include a program logic model of the NIS project
- An outline the key principles underlying the development and implementation of the NIS and a discussion of the possible wider application of the NIS to other rural contexts
- A summary of qualitative and quantitative findings of the effectiveness of the NIS
- A cost-effectiveness analysis of the NIS.

**Methods**

We began by searching and reviewing the literature, conducting semi-structured interviews with a small number key informants (guided by the Steering Committee), and consulting a broad base of local documentary evidence. Our data collection then widened to a broader range of participants (16 individual interviews). We also consulted a number of people about appropriate sources of data. We conducted a stakeholder meeting with individuals central to the conception and birth of the NIS in order to:

- Generate a shared narrative on the conception and birth of the NIS project
- Understand what Stakeholders were aiming to achieve with the establishment of the NIS and what this might look like
- Identify the key principles integral to the development of the NIS.

In addition, a group interview was held with a number of health service and welfare staff based in Nimbin.
The full literature review, a summary of participants in the evaluation, and a summary of documents consulted are contained in Appendices 1, 2 and 3. Throughout this report, direct quotation from the literature is presented in italics and speech marks with a reference number relating to the references listed at the end of the document.

Qualitative data were transcribed and NVIVO 9 [2] used as a tool for organisation and analysis. Verbatim transcripts were checked and amended, and for each an initial interpretive review was conducted drawing out material which fitted identified categories from the literature, aims, objectives and research questions central to the evaluation. This initial review also highlighted material which required amended and additional categories and sub-categories and at times identified issues needing further exploration with participants. The interpretive work was then consolidated with input from other team members and discussed at team meetings. Transcripts were then coded using these categories. Braun and Clarke describe this approach as “theoretical thematic analysis” p. 84 [3]. It is an approach which reflects the analytical interest in the topic and focuses on a specific level of meaning, in this case the explicit meaning in participants’ responses. It is considered appropriate for exploratory and descriptive studies. Verbatim quotation from participants is presented in italics and speech marks followed by participant identifier.

Quantitative data were analysed using SPSS Version 20 to organise, summarise, and present descriptive statistics and analyse longitudinal data with piecewise regression models (used to describe the pattern of a variable up to 2007 i.e. is there an upward trend, a windward trend, or flat, and describe the pattern of that variable for 2007 and beyond). This was conducted for the NIS client data base, police data, Nimbin Hospital emergency department (ED) presentations and NIS randomly selected clients for occasions of service data. All tests of significance were conducted at the 5% level. Where possible, financial years have been used as a timeframe to capture NIS data as the Nurse Practitioner (NP) at the heart of the NIS started in June of 2007.

Ethics
A “low risk” ethics application was approved by the North Coast Area Health Services (NCAHS) Human Research Ethics Committee (HREC) on 28 September 2011 (HREC LNR 015). The Site Specific Application (SSA) was signed off on 27 October 2011. This created a slight delay in the project of 1 month.

Limitations of the evaluation
The Low Risk ethics approval received for this evaluation did not cover direct involvement of clients. This is a particularly vulnerable client group and the timeframe and objectives of the study did not warrant client involvement from this vulnerable group. However:

- It was agreed with Department of Premier and Cabinet that the objectives of the evaluation could be achieved, and research questions answered, without talking directly with the client group.
- The evaluation includes material which is already collected, deidentified and/or aggregated from the service or elsewhere of client utilisation rates and feedback provided to the NIS.

The evaluation does not include data on non-users of the service, or assess the impact of the non-user community. This is a common weakness in evaluation projects of this kind. However, it is assumed that in this small population, the non-user group would be small.

There were some constituencies that due to time and resource limitations were not included, or included in insufficient detail, for example participants from the Nimbin community, such as the Museum and the school. However, we did include the police, a councillor, a welfare worker and the Neighbourhood centre and, fortuitously, a number of participants were also Nimbin residents or had been Nimbin residents.

There are a number of important limitations to the quantitative data used to assess impact of the NIS, and to cost the service. These are discussed more fully in sections 6 and 7.
2. A description of the development and implementation of the NIS

2 (a) The Nimbin context

Nimbin is a small rural town in Northern NSW, situated in a beautiful valley region 35km north of Lismore. The town has a population of 352, although for the purposes of the evaluation, the population of Nimbin was defined as the 1,369 people resident in Nimbin Statistical State Suburb (SSC - 18355) (estimated residential population) and 191 in Blue Knob (SSC 16335), giving a total of 1560 residents in the 'Nimbin' area (see Figure 1 below). This definition was used to provide a better sense of Nimbin and the immediate surrounding areas most likely to be the residence of clients of the NIS. The definition is similar to the local police data definition of Nimbin. The accuracy of population figures in Nimbin is questionable due to the high level of non-compliance with the census [4].

The catchment for the NNIC covers three Local Government Areas (Lismore, Kyogle and Tweed) and the service population is estimated to be between 3,000 and 5,000 people.

Figure 1: Geographical definition of Nimbin

In 1972 Nimbin hosted the 10-day Aquarius Festival:

Scouts from the Australian Union of Students came to the village and persuaded the Nimbin Progress Association to allow a festival to be held here… a celebration of the dawning of the 'Consciousness' and 'Protest' movements in the heady days of the Vietnam war, free love and marijuana - a festival of discovery .... It marked a watershed in Australian popular culture. Many decided to stay and bought up the cheap land available, settling in to a new lifestyle.[5]

The town therefore has a population “ranging from traditional householders and graziers, to rural land-sharing communities (multiple occupancy) and people who live an “alternative lifestyle” p.57 [4].

The median age of Nimbin residents was between 42-43 years, older than the median age for Lismore and NSW of 38 and 37 years respectively. Nimbin is a socio-economically deprived area. The median weekly income for individuals, median family weekly income and median household weekly income were all lower than for Lismore. Unemployment of 18.5% (from a labour force of 590) was high compared to Lismore’s rate of 9.2%. Nimbin’s proportion of one parent families was high (42.3%) compared to NSW (15.5%). The number of indigenous residents was 4.0% which was similar to that of Lismore (3.7%) both being higher than NSW (2.1%) and Australia (2.3%). Houses (94%) were the most common form of dwelling however 4% resided in caravan, cabin or more temporary forms of dwellings compared to only 1.3% in Lismore. The 2006 census reports Nimbin as having an unusually high rate of volunteering with 30% of the population volunteering compared to Lismore’s 23.8%.
Participants described the Nimbin population as:

- Having unusually high frequency of drug and alcohol use, mental health problems, violence, crime and homelessness – this is substantiated by the calculation that Nimbin is responsible for around 70% of all drug related offences in the Lismore district, and the high numbers of MH ED presentations and Acute Care Service (ACS) interventions for residents of Nimbin relative to its population
- Having a highly transient population
- Of low socio-economic status
- Accepting and tolerant:
  “a lot of these people, their lifestyle is confused, lot of drugs. Lot of alcohol… again this is just a small… it’s not the whole community. But it is a group of people that are in some cases incredibly needy. They’ve come to Nimbin because they feel that they’re accepted there and they can get on and whatever.” Participant
- Highly community oriented (evidenced by the unusually high proportion of volunteering):
  “even the local business people are very caring; they are Nimbin types so they are very into the collective and into looking after the community and the community spirit.” Participant

Health services in Nimbin include:

- Nimbin Hospital – Multi-purpose centre (opened 2005). Combination of hospital and community health services. Includes 24/7 emergency service
- Nimbin community mental health services – MH services available one day a week, + 24 hour MH Access Line (Acute Care Service and Extended Care Service)
- Community Nursing - An outreach Community Nursing service is provided by Lismore Community Health. Community Nurses provide a wide range of services.
- Nimbin Community Health - Drug and Alcohol (D&A) - Counselling services provided one day a week, there is also a detox service at the Nimbin Hospital (via General Practice, although infrequently used)
- Nimbin Community Health – D&A – Counselling service available at Lismore Community health.
- Nimbin Community Health – Methodone service – clinic open from 0930-1230 M-F and Sat 0830-1030 [6]

2 (b) Establishing the NIS

Why was the NIS established?
The NIS was established in response to concerns in the Nimbin community as outlined in documentation (see Appendix 3) and as reported by participants. These included:

- the amount of violent and anti-social incidents that were occurring in Nimbin often highly visible in the street and traumatic for the local population, particularly given the loss of the Street Beat/Jungle Patrol program (see below in How was the model established?). Many of these incidents appeared to have a significant mental health dimension;
- concern about the limited, fractured, ‘outreach’ and reactive nature of health services provided to Nimbin leading to a lack of response, lack of local presence, lack of continuity of care and lack of preventative focus;
- apparent service gaps particularly for clients with MH and D&A related diagnoses (dual diagnosis clients);
- concern about services not working well together;
- a significant reluctance amongst MH and D&A clients to access health (or other) services.

“…it wasn’t just about the town getting trashed…there was a compassion issue for us in that because these matters all were generally ending up in the hands of the police…a lot of them largely had health issues or substance abuse issues rather than criminality issues. And that it was the lack of service provision that was driving them into these states of mind or whatever
that would, you know, push them over the edge and then they would act out in the middle of the street. And then the next thing they’d be wrestled into a paddy wagon by the police in front of the whole town, which was traumatic because lots of people knew those people and, you know, you’d have people trying to rescue them from the police and all this just general pandemonium going on because people felt a degree of compassion towards these people. And didn’t necessarily want to see them manhandled into the back of paddy wagons and from the point of view of the police didn’t want to be in the position where their main role in Nimbin was manhandling people with mental health or substance abuse issues that were having psychotic incidents into the back of paddy wagons and cart them off to Richmond Clinic and then stand around the clinic for hours waiting for them to get admitted. So... it was also about the management of those people and a sense of there must be a better way to deal with these people that’s more compassionate.” Participant

Aims of the service
The Partnership Agreement contains 8 Service Outcomes which are a mixture of aims/vision and objectives of the service:

- To provide an effective and efficient human services delivery model that addresses the health, social and welfare needs of the Nimbin community
- To work collaboratively to ensure the sustainable and equitable delivery of human services to the Nimbin community
- This will be achieved through the employment of a full-time Integrated Health Care Worker
- To provide triage, assessment and short term case management of people wanting health and welfare related assistance
- To provide front door to other services such as MH, D&A, community services and allow for referrals to be made and followed up by tertiary services
- To share information between agencies and the community re service planning, monitoring, evaluation and reporting
- To ensure sustainable funding, management and maintenance of the service
- To improve the integration of services offered by each agency.

These are monitored against in each Annual Report to the Steering Committee although there appear to be no baselines in place against which to report or measure.

These outcomes, or aims, were reflected in a range of documents as well as expressed by participants. However, documents and participants also expressed a very broad range of additional and ambitious aims. These included: overcoming the barriers between agencies, improving the amount, type and level of MH services to the people in Nimbin, addressing service gaps particularly around dual diagnosis clients, diffusing crisis situations in collaboration with the police and other service providers, reducing the level of violence and anti-social behaviour in Nimbin, providing treatment to clients to prevent escalation into crisis, integrating preventative approaches, education and health promotion, and establishing rapport and trust within the Nimbin Community.

Location
It was agreed at the outset that the post would be located in the Neighbourhood centre. NNIC is a not-for-profit, charitable NGO which operates as one-stop-shop with an open-door/drop-in model of service delivery. NNIC is funded by NSW FaCS as a Community Hub (Community Builders funding) and provides generalist welfare services including information and referrals, support and counselling, Emergency Relief vouchers, food and meals, Soup Kitchen, Vacation Care, and is an outlet agency for Brighter Futures Far North Coast (CONC) and a Centrelink Agency. The Centre also provides access to facilities such as PCs, phones, fax and copiers, as well as accommodating outreach service providers such as Job Service Providers, Probation and Parole and Legal Aid. NNIC provides around 15,000 occasions of service per annum to around 3,000 people. The majority of service clients are disadvantaged people, including financially struggling families with children, people experiencing violence/family/domestic violence, people with mental well-being issues, and people with drug and alcohol issues. Around 20% of clients are Aboriginal. NNIC is also the primary community
development organisation in Nimbin and has a stewardship role for the Sustainable Nimbin Community Plan.

Participants consistently reported that clients with MH and/or D&A problems were reluctant to use the hospital or any formal health or government setting due to a combination of dislike of authority; the stigma of having a MH problem; fear of being institutionalised due to a MH problem; concern about criminalisation of their D&A behaviour, finding the hospital an “alien” and “hostile” environment, and a general dislike of western medicine approaches, some of which is illustrated in the quote below:

“They’re either paranoid because they’ve got mental health issues or they’re paranoid of being further criminalised or telling anyone in case they get the cops on them if they’re drug and alcohol users or drug users or illicit drug users. And they’re paranoid about being wrestled away into institutions…but for this client group that’s what their fear is and that’s what their family’s fear is of too.” Participant

The hospital in Nimbin is outside the immediate centre of town, where much of the ‘ancillary’ work of drug dealing and taking goes on:

“They have got to come from uptown where all the business goes on, all the dealing and all that ancillary stuff that happens, they’ve got to come down, right down to the other end of town to the hospital” Participant

**How was the model established?**

There is an important history of MH, D&A, educational and police intervention in Nimbin over the last two decades, including involving

“...clinical people [who] also had a community intervention approach” Participant

The NIS is therefore built on a foundation of considerable effort over many years. Analysis of documentary evidence along with reports from participants has produced the following brief history.

The Street Beat program began with volunteers in 2000. Volunteers attended to people who had overdosed in the street, provided intervention in mental health crises, domestic violence issues or assaults, and witnessed and reported property damage [7]. A public meeting called for the permanent activation of the volunteer group to assist in dealing with a spate of law and order issues affecting the town. This program was enhanced by funding in 2002 under the NSW Community Solutions and Crime Prevention Strategy and was called Jungle Patrol. Funding ceased for this program in 2004. In 2005 a number of public meetings were held with government agencies from the region to examine the current issues and concerns raised by residents and workers in the Nimbin community with regard to the level of servicing and the level of violence within the Nimbin community. As a result of these meetings, a working party was formed which developed a discussion paper that included service model options. The discussion paper was circulated to key stakeholders and a community consultation process implemented. In 2006 a partnership agreement was signed. The original plan for the NIS was to have a health worker (a nurse or counsellor or social worker or psychologist). It was only after the NP applied for the post that the notion of appointing an NP was considered. The NP was employed on a full time basis in June 2007, funded from the MH budget. The NP was employed via the North Coast Area Health Service (NCAHS) and was located in the Nimbin Neighbourhood and Information Centre (NNIC). The NP’s Clinical Guidelines (Scope of Practice & Formulary) were completed and signed off by the CEO of the Health Service after an extensive review process in 2008.

A timeline diagram is included in Appendix 4.

The decision to establish the NIS using Health Service MH funding was reportedly not welcomed by all health professionals working in MH or in Nimbin at the time. In part this appears to be based on funds being redirected from overstretched services and a perceived lack of integration with MH services within the model. Some of these tensions persist.
Key Principles underlying the development of the NIS

The philosophies underpinning the NIS development and operation are derived from the guidelines and clinical practice in the National Mental Health Plan [8] and the National Standards for Mental Health Services [9]. Both embrace broad objectives to:

- Promote the mental health of the Australian community
- Where possible, prevent the development of mental disorder
- Reduce the impact of mental disorder on individuals, families and the community
- Assure the rights of people with mental illness or disorder
- The National Mental Health plan is guided by four priority themes:
  - Promoting mental health and preventing mental health problems and mental illness
  - Increasing service responsiveness
  - Strengthening quality and
  - Fostering research, innovation and sustainability

Description of the Model of Service

Appendix 5 contains a logic model of the NIS.

The NIS consists of a full-time NP specialising in mental health who is permanently based in a well-used and multi-function non-health community organisation in the town (the Nimbin Neighbourhood and Information Centre). The NP works through close street-based contact with the community of Nimbin. She offers flexible, immediate, short and long-term support to clients with mental health problems and those with a dual diagnosis of mental health and drug and alcohol dependence. The NIS is reported by participants as being more accessible than other MH or D&A services due to the approach, the location and availability of the NP.

A summary of features that are associated with the success of the NIS include:

- Community-based needs assessment and community-based drivers established the NIS from the outset and the NIS includes input from a broad range of services/providers
- The service is based in Nimbin, a rural Australian town with an unusual population, a strong sense of community and high level of tolerance
- The service is predicated on genuine integration of the NP into the local community, and some of her work is “street-based” as opposed to functioning in a hospital or General Practice setting with clients on an appointment only basis like many other services. For example, in the NIS the NP is actually able to hear when an issue is developing in the street due to the location of the service, and intervenes at that point
- The NIS is located in a non-health/clinical community based NGO setting. This location has reportedly contributed significantly to both the success of the service and to reducing the stigma of mental health problems
- The service can offer both immediate crisis management and support and also provide ongoing support (with a reported 3-6 months average client engagement with the NIS)
- The clinician at the heart of the NIS is an authorised NP
- The NP is reported to be accepted and integrated into the community, and is confident, skilled and willing to intervene
- The NIS aims to be proactive, and preventative (of escalation in a particular situation, and generally of mental ill health and D&A misuse/dependence) rather than purely reactive (for example the Nimbin Rainbow Living Health Expo event which has run for the last two years), although the NIS also has the capacity to deal with crises where possible as and when they occur.

The evaluation has indicated that the implementation of the model has changed from the original conception of the NIS as a triage and referral model designed to manage crises and avoid distress, to a case-management, longer term and prevention service that incorporates crisis care.

The model is based on a “One stop shop” concept, with the NIS acting as a front door to other services. It is a model within a community based, non-medical or mental health agency co-located with other service providers.
2 (c) Clients of the NIS, referral to the NIS and referral from the NIS

Not all clients on the NP’s ‘books’ are seen. Over the 4.67 years (4 years and 8 months) of the NIS, there were 578 listed clients of whom 72.5% (n=419) were seen (by Feb 2012). This is because, as with all services, sometimes clients make an initial appointment and then do not attend. On other occasions, the NP hears about a client from a wide variety of sources and often invests considerable time indirectly in these cases, anticipating that at some point she will have contact with them. The NP estimates that in 75-80% of these unseen cases she invests time and effort in consulting with family members, other clients, and the community. See Case 1 below as an example (p18).

Participants reported that NIS clients are seen by the NP for between three and six months on average (for those who are seen more than once). Analysis of the NIS client data base showed that the vast majority of clients were adults. We did not have data on client gender. Clients’ ages (where these were available) ranged from 10 to 91 years with the median age of 40-41 and mean age 39.6 (sd=13.6). This broadly reflects the age of the population in Nimbin. It was reported that the policy is for the NIS to see clients 15 years and older.

Figure 2: Bar chart of 5 year age classes for listed and seen clients for duration of NIS

Several participants from MH services reported the different (less severe) client group seen by the NP and compared these with those cared for by the Acute Care Service and the Extended Care Service who support clients with more severe mental health problems.

Participants reported a wide variety of clients of the NIS, including that the majority of clients had:

“anxiety issues and depression issues, though there is of course a very strong presence of psychotic kind of thinking…Obviously drug and alcohol clients, there’s quite a variety.
Anything that you would determine and define as mental health” Participant
The NP does have the capacity to schedule clients when necessary. Scheduled clients are described in Table 1 below:

Table 1: Numbers of scheduled clients over time (not necessarily scheduled by the NP)

<table>
<thead>
<tr>
<th></th>
<th>Scheduled listed clients</th>
<th></th>
<th>Scheduled seen clients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>Total listed</td>
</tr>
<tr>
<td>Jun-07</td>
<td>3</td>
<td>42.9</td>
<td>7</td>
</tr>
<tr>
<td>2007-8</td>
<td>2</td>
<td>1.5</td>
<td>132</td>
</tr>
<tr>
<td>2008-9</td>
<td>5</td>
<td>3.4</td>
<td>145</td>
</tr>
<tr>
<td>2009-10</td>
<td>5</td>
<td>4.2</td>
<td>118</td>
</tr>
<tr>
<td>2010-11</td>
<td>13</td>
<td>10.6</td>
<td>123</td>
</tr>
<tr>
<td>2011 to Feb</td>
<td>2</td>
<td>3.8</td>
<td>53</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

One client was scheduled by police in each of 2007-8 and 2010-11. Returning clients who have been scheduled more than once are not able to be determined without investigating detailed client records.

The evaluation team interpreted documentary evidence and descriptions from participants about the target client group. They were defined as clients with mental health problems, particularly those who also have problematic drug and/or alcohol usage, and particularly those in crisis on the streets of Nimbin who were not ‘acute’ enough to warrant intervention by the Acute Care Service, who were also not committing any crime, but were clearly in urgent need of support. Table 2 shows the 20% of clients in emergency or crisis situations.
Table 2: Numbers of NIS emergency or crisis clients over time

<table>
<thead>
<tr>
<th>Referral source</th>
<th>Crisis MH Inpatient Unit/Riverland's</th>
<th>ED</th>
<th>ACS</th>
<th>Police</th>
<th>Subtotal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of total</td>
<td>n</td>
<td>% of total</td>
<td>n</td>
<td>% of total</td>
</tr>
<tr>
<td>Jun-07 2007-8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>14.3</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>2008-9</td>
<td>3</td>
<td>2.3</td>
<td>17</td>
<td>12.9</td>
<td>15</td>
<td>11.4</td>
</tr>
<tr>
<td>2009-10</td>
<td>4</td>
<td>2.8</td>
<td>17</td>
<td>11.7</td>
<td>5</td>
<td>3.4</td>
</tr>
<tr>
<td>2010-11</td>
<td>1</td>
<td>0.8</td>
<td>18</td>
<td>15.3</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>2011-1 Feb 2012</td>
<td>5</td>
<td>4.1</td>
<td>6</td>
<td>4.9</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Overall</td>
<td>14</td>
<td>2.4</td>
<td>69</td>
<td>11.9</td>
<td>28</td>
<td>4.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referral source</th>
<th>Crisis MH Inpatient Unit/Riverland's</th>
<th>ED</th>
<th>ACS</th>
<th>Police</th>
<th>Subtotal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of total</td>
<td>n</td>
<td>% of total</td>
<td>n</td>
<td>% of total</td>
</tr>
<tr>
<td>Jun-07 2007-8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>16.7</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>2007-8</td>
<td>2</td>
<td>1.7</td>
<td>17</td>
<td>14.3</td>
<td>13</td>
<td>10.9</td>
</tr>
<tr>
<td>2008-9</td>
<td>2</td>
<td>2.2</td>
<td>11</td>
<td>12</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>2009-10</td>
<td>0</td>
<td>0.0</td>
<td>9</td>
<td>11.3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2010-11</td>
<td>4</td>
<td>4.7</td>
<td>1</td>
<td>1.2</td>
<td>2</td>
<td>2.3</td>
</tr>
<tr>
<td>2011-2 Feb 2012</td>
<td>1</td>
<td>2.8</td>
<td>8</td>
<td>22.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Overall</td>
<td>9</td>
<td>2.1</td>
<td>46</td>
<td>11</td>
<td>24</td>
<td>5.7</td>
</tr>
</tbody>
</table>

These numbers overall appear to be decreasing over time, possibly a reflection of the management of borderline cases where the strong proactive approach prevents escalation into crises. The ACS numbers differ in trend from those in Table 8 below as they are referrals from NIS to the ACS, whereas Table 8 shows ACS data on interventions for Nimbin residents.

Three examples of clients engaging with the NIS are given below.

**Case 1: Not seen Client**

One client referred by a naturopath was seen, treated, and had good outcomes. She had a sibling who self-referred but never presented although called and said they did not need assistance at that point. A year later, the sibling contacted the NIS with significant concerns with their son. There were high risk factors and police involvement. There was suspicion ICE usage, and physical injury was caused to others. The NP spoke to both parents over a number of sessions, and advised them to engage with the police and then referred the case to the police. This was followed by further face-to-face contact with the father. 6 months elapsed, at which point the son was referred again to the NIS and many more consultations with the parents followed along with collaboration with the police. The client was scheduled (not by the NP) and Apprehended Violence Order processes were then enacted. This case shows a consultation and facilitation role where the client was never actually seen. The case is still continuing.
Case 2: Regular client
The client was initially referred from Mental Health Acute Care Service and Probation/Parole services after his release from prison. The NP has been clinically working with him for some time. He is a man with significant issues and self-destructive behaviours. His extensive use of methamphetamines over several years as well as his rejection by, and ultimately of, conventional society has further facilitated antisocial traits. He also suffers from a Bipolar disorder. This client was seriously assaulted but was hesitant to work with police over continuing verbal assaults. The NP arranged a meeting with staff in the Police service to address the issues stemming from his assault. The police were able to explain the processes, and then develop a collaborative engagement with the client. This resulted in reducing his anxiety, depressive features and violent reactions.

Case 3: Sporadic Client
The NP was called by Nimbin ED staff to address a crisis client who had presented. This client had an extensive history of polysubstance abuse with cannabis, speed, and intravenous ICE. They presented with strong referential/persecutory ideations and shared that when they feel someone is looking at them or talking about them they respond with physical attack. The NP ordered a 5 mg dose of Olanzapine and closely monitored the client's blood pressure and reactions over time. As there were no difficulties further medication was supplied. On review of the client 3 days later there were significant improvements. The NP continued to monitor this client's status and began a process of investigative work to assess cardiac, neuropsychological status, cognition, mental health issues, and behavioural issues in collaboration with the GP as well as ascertaining community risk and enacting measures for safety.
Participants reported by that the greatest proportion of referrals were self-referrals. Table 3 below confirms this perception. Participants felt this was a reflection of how well the NIS is accepted by the community. Table 3 also illustrates the acceptance of the service by other institutions and workers.

### Table 3: Referrals to the NIS for all new listed and new seen clients since the NIS began

<table>
<thead>
<tr>
<th>Referral Source</th>
<th>New Listed Clients</th>
<th></th>
<th>New Seen Clients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Self</td>
<td>163</td>
<td>28.2</td>
<td>136</td>
<td>32.5</td>
</tr>
<tr>
<td>Hospital Emergency Department</td>
<td>71</td>
<td>12.3</td>
<td>48</td>
<td>11.5</td>
</tr>
<tr>
<td>GP</td>
<td>63</td>
<td>10.9</td>
<td>47</td>
<td>11.2</td>
</tr>
<tr>
<td>NNIC</td>
<td>61</td>
<td>10.6</td>
<td>38</td>
<td>9.1</td>
</tr>
<tr>
<td>Family</td>
<td>55</td>
<td>9.3</td>
<td>41</td>
<td>9.7</td>
</tr>
<tr>
<td>Community</td>
<td>29</td>
<td>5.0</td>
<td>24</td>
<td>5.7</td>
</tr>
<tr>
<td>ACS</td>
<td>28</td>
<td>4.8</td>
<td>24</td>
<td>5.7</td>
</tr>
<tr>
<td>Mental Health</td>
<td>25</td>
<td>4.3</td>
<td>12</td>
<td>2.9</td>
</tr>
<tr>
<td>Probation &amp; Parole</td>
<td>18</td>
<td>3.1</td>
<td>14</td>
<td>3.3</td>
</tr>
<tr>
<td>Friend/s</td>
<td>17</td>
<td>2.9</td>
<td>13</td>
<td>3.1</td>
</tr>
<tr>
<td>Community Health Nurse</td>
<td>16</td>
<td>2.8</td>
<td>15</td>
<td>3.6</td>
</tr>
<tr>
<td>Needle Syringe Program</td>
<td>15</td>
<td>2.6</td>
<td>9</td>
<td>2.1</td>
</tr>
<tr>
<td>Hospital Management</td>
<td>14</td>
<td>2.4</td>
<td>13</td>
<td>3.1</td>
</tr>
<tr>
<td>Police</td>
<td>13</td>
<td>2.2</td>
<td>9</td>
<td>2.1</td>
</tr>
<tr>
<td>Listed</td>
<td>9</td>
<td>1.6</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>DOCS</td>
<td>8</td>
<td>1.4</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td>Drug &amp; Alcohol</td>
<td>6</td>
<td>1.0</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Crisis</td>
<td>5</td>
<td>0.9</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Case manager</td>
<td>4</td>
<td>0.7</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Extended Care Service</td>
<td>3</td>
<td>0.5</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Job placement organisation</td>
<td>2</td>
<td>0.3</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.3</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Early Childhood Nurse</td>
<td>2</td>
<td>0.3</td>
<td></td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>578</strong></td>
<td></td>
<td><strong>419</strong></td>
<td></td>
</tr>
</tbody>
</table>

The self-referral proportion:

"...in itself for us is a massive achievement when you are talking about mental health or drug and alcohol cos both of them don’t present for anything" Participant

i.e. these clients do not usually self-refer (see section on Location above – p13).

Other participants pointed out:

"... continual referrals to [the] service for people who have never accessed service at all, but then they’ve heard about [the NP], their friend has talked to them..." Participant

This statement is reinforced in the academic literature. For example, in a study of injecting drug users who, whilst able to identify the harm they were doing by their injecting-related problems, did not seek any help for these problems. For the small minority that did, around half only did so in a crisis situation [10]. There is also evidence of reluctance in the general population to seek help with common mental health problems from the GP [11].
### Table 4: Referrals from the NIS for all ‘seen’ new clients since the NIS began

<table>
<thead>
<tr>
<th>Referrals to:</th>
<th>Number</th>
<th>Percent</th>
<th>Subgroup Total</th>
<th>Percent (out of 419)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No referral made</td>
<td>186</td>
<td>44.4%</td>
<td>186</td>
<td>44.4%</td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MH</td>
<td>95</td>
<td>22.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACS</td>
<td>16</td>
<td>3.8%</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Psychologist</td>
<td>13</td>
<td>3.1%</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Mindfulness course</td>
<td>6</td>
<td>1.4%</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Mental health Inpatients</td>
<td>5</td>
<td>1.2%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Extended Care</td>
<td>4</td>
<td>1.0%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MISA</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Case manager</td>
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</tr>
<tr>
<td>Medical</td>
<td></td>
<td></td>
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<td>GP</td>
<td>87</td>
<td>20.8%</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>ED</td>
<td>5</td>
<td>1.2%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Community health Nurse</td>
<td>4</td>
<td>1.0%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Paediatrician</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dental</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Dietician</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Woman's Health</td>
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<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Early Childhood Nurse</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
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<tr>
<td>Medical</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Drug &amp; Alcohol</td>
<td>20</td>
<td>4.8%</td>
<td>20</td>
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<tr>
<td>Cannabis Clinic</td>
<td>11</td>
<td>2.6%</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Recovery Rehab Support</td>
<td>7</td>
<td>1.7%</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Detox/Rehab</td>
<td>4</td>
<td>1.0%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Needle Syringe (to use shower)</td>
<td>2</td>
<td>0.5%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brighter Futures</td>
<td>13</td>
<td>3.1%</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Police</td>
<td>12</td>
<td>2.9%</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>DOCS</td>
<td>8</td>
<td>1.9%</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Youth and family</td>
<td>5</td>
<td>1.2%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Centrelink</td>
<td>4</td>
<td>1.0%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>NNIC</td>
<td>4</td>
<td>1.0%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ACON</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Carer respite</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Immigration</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NGO</td>
<td>3</td>
<td>0.7%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SHAIDS</td>
<td>2</td>
<td>0.5%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Job centre</td>
<td>2</td>
<td>0.5%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Refuge</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Criminal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaol</td>
<td>2</td>
<td>0.5%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Probation &amp; parole</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out of area</td>
<td>5</td>
<td>1.2%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Deceased</td>
<td>1</td>
<td>0.2%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>1.2%</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

44.4% of clients were not referred. This may reflect the fact that the NP was able to treat these clients herself, or may reflect the lack of referral opportunities for some clients, that was described by many participants in the evaluation. Most clients were referred to one provider only but 21% of clients seen were referred to 2 or more providers. These figures demonstrate the brokerage role of the NIS to specialist services across a very broad range of services.
Case closure information sourced from Annual Reports\(^1\) shows the vast majority of cases were closed either due to improved circumstances (111 cases closed 2007/8, 72 in 2008/9 and 148 in 2009/10), or to referral out. In 2008/9 45 clients were reported to have received MH or D&A services for the first time as result of the NIS, and 41 the following year.

3. **Brief review of the literature on rural integrated service models for mental health**

Appendix 1 contains the full literature review including a diagram of the search strategy.

The aims of this review were to understand existing models of integrated rural mental health services through a critical analysis of published academic and grey literature over the last 10 years. Twenty six academic papers were identified for detailed scrutiny, around half of which were Australian.

A search was conducted of Australian Government reports sourced from the Australian Department of Health and Ageing website using mental health as a subject heading. This search revealed some important contextual policy documents relevant to the development of the NIS, including the latest commonwealth government draft report *Ten Year Roadmap for National Mental Health Reform* [12]. This report details a commitment by governments to a national reform plan for mental health to guide future action and investment across Australia. It implies that integrated mental health services are becoming the preferred model of providing mental health care in rural communities.

Importantly, integration is also reflected in the NSW State Plan 2021. Goal 11 [1] for example prioritises early intervention in the community for mental health clients, moving treatment away from the hospital and emergency departments. Goal 11 also articulates ensuring that people with a mental illness are diverted from the criminal justice system where possible. Anecdotal evidence suggests the NIS contributes to achieving both of these goals.

No models similar to the NIS on the dimensions of: originating from the community, being led by a NP, or located in a non-health community organisation, are reported in the literature. There is however substantial literature on the need for integration of mental health services particularly in rural areas which suffer from fragmentation of services, difficulties with recruitment and retention, and lack of development of services or skills. Barriers to implementation of integrated services are discussed in the literature including an absence of clear service models, deficiencies in organisational culture, and absence of integrated education and an experienced skilled workforce.

The term “integrated” is not well articulated in the literature, not its meaning defined or necessarily agreed across papers. Most models of integrated mental health services described in the literature had visiting specialists or ‘outreach’ provision of advanced skills or specific specialist workers such as psychiatrists, although detailed descriptions of models were not common. The NP role was not described in any of the integrated mental health service models published.

The literature contains detailed description of how integration can be effective. For example, integrated care provided in the community has been shown to enhance communication between providers, reduce stigma and medical expenditure, and avoid artificial separation of medical and psychiatric problems that can result in substandard care. Integration also enhances access to timely treatment [13]. Veysey, (2004) [14] has shown how the implementation of a comprehensive education program to emphasise service integration and interagency referrals and communication, ensures a consistent approach by all primary care providers delivering mental health care. “Creating clinical integration requires that all participating clinicians broaden their professional paradigms. In practice, this requires cross training, a mechanism for cross agency discussion and collaboration and shared assessment and treatment planning.” p.35 [14].

\(^1\) Material from Annual Reports is reported to be less robust than data from the NIS client database and should be treated with caution
The literature suggests that the management of integrated services is improved by:

- frequent meetings for the stakeholders of each of the programs and sites including management
- meetings with all service providers, consistent policies and procedures implemented across all services including referral processes; and
- education programs to ensure that all mental health staff and services are aware of the full range of services.

The literature on inter-sectoral collaboration, particularly in relation to management and corporate governance of collaborative services was also searched, though less extensively. This provided useful additional features of integration including: shared staff among pre-existing services, more engaged multi-skilled staff who embrace change and coexistence, coordinated meetings to discuss service provision, and case review. The literature suggests integrated services when effective can enhance communication between staff members and services that would have not otherwise had a great deal of contact [15]. Other benefits of inter-sectoral collaboration discussed in the literature include removing service access barriers, improving effectiveness, removing duplication, and driving integrated, coordinated and flexible solutions for the local community.

4. Governance and funding

In 2006, the project’s Partnership Agreement was finalised. The signatories to the agreement were:

- NSW Department of Premier and Cabinet – Regional Co-ordination Program (DP&C)
- North Coast Area Health Service (NCAHS)
- Nimbin Neighbourhood and Information Centre (NNIC)
- Department of Community Services
- NSW Police

A Steering Committee was formed to provide corporate governance for the NIS. This consisted of one representative from each of the signatories as well as other parties being invited to participate: Nimbin Police, NCAHS Drug and Alcohol services (D&A), NCAHS Mental Health (MH) and Acute Care Service (ACS), Nimbin Health, Probation and Parole, NSW Community Services, and Nimbin Central School/Department of Education and Training.

The DP&C’s role is to support the Partnership Agreement, convene and chair Steering Committee meetings, act as a mediator between various agencies, and oversee the evaluation of the service delivery. As the role of DP&C is currently changing (the Steering Committee was originally established to provide oversight for the first four years, extended to five). It appears unlikely that DP&C will continue its involvement with the NIS, this role needs to be reviewed.

The NP is currently line managed by the Executive Officer/Director of Nursing at the Nimbin Hospital and informally by the Team Leader at the NNIC. The NP is expected to report formally to the NIS Steering Committee and contribute to the Annual Reports for that Committee. Management of the NIS was raised by several participants as a possible area for further consideration and development, and some participants showed real concern that the NP was not appropriately accountable, and was not receiving the type or amount of management support required.

Clinical governance is also important, and not currently a formal part of the NIS model mainly as a result of the NIS being a sole practitioner outside of a formal mental health team or system. Clinical governance should be provided by an experienced mental health worker who is able to assist with case review, responsiveness and assist the NP with analysis of her own therapeutic performance.

The evaluation did not find evidence of reviewing referrals, or support for the NP in designing and implementing systems across services, reported in the literature as common to effective integrated services.
The latest NSW Policy Directive for NPs [16] suggests that because the NP service is located across facilities and in particular across services, the position may benefit from also reporting to the Local Health District (LHD) Director of Nursing and Midwifery (DNM). This high level executive management support of the NP could assist at a strategic and systems level including reviewing referrals and workload, assessing service planning and having a shared corporate governance of the model to aid further integration. Continued line management at the local, Nimbin, level is also important to support this position.

The NIS was established without funds for administrative support for the post, either in terms of reception support from the NNIC, or administrative support for the sole practitioner. There is also no funding for rent or for overheads for the NIS being located in the NNIC such as utilities, photocopying etc. The NNIC estimates it has contributed $15,000 per annum to the NIS to cover these costs for which it has received no funds. The NIS was also established without funds for the DP&C’s chairing role or advisory support role, and no funding for Nimbin Health for support of the NP. These are important omissions and the NIS would benefit from these issues being addressed.

One participant made the point that an integrated service might benefit from funding from all the partners:

“…my worry is that it then becomes fully funded by mental health services when in fact it’s a shared responsibility and it always was meant to be between community health, drug and alcohol, mental health, the hospital system and enhancement from the health service. So health was going to look at a multifaceted approach to it, and again the shared approach to how do you look after that level of population in that town through a multi-pronged approach. And I think it’s become a singular funded, singular entity health approach. And I think that’s moved from the model a long way. So to me that’s the disappointment in the model.”

Participant

Australia’s recent health reforms have created opportunities for funding innovative community based services through Medicare locals. The NIS, initiated and based in community facilities, appears to provide an example of an auspiced service that could be delivered through Medicare. In this case the Medicare local could accept responsibility for the staff member, and claim the Medicare rebates potentially available for nurse practitioner services (including from schemes such as the MH Nursing Incentive scheme). Exploration with the local Medicare local around leadership of the service should be the first option explored.

5. Integration

Whilst integration seems fundamental to the Aims and Objectives of the NIS it remains difficult to define as discussed in the Literature Review above. In a recent article Anderson [15] describes the difference between integration and coexistence in a number of new Multi-Purpose Services in NSW:

“Features of integration reported by participants included: shared staff among pre-existing services, staff meeting spontaneously to discuss service provision, and participants identifying with the new health service delivery model. Integration demonstrated a degree of trust in other service providers, particularly from those services that handed over their funding and ability to make decisions. In some multi-purpose services integration was effective and enhanced the communication between staff members who would not otherwise have had a great deal of contact...Multi-purpose services could also function over more than one site and still manage to benefit from integration. Participants working in integrated sites described improved communication and improved services for their clients. For those participants who continued to be suspicious about collaborating with each other, coexistence was the outcome.” [15].

The literature on integration suggests effective integration is also evident in joint strategy development, distributed leadership, shared information and information systems across partners, resources which allow for integration, and incentives to integrate. Achieving integration is also dependent on clear definitions of roles and a delineation of responsibilities. Integration is challenging to achieve in a health service context which is usually hierarchically organised and accountable.
Integration is facilitated by: management in a “neutral” overseer role, able to work across and understand the language and approach of each of the partners; a managed referral process with an agreed protocol for referral and commitment to integration from all leaders in the organisation. The evaluation was not able to identify a manager in the ‘neutral overseer’ role.

The DP&C’s Guidelines for Collaboration and Integrated Services [17] is a useful reference and describes a number of models of integration and collaboration (the NIS best fits the “Place Management” category).

The evaluation demonstrated integration between partners at a client and worker level particularly between the NIS and other services within the NNIC:

“...the Brighter Futures worker, [the NP] and our welfare workers… some of our clients are shared between them. So if they’re a Brighter Futures client they’ll be on the Brighter Futures case load … but at the same time that client we might have our welfare workers sorting out an issue for them like a local housing thing and we might also have [the NP] working specifically around a mental health issue” Participant

between the hospital and the NNIC; between NIS and the Police:

“...we sort of work with the cops and the cops come down and the handover’s done between [the NP] and the police.” Participant

and between the NIS and the Richmond clinic, for example the NIS receives notification when a Nimbin client has been discharged, as well as housing, justice/corrections, employment agencies and immigration.

There was documentary evidence, evidence from the NIS client database and from participants, of collaboration with Centrelink and Voluntary services, GPs, Drug and Alcohol and Mental Health services, as well as the Pain Clinic and DoCS. Table 3 shows the wide range of agencies referring to the NIS, and the wide range of agencies the NIS refers to are shown in Table 4. Table 5 shows evidence of joint case-management reported from Annual Reports, and shows this generally increasing over time.

Table 5: Evidence of collaboration and joint case-management from Annual Reports

<table>
<thead>
<tr>
<th>Source</th>
<th>No. incidents where Police collaborated with the NIS worker</th>
<th>No. incidents where the NIS worker provided support to Police</th>
<th>No. clients where the case management role is shared between NIS and FaCS/Brighter Futures Far North Coast (CONC)</th>
<th>No. clients shared between NIS and NNIC welfare workers</th>
<th>No. clients shared between NIS and other services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Ann Report – 2007/8</td>
<td>2</td>
<td>5</td>
<td>21</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2nd Annual Report – 2008/9</td>
<td>7</td>
<td>5</td>
<td>26</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>3rd Annual Report 2009/10</td>
<td>13</td>
<td>15</td>
<td>21</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

At the leadership and management level, the evidence of integration comes from signatories to the Partnership Agreement (North Coast Area Health Service, Department of Community Services;
Nimbin Neighbourhood and Information Centre; DP&C and the NSW Police), and membership of the Steering Committee which has consistently been reported as 10 in Annual Reports. The benefits of this kind of collaboration, apart from the benefits to clinical service delivery, lie in the advantages to each agency in terms of the way they do business and do business together, what keeps the partners/services together (their shared vision and motivation), and the benefits of a multi-agency approach to problem solving.

The NIS is an excellent example of an integrated service and contrasts greatly with the 'silied' services antithetical to effective care for D&A and MH clients.

However, the Committee has had to contend with, inevitably, significant changes in staffing in many partners and long periods of absence from the Steering Committee. This will have impacted on the potential for integration of services at a strategic level but still manifests great success as a result of its leadership.

Some participants also drew attention to difficulties with incompatibilities of systems of referral, or recording client data between the NIS and MH services which led to duplication of effort, lack of formal recognition in the MH service of the contribution that the NIS makes to seeing clients in the service (by not completing SCI-MHOAT data for example), and communication issues. There was also a real sense of lost opportunity that the most senior mental health nurse in the area (the NP) is not an integrated part of the MH team. The opportunities for shared learning, support and mentoring were not therefore being realised.

Whilst there is clearly active collaboration between the NIS and MH, it is possible that both services might benefit from the NIS being further integrated with MH services e.g. MH inviting the NP to case conference meetings when Nimbin clients are being discussed, the NP using systems of recording and referral which fit MH systems, the NP using SCI-MHOAT rigorously so that MH services are able to get formal recognition for the contribution that the NIS makes, and MH to involve the NP in discharge processes for Nimbin clients.

Funding by one agency alone, was described as leading the service into a one-agency approach as discussed above (see Governance and Funding Section 4 page 23).

These tensions are about bureaucracy, the way the NIS was established, funded and is operationalized, rather than the success of the clinical intervention itself.

The application of the model to other rural contexts

There is no doubt that the NIS is unusual due to its location, population and history, but it is likely that there are other rural locations with some similarities and the need for community based integrated services.

A summary of what makes NIS stand out is presented earlier in Description of the model p15, these points require careful consideration if the model is to be implemented elsewhere.

There are a number of key factors contained in the literature and that participants reported should be in place before a similar service is introduced elsewhere:

- The involvement/engagement of the community from the outset
- The existence of senior management change-makers across organisations to champion the idea
- Considerable effort must be made to get ALL the key partners on-board from the beginning
- There should be commitment from all partners that integration is appropriate, how it is useful, what need it addresses
- There should be collaborative development of an MOU/code of practice which forms the basis of action, and that the MOU/code of practice is regularly reviewed
- The service must have clearly defined aims and objectives, and an evaluation strategy as an integral part of the service, from the outset. Part of this includes clearly articulated roles and responsibilities of the clinician agreed and shared, and boundaries around what they are there to do and for whom
Careful consideration should be given to the funding of the model (including administration/secretarial/reception support for the clinician) – if it is genuinely aimed at integration this might best be reflected in shared responsibility for funding across agencies rather than funding from a single agency.

- Consideration should be given to the opportunities which exist to refer on to other services
- The service should have clear referral processes and agreed referral protocols
- Appropriate formal clinical supervision should be established (either with a psychiatrist or another experienced MH NP)
- The clinician must have protected non-client time for meetings, professional development and supervision managed by someone other than the clinician. To maximise integration there must be time for “corridor conversations” or if there is no colocation there must be time for people to get to know each other. Clinicians are more likely to refer to one another and take referrals if they know the other clinician – this can be facilitated by joint supervision, ongoing professional development across clinicians etc.

If the service is to be integrated:
- Management of the clinician which includes reviewing referrals, and designing and implementing systems across services to aid integration, should be in place
- There should be shared strategy across services
- There should be shared systems across services
- Management information should be shared across services and a management role in place to analyse the management information to improve integration
- The service should be co-located with as many partners as possible
- There should be multi-agency case management
- Each partner has to understand the role and responsibilities and boundaries of the other partners
- Ongoing opportunities for the education of other relevant professionals should be provided e.g. the placement of undergraduate students in medicine, nursing and allied health to improve their skills and knowledge of an effective integrated mental health model.

Whilst no similar models were identified in the literature, a number of participants identified services elsewhere which had similar features to the NIS. One participant reported a lot of interest from other communities in developing services like the NIS, delivered out of a community based setting.

Participants also made the point that it is fundamental for the community to be intimately involved in the development of the service from the outset and have ownership to ensure the model is seen to be tailored to a specific community’s needs.

“…you’ve got to build a model that fits the town, rather than a generic model.” Participant

6. Effectiveness of the NIS

6 (a) Quantitative data - background
Before findings can be presented, a number of very important caveats to the identification, and presentation of quantitative results must be articulated.

Aims and objectives
It is difficult to measure the effectiveness of a service when its aims and objectives are complex, undefined, and difficult to measure and there are no baseline measures established. We found reference to a variety of aims and objectives across a broad range of documents as discussed earlier (section 2(b) page 13). For example work collaboratively (defined? measured? baseline?) to ensure the sustainable (defined? measured? baseline?) and equitable delivery (defined? measured? baseline?) of human service (defined? measured? baseline?) to the Nimbin community (defined? measured? baseline?).

Target client group
We could not find a more specific definition of the target client group for the NIS, other than the group identified in the Partnership Agreement’s Service Outcomes (“…people wanting health and welfare..."
related assistance), and therefore it is difficult to assess if the NIS supports the clients it set out to support. Our impression from analysis of documentary evidence and from participants in our qualitative work, is that the service was primarily established to support clients with mental health problems, particularly those who also have problematic drug and/or alcohol usage, and particularly those in crisis on the streets of Nimbin who were not ‘acute’ enough to warrant intervention by the Acute Care Service, who were also not committing any crime but were clearly in urgent need of support.

Defining the Nimbin population
As discussed earlier, the robustness of census data on the Nimbin population is compromised by high levels of non-compliance. Nimbin is reported to have a highly transient population. The NIS project catchment does not appear to have a formal boundary and the NP has seen clients as far afield as Kyogle and Casino. This generates an issue of boundary and scope related to the potential for burnout of the NP that requires management input (rather than the NP managing this).

Before and after measures
The transience of the population makes any “before and after” measures problematic. For example, 2006 might have been a year with high numbers of mental health-related ED presentations and hospital admissions which in 2009 (after the NIS was established) might be considerably lower, but this is a feature of a particular group in the population resident in 2006 who were no longer resident in 2009, rather than the success of the NIS.

“Before and after” measures are also affected by considerable effort from different agencies for example the police, to address issues within the Nimbin community at around the same time that the NIS was established and has been running. Without a comparison group it is not possible to establish the ‘added value’ that the NIS may have brought.

Small numbers
The community of interest for the NIS evaluation is small. This means it is difficult to observe any effect that is statistically significant i.e. not likely to have been an effect caused by chance. Therefore descriptive and anecdotal reports across a range of participants have been more prominent in this evaluation.

Underlying secular trends
At a population level, factors that might be relevant such as suicide rate, mental health in the community, violent arrests etc. will be affected by secular trends and naturally wax and wane from season to season and from year to year. This means if one year is selected and compared with the next year the figures may have gone up or down but this might just be part of that trend, if a different year was selected the numbers may go in the opposite direction. Where possible therefore, we have accessed ten years’ worth of data to account for five years prior to the NIS being established and the four years 8 months since its establishment.

Ethics
Our ethics approval precluded any analysis involving individually identifiable records. This meant the use of deidentified, simplified and/or aggregated data for Nimbin to avoid any possible identification. This introduced limitations on the evaluation.
6 (b) Quantitative data – additional service-level findings (to those already presented)

**Client load calculations**

**Table 6: NIS clients June 2007-Feb 2012**

<table>
<thead>
<tr>
<th>Financial Year (Jul-June)</th>
<th>All new clients</th>
<th>New clients seen</th>
<th>New clients seen as proportion of all new clients</th>
<th>Returning clients (ALL of whom are seen)</th>
<th>Total Clients (new + returning)</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2007</td>
<td>7</td>
<td>6</td>
<td>85.7%</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2007-8</td>
<td>132</td>
<td>119</td>
<td>90.2%</td>
<td>1</td>
<td>133</td>
</tr>
<tr>
<td>2008-9</td>
<td>145</td>
<td>92</td>
<td>63.4%</td>
<td>20</td>
<td>165</td>
</tr>
<tr>
<td>2009-10</td>
<td>118</td>
<td>80</td>
<td>67.8%</td>
<td>42</td>
<td>160</td>
</tr>
<tr>
<td>2010-11</td>
<td>123</td>
<td>86</td>
<td>69.9%</td>
<td>33</td>
<td>156</td>
</tr>
<tr>
<td>2011-12 (Feb – latest available data)</td>
<td>53</td>
<td>36</td>
<td>67.9%</td>
<td>10</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>578</td>
<td>419</td>
<td>72.5%</td>
<td>102</td>
<td>680</td>
</tr>
</tbody>
</table>

Source: NIS deidentified client database

These figures show the NP had an immediate client base right from the beginning of the NIS which then increased and has been sustained over the years of the service, suggesting immediate and ongoing demand from the community for her service. Even though there has been a decrease in new clients for the financial years 2007-8 until 2010-11, the total number of clients seen increased by 24% from the first year of operation 2007-8 until 2008-9 then was followed by a small reduction of 2-3% in subsequent years. Regression analysis indicated no significant change in total numbers of clients over time (F(1,2)=1.034, p=0.416). Similarly analysis of variance using monthly total numbers for the four year period (2007-2011) also indicated no significant difference in average monthly number of clients.

The fact that not all clients are returning clients suggests that Nimbin does indeed have a transient population as participants described.

Over a year, the NP has an average of 154 clients, of which 118 have a direct face to face consultation (are ‘seen’) (77%). All publicly available sources of data were interrogated to identify a comparator. The only sufficiently detailed data identified were MH data from South Australia from 1995-6. These data report client loads ranging from 33 to 126 for one full-time equivalent post, with the majority seeing less than 55 clients in a year. The NP’s client load is clearly towards the top end of this range [18].

The evaluation team noted a number of important changes that have been made to the NIS in 2012 that should help, to an extent, guard against ‘burnout’ of the NP. These are a reduction of scheduled daily appointments from 5-6 per day to 4-5 per day, and appointments between 10:00am and 4:00pm instead of 9:00am and 5:00pm. Anecdotal verbal guidance from community MH services locally suggests clinicians in posts such as the NP’s should see “somewhere between one and five clients a day”. The NP’s client load is towards the top end of this range.

**Occasions of service information**

It was not possible to gather full information about occasions of service as these data were identifiable and not collated, and the evaluation team therefore did not have ethical approval to access this. As an alternative, a randomly selected sample of 20 clients seen by the NP, who were new to the service in the financial year 2010-11 were selected using a statistical random number generator technique. These clients were selected to capture ALL occasions of service for a selection of clients. These clients represent 23% of all new seen clients for financial year 2010-11 and because they were randomly selected should provide a reasonable picture of the range of clients in that year. The NP who confirmed this was a reasonably representative group although possibly over-representative of single-visit clients. The NP extracted deidentified occasions of service data including duration of consultation, from her secure detailed client record information for these selected clients.
For all clients, the first occasion of service had a median duration of two hours, with 55% of clients having two hours or longer face-to-face initial contact\(^2\). The NP’s average number of contacts per client across all selected clients was 4.7, with an average of 5.7 hours total contact time per client. The average number of contacts is slightly less than reported in the AIHW’s *Mental Health Services in Australia* report of community mental health care service contacts in NSW [19].

Numbers of occasions of service ranged from 1 to 16, with 45% of the sample having only 1 occasion of service which ranged from 30 minutes to 3 hours, with median consultation time of 2 hours. For clients with more than 1 occasion of service, the median number of occasions of service was 7, and mean total face-to-face time of 9.0 hours (median 9.5 hours, sd 4.7 hours, range 2 to 17.5 hours) with mean duration of 1.2 hours for each occasion of service (median 1 hours, sd 0.21, range 30 minutes to 4 hours). Generally the most common duration for an occasion of service was 1 hour (61.2% of all occasions for clients with more than 1 occasion of service).

With regard to crisis situations, 4 or 20% of the clients in the selected random sample were classified as being in crisis on initial referral (as being referred by Emergency Department, Acute Care Service (ACS) police or with the word ‘Crisis’ in the ‘referred by’ entry). For these clients, the number of occasion of service were 1 (twice), 5 and 15. The number of crisis referrals (20%) were the same as for the entire data base of clients (20.4%). Thus the sample was representative of this type of referral.

The number of hours that the NP spent in direct face-to-face contact with clients, based on the above sample of 20 client cases, was estimated over the 4.67 years the NP has been in post. It was assumed:

- 45% of new clients were seen once (for 2 hours)
- 55% of new clients were seen more than once (with a median of 9.5 hours)
- The number of hours of associated administration (travel time, writing up notes, phone calls, coordination) for each occasion was equivalent to the hours of face to face contact
- Occasions of service for returning clients was the same as for new clients with more than one occasion of service (9.5 hours)
- For clients who were not seen, 1 hour of administrative time was allocated
- A working model of 36.75 hours a week, for 43.9 weeks per year was used.

These assumptions were reviewed with the NP and may be an underestimate for high-need clients.

The estimated number of hours the NP spent in direct face-to-face client contact was 3,530 over the 4.67 years of the NIS.

The estimated number of hours the NP spent in administrative time was 3,689 hours over the 4.67 years (includes unseen client time) producing a total of 7,219 hours. The NP has, theoretically, 7,529 hours available, her estimated client load therefore accounts for 95.9% of her time available. This means only 66 hours remain annually for all other activities such as professional development, preventative work, raising awareness of the service participating in team meetings etc. (this is equivalent to 1.8 hours a week).

\(^2\) Medians are used to counteract the influence of skewed data. Means are only used to compare with National or State data sources where necessary
6 (c) Quantitative data – population-level findings

**ED Presentations**

Table 7: Emergency Department presentations from Nimbin Hospital/ Multi-purpose service 1999-2011

<table>
<thead>
<tr>
<th>CALENDAR YEAR</th>
<th>MENTAL HEALTH</th>
<th>ASSAULT</th>
<th>DRUG&amp;ALCOHOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>18</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>2000</td>
<td>15</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>2001</td>
<td>18</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>80</td>
<td>46</td>
<td>71</td>
</tr>
<tr>
<td>2004</td>
<td>21</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>2005</td>
<td>84</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>2006</td>
<td>85</td>
<td>41</td>
<td>26</td>
</tr>
<tr>
<td>2007</td>
<td>57</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>2008</td>
<td>67</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>2009</td>
<td>24</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2010</td>
<td>17</td>
<td>5</td>
<td>Missing</td>
</tr>
<tr>
<td>2011</td>
<td>23</td>
<td>9</td>
<td>Missing</td>
</tr>
</tbody>
</table>

Note that for graphical purposes any missing data was set to zero.

In order to assess if there was a change in ED presentations after the introduction of the NIS (at the end of 2007) piecewise linear regression models with a change point set when year=2007 were used to determine the pattern of presentations before and after the introduction of the NIS.

The numbers for ED presentations may not be completely correct, particularly over the last 2 years since the introduction of the Electronic Medical Record.
For mental health presentations at Nimbin ED there was a significant increase of 7.6 (se=2.65, p=0.018) presentations annually up to 2007, followed by a significant reduction of 16.8 (se=5.75, p=0.016) annually.

ED presentations for assault also exhibited a significant decline from 2007 of 9.2 (se=3.11, p=0.016) per year. However even though alcohol related ED presentations was in decline from a peak in 2003, the decline from 2007 onwards was not statistically significant primarily due to the variability of the scores after 2007 and the missing values for the years 2010 and 2011.

Anecdotally, several participants reported an expectation that there would have been a reduction in ED MH presentations at Nimbin due to the NIS which is substantiated by these data. This is reportedly due to the successful maintenance of some clients’ mental health status and prevention in escalation or exacerbation of their mental health condition.

Table 8: Interventions by the Acute Care Service with clients resident in Nimbin 2002-2012

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>2003</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td>2</td>
<td>3</td>
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<td></td>
<td>16</td>
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<tr>
<td>2004</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td></td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>2005</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>26</td>
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<tr>
<td>2006</td>
<td>3</td>
<td>2</td>
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<td>1</td>
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<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
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<tr>
<td>2007</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>3</td>
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<td>2008</td>
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<td>2</td>
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<td>37</td>
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<tr>
<td>2009</td>
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<td>3</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>2011</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>2012</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>28</td>
<td>33</td>
<td>28</td>
<td>27</td>
<td>23</td>
<td>24</td>
<td>28</td>
<td>24</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>15</td>
<td>284</td>
</tr>
</tbody>
</table>

Piecewise linear regression models (before 2007 and after 2007) were used to analyse annual ACS Nimbin client numbers. There was a significant increase from 2002-2007 (p=0.011) followed by a flat response 2007-2011 (p=0.0859). This means that there was an increase in ACS presentations from clients resident in Nimbin in the period up to the start of the NIS, and then the numbers remained stable since the NIS began. This is contrary to anecdotally reported expectation from some participants that these numbers would decline after the NIS was established. However, there is also anecdotal evidence from participants to suggest Extended Care Service (ECS) numbers would increase with the introduction of the NIS, which may also apply to ACS client numbers, partly due to improved identification of clients with long-term MH problems, and partly because of improved access to ACS via the NIS. These two points are illustrated here:

“…they had a, over time, they had a significant increase in their ECS cases out there, because [the NP] was scheduling people and was identifying people with long term mental health problems, and again, that increased, so their numbers went up” Participant

“…’cause [the NP]’s got quick access into mental health, so she’s got quite a good rapport, I think, with the Richmond Clinic and the Acute Care Service, so she can shove them in a bit quicker and more easily…” Participant
**Crime Rates**

The evaluation was unable to produce evidence of crime reduction in Nimbin. Evaluation of crime statistics for Nimbin was hampered by a number of significant limitations, not least that appropriate Nimbin-specific data were not available, and that before and after measures would have been affected by both underlying secular trends and intervention by other agencies as discussed above, in this case a number of key initiatives put in place during the period of the establishment of the NIS by the police service. The specifics (e.g. the type of crime) of any anticipated link between the NIS and crime rates in Nimbin were not clearly articulated in any documentation reviewed during the evaluation.

In 2009 and 2010 arrests in Nimbin accounted for 7.4% (of 660) and 7.3% (of 605) of all assaults respectively in the wider Lismore district. Similarly Nimbin arrests in 2009 and 2010 accounted for 7.1% (from 751) and 6.8% (from 603) of malicious damage charges. However, for drug related offences arrests or charges in Nimbin for drug detection accounted for 60.9% and 67.8% of all drug related offences in the Lismore district which increased to 80.8% and 94.0% with respect to drug possession charges for 2009 and 2010.

Statistical analyses (from NSW Bureau of Crime Statistics) of crime rates in the Lismore area from 1995-2010 showed that for assault (p=0.006) and theft (p=0.000) there was a significant reduction from 2007 onwards. For disorderly conduct and harassment including threatening behaviour there was a non-significant decline (p=0.364) from 2007 indicating a levelling off in the occurrence of these offences.

However for drug offences there was a significant increase (p<=0.05) from 2007 for all drug related offences (all, possession, other than possession). This increase was driven by the increase in drug related offences in 2010 which was close to doubling that of previous years. For the period from 1995 to 2010 the Nimbin “MardiGrass” was an annual event in early May, impacting on drug related offences in the months of April/May. For 2010 there was an additional major event held in Nimbin in early October, inflating the September/October drug offence numbers. More detailed statistical results are available from the evaluation team on request.

**Suicide rate**

Nationally and at State level the suicide rate has been falling since 2001 (ABS). ABS were approached to extract suicide data at a smaller geographical level. However, this would constitute a formal data request from their Information Consultancy service with an associated prohibitive cost. Suicide data are available via the NP but as discussed above, ethics did not allow for accessing that dataset.

**Summary**

It is not possible to quantify the impact the NIS may have had on population-based data as outlined in 6a above. It is, however, possible to speculate that the NIS has made a positive contribution to reducing ED MH and assault presentations and assaults offences in Lismore, and stabilizing ACS interventions with Nimbin resident clients. Anecdotally, participants commonly anticipated and described these impacts and the associated cost savings to the community including the health service, the police service, NGOs and welfare agencies, local businesses etc. and the substantial improvements in the ambience of the town since the operation of the NIS.

**6 (d) Qualitative data – additional findings (to those already presented)**

Many findings from the qualitative research for this evaluation appear throughout this evaluation report. What is covered in this section is additional material not covered elsewhere in the report.

**Feedback from clients**

Feedback from a consumer survey administered to 20 clients by the NP in 2009/2010 included the following as reported in the Annual Report for 2009/10:
“It feels great to finally find a practitioner who “gets it” Her experience and professionalism shines through. I would strongly support [the NP] service, it has helped me and it should remain to help others.” Consumer survey respondent

“The NIS is a wonderful service and much needed. Very easy to access and very useful. [The NP] is very approachable and helped me enormously” Consumer survey respondent

“The ability to consult with [the NP] is a relaxed environment makes it easier to attend appointments. Mine is an ongoing malady and access to mental health through the NNIC is made easier by the location and not a hospital environment.” Consumer survey respondent

“This NP service has made enormous difference in our lives and most probably “Life Saving” Thank you” Consumer survey respondent

100% of respondents to this consumer survey reported feeling safe and confident using a Nurse Practitioner and would recommend the service to others.

The NP also supplied examples of spontaneous longer-term positive feedback from some clients.

AUSPRAC (Phase 2) is a national study through Prof Glenn Gardner and her team from Queensland University of Technology conducted throughout 2008/2009. The study included direct feedback from a number of the NP’s clients. Ethics approval was granted to share this information with the evaluation team and five transcripts were obtained. Four of these reinforced the examples given above, and illustrate clients’ reports of the benefits of the NIS where counselling and physical treatments are combined, the NP has more in-depth knowledge of the client and time than a GP, that the NP and GP work together, that the NP is supportive and accepting, and less clinical than with a hospital or a GP:

“…[locally psychologist offering counselling] was there for my head and then the doctors were there for the physical aspects but its kind of you know a bit more combined with [the NP].....” AUSPRAC Participant

“Well I think as a counsellor she knows you, knows more in-depth than your local GP does. Because you are only in there for five minutes really if you think about”. AUSPRAC Participant

I’viewer: “Does [the NP] communicate with [the GP] or is it very much?”
Part: “Yes they do at times.Yep. And being pregnant they were worried about me.”

“…this is really sort of total support and acceptance that’s worked really well for me.” AUSPRAC Participant

“…it’s not that clinical; there’s a warmth to it there’s not that clinical edge to it” AUSPRAC Participant

One client involved in the evaluation expressed some negative experience of the service including distrust of all people including the NP, a personality clash between themselves and the NP, and a dispute about diagnosis and treatment. This client said they were unsure about their care team:

“Yes sometimes I am a bit uncertain about my care team. Sometimes I think I am a bit mismanaged.” AUSPRAC Participant

This client reported never having found a care team that they were more comfortable with. This client also described the environment of the NNIC as more relaxed than a hospital environment and reported that it was easier dealing mainly with one clinician over a long period of time than a whole range of clinicians.

Feedback from providers
The Annual Report (2009-10) contains feedback from the police service that crime in Nimbin related to mental health and/or alcohol and/or drugs is reduced. It also highlights that the NIS:
“…has an enormous impact on the number of mental health interventions the police need to become involved in. This is a very desirable outcome for both police and the client in that for the most part police do not have the level of expertise that [the NP] is able to call upon when intervening or assessing a mental health incident…Having the option of calling [the NP] …is an invaluable resource that should not be underestimated in the difficult policing environment that is found in Nimbin.” Police feedback reported in Annual Report 2009-10

A local GP provided feedback that the NP is accurate in her prescribing and there are no issues with trusting her prescribing appropriately and her expertise in this area.

**Reduction in violence**

Participants commonly reported there had been a reduction in violence in the town:

“…there is less violence than there ever was…” Participant

**Being seen to care, and connectedness**

One participant thought that:

“…having the person …working, in this case [the NP], working there Monday to Friday in the street, visible, seen. They [the community, including clients] know. And that connectedness is really important…” Participant

This sentiment was echoed by other participants and links to similar reports from participants around the community knowing that someone actually cares about the mental health and wellbeing of the community.

**Location**

Participants described the accessibility of the NIS linked to its location, flexible delivery, the person the NP is, and the NIS’s contribution to lessening the stigma of mental illness.

“So by and large they go, go and see [the NP]. So the fact that she just has a continuous stream of new clients, even though the whole town knows exactly what she does and is well aware of it, is an achievement in itself” Participant

This comment is reinforced by the statistics discussed earlier showing consistently high numbers of clients (and new clients) in the NIS, and self-referral as the highest proportion of all referral.

Many participants reported that the location of the service was a key factor in its success. The NNIC was reported as being a “safe” place and more relaxed than the hospital or GP surgery, and is central to Nimbin therefore contributing to improved access for clients and also meaning that the NP can sometimes hear from her office when a situation is developing in the town. The NNIC offers a degree of anonymity:

“…somebody sees them walking into the neighbourhood centre off the street, nobody would think anything of it” Participant

because of the myriad reasons why people use the NNIC, and this has contributed to reducing the stigma of MH problems and opened access to clients for MH support.

**Takes the pressure off other services**

Several participants used the phrase “take the pressure off” to describe the benefits to their staff of the NIS. These included the police service, the hospital, the GP practice, the D&A service and the NNIC.

“So she took a large load off our work, of our mental health work” Participant

**Appointing a NP**

Research in Australia and overseas has confirmed that NPs are safe, competent and provide quality health care that is economical and valued. However, this research is mainly focussed on NPs providing care in acute settings in larger metropolitan areas [20-26].
Six participants described specific benefits of having an NP at the heart of the NIS rather than another type of worker. These benefits included: the fact that the NP can prescribe; the broader scope of practice offered by an NP, the high level of skill and assessment practices expected of an NP, their therapeutic capability and their sound understanding of treatment options, and their autonomy. One participant felt that:

“...having a title at that level was seen as - as important… to show the community that you’re serious about what you’re doing” Participant

One participant stated they were sceptical about NPs before the appointment of the NP but had revised their view. One participant felt that the NIS role could be provided by a nurse. The evaluation concluded that it is unlikely the role could be delivered as it is currently is (with prescribing for example), by anyone other than an authorised MH NP or GP with MH skills.

**Professional development of others**

Several participants described difficulties in services with staff turnover, and that staff working in other health or related services often did not have a mental health background. These staff benefit from the existence of the NIS as a referral point but also benefit from the expertise of the NP in advising and guiding their own practice. Others too, described that the NP was “modelling” how best to handle mental health and/or D&A crises and behaviours not only for other professionals but also to the public in the street observing her handling of such situations.

**Getting the person that the NP is**

Participants overwhelmingly described the skills, attitude, approach, knowledge and personality of the NP positively. Comments included:

*She is “very well-known and well respected in the community” Participant*

“...she was a very good fit, I think, for that job. And she had a personality that was good for it” Participant

“It takes a special person to do it”. Participant

“There are some people who do not take well to GB…but generally she has fitted incredibly well into the community” Participant

**What has not worked as well and why**

Participants described a number of features of the NIS that have worked less well and why, not covered elsewhere in this evaluation report. These included:

- A very common concern, described by most participants, of the possibility of ‘burnout’ of the NP, given it is a difficult responsible job, a huge workload, and that the NP “does too much” Participant:

  “[The NP]’s got the hard end. She takes them when they are screaming on the street. Someone says “Will you come and talk to them” and she will de-escalate them and make the call on what to do.” Participant

  “...it’s just that there’s a big workload in Nimbin and I think it’s probably hard to be able to see that many people, so thoroughly, for so long on your own.” Participant

- The NP is currently completing client notes at home after hours, this is not good practice in terms of burn out
- The consistently high client load on the NP’s books means there is great potential for the NP’s availability to be compromised and this will affect the impact of the model and contribute to NP burnout
There are no formal clinical supervision arrangements or protected time for clinical supervision. Supervision should be provided by a psychiatrist or an experienced MH NP.

The lack of contingency to cover the NP's leave. When the NP is away there are reportedly more presentations to the ED, more MH episodes in the street, more police involvement, and clients continually come into the NNIC asking to see the NP.

The limited opportunities for referring clients to other services, in particular rehabilitation services, and access to a community psychiatrist for clients who are not acute.

The difficulties around transporting clients to other services.

Continued difficulties with communication. For example discharge practices as outlined in the participant quote below:

"The inpatient unit has no idea that [the NP] is involved in the case, even though [the NP]'s in Nimbin, and they discharge the client, and if they do send out a discharge summary, it would go to the GP's office in a file somewhere." Participant

Has the NIS met its aim and objectives and KPIs?
This is difficult to tell, as described earlier most of the objectives are challenging to measure. However, the NIS has employed a full time Integrated Health Care Worker, there is evidence of sharing of information between agencies, and some excellent examples of improved integration of services. The NIS provides assessment, case management and referral to other services as it aimed to do. Qualitative data and the limited available and relevant quantitative data would suggest the broad aim and vision for the service has been achieved.

What has worked well – summary
Clients are able and willing to access the NIS. There is a consistently high level of usage and around a third of clients are self-referred. Clients using the service are getting help and provide very positive feedback about the NIS. The location of the NIS works well and the NP is integrated into the community. Benefits of having an NP at the heart of the service were described, including the professional development of others. There is evidence of improved integration between services since the NIS began. The NIS is described as taking the pressure off a number of other services. There has been a reduction in ED presentation and stabilised ACS intervention in Nimbin. There has been a reduction in violence in the community.

What has not worked so well and potential risks to be considered – summary
The NIS is in danger of being a victim of its own success, and as a sole practitioner the NP is particularly vulnerable to burn-out. There are no robust formalised contingency plans for any absence of the NP or formalised clinical supervision for the NP (time and costs built in for formal clinical supervision). There are limited opportunities for referring clients to other services, in particular rehabilitation services, and continued difficulties around transporting clients. The current line management arrangements were a concern for some participants. There appears to be opportunity to improve the integration of the NIS with local MH services. The NIS was established without funds for administrative support for the post (either in terms of reception support from the NNIC, or administrative support for the sole practitioner), or rent or project management costs, or funds for clinical supervision.

7. Cost-effectiveness analysis

Introduction
The value of economic evaluation in mental health has been increasingly recognised [27]. Economic evaluation can describe the cost of the burden of illness, predict the level of resources that will be needed and provide information about the best use of available resources [28]. A full economic evaluation identifies, measures, values and compares the costs and outcomes of at least two alternatives under consideration [29].

Drummond et al defined costs as health care costs, patient and family costs and other sector costs [29]. According to the perspective an economic evaluation takes, the evaluation might include one, two or three of the above costs. The possible perspectives are patient, the service provider, or the society. The social perspective is the broadest and it includes all costs and outputs. For psychiatry or
mental health projects, a social perspective is preferred as a patient with mental health problem often uses other sector services (such as the legal system) and often needs substantial family inputs in terms of time, care and guardianship [27]. Ideally this study would therefore take a social perspective and include all the direct costs of the health sector (such as GP, hospital in-patient and out-patient), patient and family costs (travel costs, lost productivity, accommodation and any out-of-pocket expenditure) and other service sector costs (for example, the Police, Courts, and community based services). However, the time, data and resource limits of this evaluation did not accommodate this approach.

**Methods**

**Costs measurements**

The NIS was staffed by a full time Nurse Practitioner. According to the NSW Public Health Nurse Award [30], her annual salary costs were $106,486. Estimated on-costs were $26,621.5 (25%) covering superannuation, annual, sick and long-service leave and workers compensation.

On advice from health service colleagues, total working weeks a year were estimated at 43.9 (accounting for 4 weeks annual leave, 2.1 weeks public holidays, and 2 weeks sick leave). This calculation results in a working week Monday to Friday 7.35 hours per day with a total of 1613.3 hours a year.

The overhead costs were estimated to be $15,000 per annum, covered by NNIC [31]. The overhead costs included on-site supervision, office accommodation, reception support, access to office equipment (e.g. photocopier), resourcing of the Steering Committee (recording the minutes, meeting follow up, data collection, distributing and collecting agency surveys etc.) [31].

In 2009/10, the NP took leave. While she was away, the local GP made four client interventions at the rate of $128.2/visit. The cost was based on the Medicare fee Item 2702: Preparation by a medical practitioner who has not undertaken mental health skills training (including a general practitioner, but not including a specialist or consultant physician) of a GP Mental Health Treatment Plan for a patient. If a GP provides professional attendance for the purpose of providing focussed psychological strategies for assessed mental disorders, with a consultation lasting at least 30 minutes and less than 40 minutes, the fee was $87.5 in 2010 (MBS Item 2721) [32].

**Results**

In total, it cost $148,620.30 to run the NIS program in 2009/2010. The total clients serviced by the program in year 2009/10 were 160. The average cost per client was $928.88 and the average costs per hour of the service were $92.12.

The evaluation team randomly sampled data from 20 clients who were seen in 2010/11 and their usage of the NIS was investigated. The frequency of contact with the NIS ranged from 1 to 16 times and during each appointment their time with the Nurse Practitioner varied from 0.5 to 4 hours. The total hours per client the NP spent ranged from 0.5 to 17.5 hours, and averaged 5.69 hours. The cost per client ranged from $46.05 to $1611.75, and averaged $523.82. If the GP did the equivalent hours (113.75 hours) for the sampled clients, based on the Medicare Fee Item 2721 ($87.5/30mins), it would cost $16,450, or $995.31 per client.

Before the NIS, there were 152 mental health, assault and drug and alcohol patients who presented to Nimbin Hospital Emergency Department (ED) in 2006. After the Nurse Practitioner was employed in June 2007, the presentations dropped to 30 in 2009. The cost-effective ratio (cost per ED presentation saved) was $1,217.9.

**Discussion**

This appears to be the first economic evaluation on the cost-effectiveness of a community-based mental health NP in Australia. However, the study has significant limitations including only limited client level data and no client health outcomes data. In the future ideally a full economic evaluation needs to be conducted to comprehensively analyse the cost-effectiveness of the NIS.

Using a Top-Down method, the average costs per client in the NIS was $928.88. Based on the 20 randomly sampled clients, however the average cost per client was $523.32. This is explained by the
fact that the 20 sampled clients were all seen, whereas the top-down figure includes all clients, around a quarter of whom were not seen. Also, not 100% of the NP time was spent with patients in face-to-face contact, some of her time was not counted in, for example her travel time (travel to/from clients), coordination, administration and other similar activities. The average cost per patient provided by the NP was cheaper than if a GP had provided the equivalent work.

It is not possible to directly compare the results of the economic analysis of the NIS with other similar services, as the costs included and outcomes measured in other published studies are different. The NIS evaluation took the program perspective and included personnel costs and running costs only and no health outcomes were measured. However, most published economic studies of community psychiatric nursing (CPN) took a broader perspective and measured health outcomes. For example the first economic evaluation of CPN published in 1983 by Mangen et al [33] analysed the cost-effectiveness of CPN and routine out-patient psychiatry (OP) in the UK. The costs included were use of non-psychiatric treatment resources, use of all GP resources, use of all psychiatric treatment resources, costs of local authority welfare services, transfer payments and patient travel costs incurred in seeking treatment. The study found patients in CPN group significantly had used less psychiatric services and less travel time. However, using a social perspective, the CPN cost more (1117 GB pounds) than that of OP (720 GB pounds), although this difference was not statistically significant. The second CPN economic evaluation published in 1995 by Gournay and Brooking [34] included costs of patients’ absences from work, drugs and dispensing, use of non-psychiatric hospital treatment resources, use of all GP resources, use of all CPN resources, use of other psychiatric treatment resources, use of local authority social services, social security and rent (payments), patients’ and relatives’ travel and work loss for treatment, patients’ personal expenses, and relatives’ work losses and other costs incurred because of the patient’s problem. The average costs per patient under CPN were 556 GB pounds (1992).

Another study compared the cost-effectiveness of CPN teams with GPs in the UK [35] and included costs of GPs, psychiatrists, hospital in-patient and out-patient services, police, court, and other community services. The average costs per week per patient were 285 and 395 GB pounds respectively in 1992-93 prices. A recent study in UK in 2010 [36] compared the costs of mental health nurse supplementary prescribing and independent medical prescribing. The costs included health sector costs, patient’s costs and community costs. The average cost per patient by CPN was 1,117 GB pounds, and 720 GB pounds by independent medical practitioners, although the difference was not statistically significant.

The average costs per hour of the NIS was $92.12, again it is hard to compare the result with other community mental health services in Australia. Recently the National Mental Health Benchmarking Project (NMHBP) found that the average cost per treatment hour was $223 to provide community based mental health services for children and adolescents [37]. The NMHBP’s hourly costs were higher than that of NIS because the NMHBP took more costs into account (personnel costs of medical staff, drug supplies, medical and surgical supplies, food supplies, repair and maintenance, administration and patient’s travel costs).

We found the cost per ED presentation saved ($1,218) by NIS was expensive compared to the national average cost ($464) per alcohol related ED attendance for Metropolitan Health Service Hospitals in 2008/9 [38]. But careful interpretation of these results is necessary. The function of the ED and NIS in terms of managing patients is different. The ED focuses on managing crisis and emergencies then referring to other services for further investigation, however, the NIS often provides continued care to clients. Also the figures are for metropolitan hospitals.

A systematic review based on UK, German and Italy’s 30-year community mental health experience found that community-based models of care were not inherently more costly than institutions, once individuals’ needs and the quality of care was taken account of. However new community-based care arrangements could be more expensive than long-stay hospital care but may still be seen as more cost-effective because they deliver better outcomes [39]. An empirically based study found that Canada’s forty years of deinstitutionalization of psychiatric services has increased per capita expenditure on community-based psychiatric services [40]. Policy-makers must not expect costs to be necessarily low in community settings [39].
8. Possible gaps in the NIS, identified need or vulnerabilities of the service (additional material)

Gaps in the NIS and identified need or vulnerabilities have been discussed throughout this evaluation report. This section includes additional observations.

There is a lack of clarity in the documentation around the target client group for the NIS – this means the NIS is vulnerable in terms of responding to demand from all kinds of clients from a wide catchment.

Some participants identified that the NP’s extensive notes could be problematic (for both the NP in terms of time taken at home to write such extensive notes, and other services/partners using the notes), for example:

“...I don’t read them all because they’re just so long...The impact of that is...we’ve got this vast amount of background knowledge that we can use...but, I think, sometimes, we might not pick up on some of her messages because we don’t read things as thoroughly as we should.”

Participant

There are a number of practical resources which may benefit the NP. These include a smart phone to enable access to the PBS whilst on home visits on in the street; voice-recognition software to record clients’ notes, and weighing scales for anorexic clients or obese clients. The NP may also benefit from some support with design of an appropriate client database (which interfaces with MH data requirements), including security and backup as well as a template for recording client notes.

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