Methamphetamine step-up step-down withdrawal model evaluation

Final Report

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We would also like to thank those staff who offered their perspectives on the model and to those clients who provided feedback on their experience with ReGen’s withdrawal treatment services.
About the authors

LeeJenn Health Consultants is a specialist health consultancy focused on health service development through research and evaluation, training and workforce development, and translation of research to practice. Directors, A/Prof Nicole Lee and Linda Jenner, have worked in the mental health and drug treatment fields in clinical practice, research, training and management, and have a unique combination of skills that enables a balance of academic research knowledge, an understanding of the realities of frontline practice and an ability to make complex concepts accessible to a range of audiences.

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Executive summary

Background

From 2010-11 to 2013-14, ReGen experienced a significant increase in the number of methamphetamine users presenting for treatment, and ReGen staff identified a number of issues concerning effective responses to this client group. A review of methamphetamine treatment in the Curran Place residential withdrawal unit highlighted issues of poor rates of client retention in treatment or participation in the structured program and it was found that many clients did not experience a decrease in methamphetamine withdrawal symptoms after completing a seven-day residential stay. Based on a review of the existing evidence and on ReGen’s experience with methamphetamine users, a series of changes were made to the residential program to better meet the needs of methamphetamine users and a new ‘step-up/step down withdrawal model’ was subsequently developed. An evaluation was planned at the time of implementation.

Methodology

The program evaluation built on quality assurance processes, primarily using an outcome evaluation approach to determine whether the treatment model trial had met its goals in improving client outcomes for methamphetamine users undertaking withdrawal. The method also combined elements of process evaluation to gain an understanding of what was learnt during the trial of the new model and how the model could be improved.

Novel programs are often developed and established in a dynamic service environment and adaptations of new models are usually required during its implementation. As this was the case with the step-up/step down withdrawal model, the evaluation was also required to be responsive to these changes; therefore the methods were to some degree adapted as necessary. The evaluation involved:

The step-up/step-down withdrawal model aimed to involve:

- Assessment, clinical review and care planning – identification of clients suitable to receive non-residential withdrawal (NRW) support from nursing staff
- NRW support offered to eligible clients – with provision of outreach (home-based) withdrawal support while on the waiting list for residential withdrawal services.
- NRW support focused on pre-admission planning
- Residential withdrawal service admission for up to 10 days
- NRW support on completion of the residential component of the treatment and support plan.
• a literature review;
• collation of program input and output indicators;
• collection of data from clinical outcome measures at various stages of treatment (initial assessment, residential withdrawal admission and discharge, during non-residential withdrawal and at three months post-discharge from residential withdrawal);
• an online staff survey to gain feedback from staff regarding implementation of the trial and their satisfaction with the treatment model; and
• client surveys regarding their satisfaction with the treatment model.

Key findings

Methamphetamine withdrawal and stepped-care: a brief literature review

• Methamphetamine withdrawal symptoms generally subside after to 7-10 days, but sub-acute and more subtle symptoms can last for a further two weeks and in some cases may endure for several months.
• Psychosocial stepped-care models are recommended for methamphetamine users; assessment with single-session CBT/MI integrated brief interventions is suggested as the minimal treatment likely to be effective for this client group.
• Clinical withdrawal guidelines advocate for the provision of pre- and post-withdrawal supports and a stepped approach to withdrawal care involving access to step-up and step-down care between hospital/psychiatric wards, community-based or non-residential alcohol and other drug (AOD) settings based on each client’s needs.
• There is limited detailed literature on how best to implement a stepped approach to withdrawal management for methamphetamine users and no literature was identified in this review that sufficiently detailed a model or program incorporating residential and non-residential withdrawal services for methamphetamine dependent clients.
• The available evidence supports continued development of withdrawal management models for methamphetamine dependent clients that address:
  o the experience of clinically significant withdrawal symptoms for up to two weeks;
  o the high rates of relapse, low rates of retention and prolonged methamphetamine-related impairment.

Services delivered and engagement

Of a total of 110 methamphetamine dependent clients seeking some form of withdrawal management during the trial period, the uptake and pathways through the step-up/step-down withdrawal model varied widely:
• 63% (n=69) attended a ReGen residential withdrawal unit;
• around 39% (n=43) of these clients received a stepped-care contact or another component of the model;
• 13% (n=14) of the sample received both step-up and step-down support before and after entering residential withdrawal;
• approximately 26% (n=29) were not offered stepped-care and were considered unsuitable for the new model;
• 22% (n=24) received neither residential nor non-residential withdrawal treatment with ReGen during the trial:
  ▪ the majority (n=17) received a referral from ReGen to other services
  ▪ more than half of this group disengaged or declined to enter treatment (n=12)
  ▪ a small group (n=6) reported they had already completed withdrawal (e.g. at home or during a hospital stay)

Residential withdrawal – client outcomes

• Residential withdrawal clients were generally still experiencing at least a low level of withdrawal symptoms by day seven of treatment, but the majority of clients showed some reduction in withdrawal symptoms at the time of discharge.
• The average length of stay in residential withdrawal was 6.3 days.
• Compared to clients with no step-up contact, fewer clients who received step-up care used methamphetamine the day before or the day of their admission to residential withdrawal.
• On average, clients in step-up care had a shorter duration of stay in residential units than those clients not in step-up care. While fewer step-up clients completed a full seven days of treatment, they demonstrated substantially greater and more rapid decreases in withdrawal symptoms (average scores on the Amphetamine Cessation Symptom Assessment (ACSA) were lower).

Clients at Step-down contact and 3-month follow-up

It is estimated that step-down care with non-residential withdrawal (NRW) nurses commenced on average, 9.6 days after discharge from a residential unit (ranging 0 to 28 days). At this point, the majority of step-down clients were still experiencing at least some mild symptoms of withdrawal (average ACSA score for 10 participating clients was 17.7, range 0-43).

From a small sample followed up after three months (n=16), slight differences between the step-up clients and clients with no NRW contact did indicate the step-up group had on average, greater quality of life, less psychological distress and less methamphetamine use at the time of follow-up. These limited data suggest that a greater quantity of stepped-care contacts may be associated with more positive client outcomes at three-month follow-up, with higher client health satisfaction ratings in particular.
At three-month follow-up, client satisfaction with ReGen’s services overall was very high, with generally lower but still positive ratings for residential withdrawal treatment and non-residential withdrawal support. There was no difference between the stepped-care and no-contact groups regarding satisfaction with treatment.

**Key issues in implementation**

A range of challenges were faced, and to some degree overcome, in implementing the new treatment model successfully. Significantly, the step-up/step-down trial was implemented during the same time period that ReGen was planning for substantial organisational changes in the context of state-wide AOD sector reforms that would have significant implications for future service delivery to clients.

Another key challenge was developing and maintaining communication and co-ordination of the new system of client care across various staff teams at ReGen. This was the most commonly identified challenge for the model and suggested area for improvement by NRW and residential withdrawal (RW) staff alike. The issues primarily related to communication among staff about the proposed model, role responsibilities, and issues with establishing systems for staff in the Assessment, NRW and RW teams to gain relevant information about clients engaged in the new step-up/step-down program.

Contacting and engaging the increasing number of potentially eligible methamphetamine dependent clients presenting to ReGen was also identified as a challenge by the NRW team. This was considered to be a time-consuming aspect of the NRW’s role and was perceived as particularly difficult when clients were still actively using methamphetamine pre-withdrawal. The team applied a range of strategies to overcome these obstacles during the trial period.

At various times during the trial there was limited capacity to consistently offer and provide non-residential withdrawal support to all methamphetamine dependent clients identified as eligible for the new model. Some of the factors may have included:

- high numbers of eligible clients;
- staffing issues such as capacity and staff engagement/satisfaction including times of reduced capacity due to staff absences;
- issues with systems of communications between teams;
- broad client inclusion criteria for NRW stepped-care model.

Despite facing significant challenges during the trial, the team provided services and support to a considerable number methamphetamine dependent clients seeking withdrawal management.
Recommendations

- Conduct a detailed review of the international and national literature to identify models of stepped-care that may inform future development of the model.

- Consider undertaking additional consultation with service users concerning their views of the withdrawal stepped-care model to enhance future development of the model.

- Develop and clearly describe the chosen model of step-up/step-down care and build in systems for evaluation.

- Conduct comprehensive training with all staff members to ensure the active participation of all staff in the conduct of the program, its procedures and protocols, and their role in the evaluation.

- Consider where the new model sits within a wrap-around approach to client care, which could include:
  - the use of web-based self-help materials to support client’s preparation for withdrawal and evaluate its effectiveness
  - developing a targeted and structured after-care program specifically developed for users of methamphetamine to allow seamless transition from residential care, and evaluate its effectiveness
Background

About the Methamphetamine Step-up Step-down program

UnitingCare ReGen (‘ReGen’) provide residential and non-residential methamphetamine withdrawal services to young people and adults. In recent years, ReGen experienced a significant increase in methamphetamine users presenting for treatment, with those identifying methamphetamine as their primary drug of choice rising from 6% in 2010-11 to 17% in 2013-14.

A range of issues for responding to this client group and better meeting their treatment needs were identified and in 2013, ReGen conducted a clinical practice audit to review methamphetamine treatment in the Curran Place residential withdrawal unit. The audit found that client retention in treatment was poor; client participation rates in the structured program were low; interactions between clients and staff were sometimes hostile; and many clients did not experience a decrease in methamphetamine withdrawal symptoms after completing a seven-day residential stay.¹

Based on a review of the existing evidence and on ReGen’s experience with methamphetamine users, a series of changes were made to the residential program and a new ‘step-up/step down withdrawal model’ for methamphetamine users was developed. System changes already implemented to facilitate this new model included the extension of the residential withdrawal stay from seven to 10 days (commenced January 2013), and the allocation of additional resources to the non-residential withdrawal (NRW) team to support clients. An evaluation of the new program was planned.

The step-up/step-down withdrawal model aimed to involve:

- assessment, clinical review and care planning including the identification of clients suitable to receive non-residential withdrawal (NRW) support from nursing staff;
- NRW support offered to eligible clients with the provision of outreach (home-based) withdrawal support while on the waiting list for residential withdrawal (RW) services. NRW treatment was to primarily focus on pre-admission planning including:
  - education on harm reduction strategies and self-care;
  - motivational interviewing and counselling support;
  - advice on expectations of the withdrawal experience and the residential service;
  - liaising with GPs and linking clients with support services as required;
  - support for families of clients during home-based withdrawal;

¹UnitingCare ReGen, May 2014: ‘Methamphetamine treatment: Building on successful strategies to enhance outcomes’
• Admission into the RW unit for up to 10 days with the expectation that a client’s participation in the program during first few days of withdrawal would be relaxed if required to accommodate a methamphetamine ‘crash’ period;
• Non-residential withdrawal support on completion of the residential component of the treatment and support plan. Such support could include:
  o continued withdrawal information and management
  o counselling and case management support including facilitating links with other services where required.

Purpose and aims

The purpose of the evaluation was to examine the effectiveness of the newly developed ‘step-up/step-down withdrawal model’ in meeting its aim to improve support for methamphetamine dependent clients that accessed the service.

The evaluation aimed to:
• describe the outcomes for clients that accessed the new step-up/step-down withdrawal service model;
• assess the extent to which the trial of the new service model impacted on clients’ experiences of residential withdrawal;
• monitor clients’ and ReGen staff satisfaction with the new treatment model;
• describe the implementation of the treatment model over the evaluation period and identify the obstacles and enablers.
Data collection methods

This evaluation builds on quality assurance processes, primarily using an outcomes evaluation approach to assess whether the treatment model trial has met its goals in improving client outcomes for methamphetamine users undertaking withdrawal. The method also combined elements of process evaluation to gain an understanding of what was learnt during the trial of the new model and how it could be improved.

The implementation of the program into a dynamic service environment resulted in changes during the implementation period. The evaluation methods were similarly adapted over the time of the trial. The evaluation involved:

- a brief literature review
- collation of program input and output indicators
- collection of data from clinical outcome measures at various stages of treatment (initial assessment, residential withdrawal admission and discharge, during non-residential withdrawal and three-months post-discharge from residential withdrawal)
- an online staff survey to gain feedback from staff regarding implementation of the trial and their satisfaction with the treatment model
- client surveys regarding their satisfaction with the treatment model

Figure 1. Overview of data collection methods
**Literature review**

LeeJenn conducted a brief literature review on methamphetamine treatment with a particular focus on evidence relating to stepped-care models for methamphetamine treatment approaches that combine residential and non-residential components. The review was conducted to supplement ReGen’s review of relevant treatment literature which informed the previous audit and assessment of residential withdrawal services for methamphetamine users.

The literature search strategy involved using key terms (‘methamphetamine’, ‘withdrawal’, ‘treatment’, ‘stepped-care’/’step-down care’/’adaptive treatment’) to search the following databases: Medline, PsychInfo, CINAHL and Web of Science.

Additional searches were conducted to identify relevant grey literature, using the ‘Trove’ and ‘Grey literature report’ databases and Google search engine. This process included searches of additional terms, phrases and specific organisations to try and identify examples of relevant programs and services.

**Program input and output indicators**

A brief summary of the inputs, or resources required to deliver the treatment model was provided to LeeJenn to indicate how the treatment model was implemented and as an indicator of its success and sustainability. Input indicators were provided by email from staff of the NRW team, including comment on staffing levels, staff time, budget and facilities used by the service.

Outputs are the quantitative measures of activities that are produced by the step-up/step-down withdrawal model. This includes outputs generated at each stage and setting of the treatment model: assessment, engagement in NRW, attendance at RW, and continued engagement with NRW services.

LeeJenn developed a spread sheet to assist ReGen to record program output data. Data were sourced by ReGen from existing client referral and treatment databases and collated and recorded in electronic format.

The main program output indicators were:

- number of clients assessed by ReGen who were identified as methamphetamine users
- number of clients assessed as eligible or suitable for the step-up/step-down withdrawal program
- treatment participation and completion rates in each stage of the model; the ‘step-up’ non-residential withdrawal support, residential withdrawal, step-down post-residential support
- numbers and types of referrals provided for clients eligible for step-up/step-down care.
Client outcomes

Indicators of client outcomes were collected and measured by ReGen staff at various stages of the treatment and service delivery process, including initial assessment, entry into residential treatment and during provision of step-down care.

A number of questions and validated, clinical measures were repeated to measure the areas of client outcomes such as methamphetamine use, mental health and the presence and severity of withdrawal symptoms. These are outlined below in Table 1.

Data were collected by ReGen staff primarily as part of routine care using existing clinical forms and databases at client assessment and admission to RW services. Additional time points and measures were suggested by LeeJenn and were incorporated into data collection at assessment, during residential and NRW treatment by ReGen clinical staff. ReGen staff also conducted a small number of three-month follow-up contacts with clients, collecting clinical outcome information and feedback on their experience of the service.

A spreadsheet for recording data was provided by LeeJenn and ReGen collated and recorded the data in electronic format. A de-identified set of this data was provided to LeeJenn for analysis.

Table 1. Client outcome measures

<table>
<thead>
<tr>
<th>Client outcome area</th>
<th>Measure/ tool</th>
<th>Time point collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic profile of program participants</td>
<td>Existing screening/assessment form</td>
<td>• Initial assessment</td>
</tr>
<tr>
<td>Length of stay/ level of engagement</td>
<td>Client database/records</td>
<td>• Residential Withdrawal (RW)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Non-residential withdrawal (NRW)</td>
</tr>
<tr>
<td>Level of current drug use</td>
<td>Alcohol and other drug use table-substance use past 4 weeks</td>
<td>• Initial assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RW-admission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NRW-step-down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three month follow-up</td>
</tr>
<tr>
<td>Methamphetamine - severity of dependence</td>
<td>Severity of Dependence Scale (SDS)</td>
<td>• Initial assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RW-admission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NRW-step-down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three month follow-up</td>
</tr>
<tr>
<td>Methamphetamine - withdrawal symptoms</td>
<td>Amphetamine Cessation Symptom Assessment (ACSA)</td>
<td>• RW - daily</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NRW-step-down</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>WHOQOL-Bref</td>
<td>• Initial assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three month follow-up</td>
</tr>
<tr>
<td>Level of psychological distress</td>
<td>Kessler-10 (K10)</td>
<td>• Initial assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RW-admission &amp; discharge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NRW-step-down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Three month follow-up</td>
</tr>
</tbody>
</table>

*Note: validated instruments displayed in bold*
Key findings

Methamphetamine withdrawal and stepped-care: brief review of the literature

During the course of examining and developing their withdrawal treatment services for methamphetamine dependent clients, ReGen had reviewed and collated the available evidence on methamphetamine withdrawal. The review highlighted the complex issues faced by this client group, as well as challenges for treatment services. The current review aimed to supplement that conducted by ReGen by searching literature to identify relevant stepped-care models and treatment programs. A brief summary of the literature regarding methamphetamine withdrawal, withdrawal management and stepped-care is summarised in this section.

Methamphetamine withdrawal

Repeated and long-term use of methamphetamine can lead to dependence. Ceasing regular, prolonged or high dose use often leads to a withdrawal syndrome involving symptoms of depressed mood, strong cravings, fatigue, lethargy, sleep disturbances, appetite disturbances and irritability.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) indicates withdrawal from amphetamine-type substances develops within a few hours to several days after an individual ceases or dramatically reduces use and is characterised by the development of dysphoric mood (sadness) plus two or more of the following symptoms: fatigue, vivid unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor retardation or agitation. These signs or symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning and they are not attributable to any other medical condition or better explained by another mental disorder or withdrawal from another substance.

For dependent users, experience of acute withdrawal symptoms typically decrease over time and subside after to 7-10 days, although sub-acute and more subtle symptoms can last at least a further two weeks and in some cases several months.

Symptoms of depression and anxiety are commonly most severe after 2-3 days of abstinence and resolve after two weeks; however some users may experience depressive symptoms for up to 3-4 weeks and some for up to several months. Intense craving to use methamphetamine is a common experience during acute withdrawal but cravings can also continue at a reduced level throughout at least five weeks of abstinence.

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Methamphetamine related psychiatric symptoms generally abate quickly after ceasing use but some users experience prolonged psychiatric symptoms including those without a previous history of mental illness 4.

Methamphetamine use is characterised by wakefulness and many users will undergo a brief recovery or ‘crash’ period for a few days, especially after binge use and wakefulness for long periods. This phase in itself does not necessarily indicate a clinically significant withdrawal syndrome, and ‘crash’ feelings of fatigue and restlessness can pass within one or two days for many users, although withdrawal can follow in some dependent users 7. Symptoms of depression and suicidal ideation or behaviour can occur during a ‘crash’ phase and other stages of withdrawal 2.

There is considerable variation in severity of methamphetamine withdrawal symptoms; the intensity of recent use and how long an individual has been using methamphetamine are important factors. Longer periods of use and increased severity of dependence are associated with a more severe course of withdrawal 3. Crystal methamphetamine, or ice, is significantly stronger in its effects compared to the powder or base forms, and is associated with a greater likelihood of developing dependence 6. Smoking and injecting methamphetamine are both more strongly associated with developing dependence than using the drug by snorting or swallowing 8,9.

Importantly, after cessation of use and once acute symptoms are resolved, other longer term effects of methamphetamine use may affect treatment engagement and successful avoidance of relapse. Effects of methamphetamine on neurocognitive impairment associated with motor slowing and impaired memory have been found among methamphetamine users after one to three years of abstinence 10,11.

Accessing withdrawal treatment

Australian surveys with methamphetamine users have indicated generally low levels of motivation for treatment, and common perceptions that their use is not a problem12,13. Many individuals attempt to withdraw without specialist supervision and commonly self-manage withdrawal symptoms, including using strategies such self-medication and substituting other drugs for methamphetamine12,14.

Treatment services appear more commonly accessed by users with riskier patterns of use; by those seeking help for other issues such as mental health; and by people with greater experience of methamphetamine-related harms14. Those who do seek detoxification services are frequently highly motivated to reduce their use and indicate a desire to achieve abstinence15.

Effective treatment – methamphetamine dependence

The research evidence relating to methamphetamine treatment primarily relates to psychological interventions for dependence and the trialling of medications in the treatment of dependence or withdrawal.
Reviews of the evidence for methamphetamine dependence treatment options have found that psychological interventions can effectively address methamphetamine use and dependence and that current evidence supports the use of cognitive behaviour therapy (CBT) and contingency management approaches. CBT combined with motivational interviewing has demonstrated some effect in decreasing amphetamine use among regular users, including when delivered as CBT-based brief therapy.

An Australian study of community based treatment for methamphetamine use has also indicated that residential rehabilitation achieved positive effect in reducing use. Pharmacotherapy is a continually developing area of research which has identified some promising medications, but no broadly effective pharmacotherapy options have yet been identified in clinical trials to help support methamphetamine dependent clients.

While there is evidence for the effectiveness of community based psychosocial treatment, such as residential rehabilitation and CBT, the effects on abstinence and methamphetamine use appear time limited and relapse rates are high. The chronic relapsing nature of methamphetamine dependence, along with evidence of potentially prolonged withdrawal symptoms and longer-term effects on neurocognitive impairment, highlight the significant need for continuing care and aftercare supports for this client group. Among methamphetamine users admitted for AOD treatment, participation in self-help or other treatment during post-treatment abstinence has been identified as a significant protective factor predicting longer time to relapse. Similarly, methamphetamine dependent service users who completed treatment and then continued to utilise AOD related treatment and services during a 12-month follow-up period were shown to have better quality of life and mental health outcomes.

Effective treatment - withdrawal management

Methamphetamine users commonly withdraw in the community and effective management of withdrawal by treatment services primarily involves psychosocial interventions and is generally based on clinical experience and expert consensus. No medications have as yet been found to be best practice and approved for use in withdrawal from methamphetamine.

Current methamphetamine treatment and AOD withdrawal guidelines indicate that:

- home-based and outpatient methamphetamine withdrawal is safe and generally advised;
- supervised withdrawal in a specialist, residential setting is suitable for people with poly-drug dependence, severe methamphetamine dependence, serious psychiatric or medical complications, unstable or unsuitable home environment or a history of previous unsuccessful withdrawal attempts;
- services should provide withdrawal planning and preparation, as well as planning and linkages for post-withdrawal, ongoing support;

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in practice, withdrawal management may include medications such as short-acting benzodiazepines and anti-psychotics to assist with managing insomnia and agitation during the early stages of withdrawal.

Clinical withdrawal guidelines advocate for withdrawal stepped-care that includes access to step-up and step-down care between hospital/psychiatric wards, and community-based or non-residential AOD settings based on client needs.²³

A recent systematic review of medication treatment options for amphetamine type stimulants found that although clinical guidelines commonly recommend the use of benzodiazepines to help manage sleep disturbance and agitation during withdrawal, there was no evidence to support their use.²⁷ Some limited evidence demonstrated that mirtazapine, modafinil, dexamphetamine may be effective in reducing withdrawal symptoms in some people and may also assist in preventing relapse, however no medication is yet approved for use in methamphetamine withdrawal.²⁷

A recent study among Australian treatment users found that inpatient withdrawal for methamphetamine, when provided alone, has been shown to have no greater effect on reducing methamphetamine use than for individuals receiving no treatment.¹⁵ This evidence corresponds with current clinical withdrawal guidelines which recommend that methamphetamine withdrawal is best managed with a stepped-care approach, whereby clients can be transferred to more, or less intensive care settings according to their needs and where withdrawal support is provided as the first step in a comprehensive treatment program.⁷

Methamphetamine treatment – Stepped-care models

Stepped care models of treatment are clinical responses which are matched to the severity of problems being experienced, beginning with the least intensive intervention that is likely to be effective. This is followed by monitoring of individual response and increasing intervention intensity (‘stepping-up’) or decreasing intensity (‘stepping-down’) where required. Stepped-care models of psychosocial treatment are recommended in some areas of AOD treatment and in these approaches, inpatient treatment is generally considered a targeted and highly intensive treatment option to be tried when clients have not responded to less intensive levels of treatment, such as CBT and motivational interviewing.²⁸

Psychosocial stepped care approaches for responding to methamphetamine users have a developing evidence base and have been recommended, particularly for those clients with methamphetamine use and co-occurring mental health issues.⁷,²⁹,³⁰ Australian research examining outcomes for regular amphetamine users (at least weekly users) receiving combined CBT and MI sessions, found that after receiving an initial assessment and one CBT/MI session, around one-third of participants indicated clinically significant improvements in methamphetamine use and symptoms of depression at a five week assessment.¹⁸
Based on this research, it is suggested that a single-session integrated brief intervention could be recommended as the minimal treatment likely to be effective for this client group. A five-week cycle between levels in a stepped-care model was also recommended as it was identified that the greatest change in symptoms had occurred for clients by week five. While it is understood that stepped-care approaches may be a suitable treatment model for amphetamine users with co-occurring mental health issues, it is also indicated that this is unlikely to be an effective approach for more complex presentations.

**Stepped-care and withdrawal management**

As noted, current clinical withdrawal guidelines suggest that methamphetamine withdrawal is best managed with a stepped-care approach, whereby clients can be transferred to more, or less intensive care settings according to their needs. It is recommended that withdrawal management commences with preparatory withdrawal care planning and post-withdrawal planning to ensure continuing support.

The majority of the literature and practice of stepped-care models of methamphetamine treatment identified by this review related to the psychosocial aspects of a stepped-care model for methamphetamine users. Stepped-care approaches to psychosocial treatment discuss the need for managing methamphetamine withdrawal and referral to inpatient withdrawal services, but do not appear to integrate this aspect of treatment directly into stepped-care services. An extensive literature search found there is limited information available that provides direct insight into how the stepped-care model can best implement and incorporate residential and non-residential elements of treatment to manage methamphetamine withdrawal.

For example, the NSW Stimulant treatment program uses a stepped-care framework primarily providing psychosocial treatment, including cognitive behavioural therapy, motivational interviewing and narrative therapy. The clinics also delivered pharmacotherapy for a very small group of patients, however most ‘step-up’ and higher intensity treatment was provided by referring clients externally. In the 2008 evaluation, 41% of patients were referred to other services at intake, with an indication that some of these clients were being directed to residential rehabilitation or managed withdrawal programs, and that a large proportion of referred clients later returned to attend treatment at the clinic. Ongoing evaluation of the program’s clinical outcomes showed reductions in clients’ methamphetamine use and improvements in their mental health after treatment; however there is little available information on how the withdrawal management components of the step-up/down care were provided.

Continuing care or stepped-care to specifically manage alcohol and drug withdrawal appears to be delivered in a range of ways across services. This includes treatment agencies who refer clients to other services for inpatient withdrawal care but provide pre- and post- withdrawal support, as well as a range of AOD agencies that provide withdrawal services and are also able to directly provide clients with other higher or lower intensity steps of care, such as residential rehabilitation programs or supportive day programs. A more detailed review of the literature regarding how agencies respond to methamphetamine withdrawal clients in practice that would help to inform development of new models to effectively link withdrawal
management and other higher-intensity treatments in a stepped-care model for methamphetamine users is recommended.

Key findings from the literature:

- Methamphetamine withdrawal symptoms generally subside after to 7-10 days, but sub-acute and more subtle symptoms can last for a further two weeks and in some cases several months.
- Specialist, residential withdrawal is recommended for methamphetamine dependent clients with poly-drug dependence, severe methamphetamine dependence, serious psychiatric or medical complications, unstable or unsuitable home environment or a history of previous unsuccessful withdrawal attempts.
- No medications have as yet been found to be best practice and approved for use in managing withdrawal from methamphetamine.
- In practice, medications such as short-acting benzodiazepines and anti-psychotics may be administered to assist in with insomnia and agitation during the early stages of withdrawal, however a recent review found no evidence to support the use of benzodiazepines to help sleep disturbance and agitation during withdrawal.
- Psychosocial stepped-care models of care are recommended for methamphetamine users; assessment with single-session CBT/MI integrated brief interventions are suggested as the minimal treatment likely to be effective for this client group.
- Clinical withdrawal guidelines advocate for provision of pre- and post- withdrawal supports and a stepped approach to withdrawal care, involving access to step-up and step-down care between hospital/psychiatric wards, community-based or non-residential AOD settings based on client need.
- There is limited detailed literature on how best to implement a stepped approach to withdrawal management for methamphetamine users and no literature was identified in this review which sufficiently detailed a model or program incorporating residential and non-residential withdrawal services for methamphetamine dependent clients.
- The available evidence supports continued development of withdrawal management models for methamphetamine dependent clients which address:
  - the experience of clinically significant withdrawal symptoms for up to two weeks
  - the high rates of relapse, low rates of retention and prolonged methamphetamine-related impairment.

Program inputs and resources

This evaluation does not aim to present detailed findings of resourcing or cost effectiveness of the step-up/step-down withdrawal model, but provides a basic indicator of resources utilised during the course of the trial. Inputs were:

- the Victorian Department of Health provided funding to help support the implementation and evaluation of the trial (approximately $50,000).
• an additional staff member was seconded to the non-residential withdrawal nursing team from a ReGen residential withdrawal unit to co-ordinate and implement the new step-up/step-down model, (grade 3 nurse, estimated annual salary $75,000-$89000).
• in total, the NRW team staffing resources during the trial were equivalent to 3.6 equivalent full time nursing staff (EFT), including one team leader, two other full time nurses and one part time nurse, all experienced in alcohol and other drug withdrawal:
  > NRW staff time spent working specifically with methamphetamine clients appeared to vary considerably across the team
  > the newly recruited full time nurse was predominantly allocated to the step-up/step-down model; remaining staff time was not specifically allocated to providing step-up/step-down support and accurate observation of staff time spent on the model was not available
• changes in staffing required slight changes to the infrastructure used, as a change in office space to accommodate another staff member was required.
• since the trial was completed, significant changes to the non-residential withdrawal team structure and location have occurred due to recent service system reforms.

As an early pilot or trial of the model, limited funding was available for its implementation and evaluation, and most service delivery was provided within routine duties of the NRW nursing team. From data gathered for this evaluation, it appears that in practice, the model was able to deliver a significant level of treatment services during the trial, but that capacity to follow-up eligible clients was at times limited. A number of factors impacted on capacity to fully deliver services (discussed further in this report) making it difficult to identify to what degree greater resourcing would enable sustainability of the current model into the future.

Services delivered

During the methamphetamine step-up/step-down withdrawal trial from February to July 2014, clients seeking withdrawal management were identified at assessment as eligible for review and possible follow-up by the NRW step-up/step-down team if they:
- identified their primary drug as methamphetamine and/or;
- reported levels of methamphetamines use and dependence that indicated they would experience methamphetamine withdrawal following admission to the residential unit.

Data relating to client engagement with the step-up/step-down withdrawal model was available for a total of 110 individuals seeking withdrawal management during the trial and evaluation period; these clients constitute the total sample referred to in this report.

During the trial and evaluation period:
• 69 of these 110 clients (63%) were admitted to a residential withdrawal unit
• 43 clients (39%) engaged with the non-residential withdrawal component of the model
• 4 clients were assessed in July and were on the waiting list for residential withdrawal.

From the point of first assessment, 79% of clients (n=87) received at least one additional service referral, most commonly to a GP (n=32), psychiatrist (n=27), ReGen Counselling team (n=24) and/or a residential rehabilitation program (n=22). Fifteen clients (14%) received referrals to three or more services during the step-up/step-down trial period.

In addition, feedback from staff suggests that in some cases, the NRW nurses liaised and supported other AOD workers/counsellors, to help them work with methamphetamine using clients who did not come into contact with the NRW team.

Who engaged in withdrawal services at ReGen?

Demographic characteristics

From the sample of 110 clients identified as potential step-up/step-down program participants, demographic data was available for 104 (94.5%). Data revealed that:
• slightly less than half were female (41.3%, n=43)
• the average age was 28.6 years (range 17-48 years)
• most were Australian born (91%, n=95)
• twelve participants (11.5%) identified as Aboriginal and/or Torres Strait Islander
• the majority were living in major cities (88.2%, n=97); around 12% (n=13) were from regional or rural Victoria
• 60 participants lived in privately owned or rented accommodation (58%) and 18 lived in public housing (17.5%) but nearly 12% (n=12) were homeless at the time of assessment
• 74 (76%) of the 97 participants for whom data were available were unemployed at the time of assessment.

Mental health

Data relating to mental health were available for 101 participants (92% of the total sample). At assessment, participants had an average Kessler 10 (K10) score of 33 (ranging from 12 to 50), reflecting a very high level of psychological distress. K10 scores of 30 to 50 are considered to be ‘very high’ and consistent with a diagnosis of a severe depression and/or anxiety disorder. The majority of these participants (88%, n=89) scored in the high to very high range, indicating significant levels of psychological distress.

Quality of life

Data from the WHO-Quality of Life (Brief) scale was available for a sub-sample of clients (n=62) at initial assessment and scores indicated self-perceived quality of life and satisfaction
were relatively low for this group overall. On a scale of 1 to 5, the group’s average rating for quality of life was 2.6, and average satisfaction with health was 2.4.

Quality of life and satisfaction was assessed over four domains, with possible scores of 0 to 100. Physical health issues were reported as most problematic for the group (mean score =34), followed by psychological health (mean score=39.5). Average scores for the group’s quality of social relationships was slightly higher (mean score=44.3) and the environmental domain had the highest quality or satisfaction for the group (mean score=54.5).

Substance use

Information on recent methamphetamine use was available for 101 individuals and showed that at assessment:

- this group used methamphetamine on an average of 15.5 days in the previous 28 days
- seventy per cent (n=73) of the sample reported the main way they used methamphetamine was smoking; 26% (n=27) injected methamphetamine, while around 4% (n=4) primarily used methamphetamine by oral ingestion
- nearly 21% (n=20) reported daily or almost daily use of methamphetamine (25 or more days) in the past 28 days.

A ‘Severity of Dependence Scale’ (SDS) score was available for 57 clients and indicated significant levels of methamphetamine dependence. Scores of four or more on the SDS scale are considered to indicate problematic use; the average SDS score for the group was 10.9 (ranging from 2 to 15).

Tobacco and polydrug use was common among treatment seekers. Of a sample of 100 clients:

- 88% (n=88) were daily tobacco smokers
- 55% (n=55) reported any alcohol use in the past 28 days; 12% (n=12) reported use on 20 or more days
- over half the sample reported any use of cannabis in the past month (56%, n=56); 22% (n=22) reported daily use
- 19% (n=19) reported using other stimulants
- 16% (n=16) reported non-prescribed use of sedatives, and 12% (12%) reported recent use of non-prescribed opioids.

Nearly 60% of clients with available data (n=59/101), reported using three or more substances in the past four weeks (including alcohol and excluding tobacco).

Engagement with stepped-care or withdrawal specific treatment

Engagement with the NRW nursing team, and receipt of stepped-care varied widely across a group of 43 clients, with direct support provided by NRW nursing staff in-person and over the telephone.
➢ 13 clients received non-residential withdrawal support only, and did not attempt residential withdrawal
  - These clients received an average of 5.2 contacts from the NRW team, and all clients had at least one in-person contact with NRW nurses.

➢ 23 clients received step-up support prior to their residential withdrawal admission
  - The majority of these clients attended Curran Place, with one client attending Williams House.
  - These 23 clients received an average of 3.8 contacts (1-10) from the NRW team
  - 18 clients had at least one in-person contact with a nurse and three clients had phone contact only.

➢ 20 people received step-down withdrawal support after leaving a ReGen residential withdrawal unit
  - 15 clients were from Curran Place and 5 from Williams House
  - Theses clients received an overall average of 2.6 contacts from NRW staff (range 1-7)
  - The majority had at least one in-person contact with a NRW nurse (n=14).

➢ Overall, 14 clients completed all stages of the stepped-care withdrawal model, and engaged with the NRW team both before and after an admission to a ReGen residential withdrawal unit.

Of the identified methamphetamine users assessed during the trial, 61% (n=67) had no contact with the NRW team. From this group, 24 people who were assessed did not receive stepped-care nor did they enter a residential withdrawal unit. Of those that did not engage with any component of the model:
  - six people reported they had already completed withdrawal (e.g. at home or during a hospital stay)
  - 12 disengaged or declined to enter treatment
  - four reported preferring non-residential support
  - 17 received a referral from ReGen to other services, most commonly to ReGen counsellors (n=7) and GPs (n=5).

An estimated 29 clients were not offered NRW stepped-care support for various reasons including:
  - 10 clients who were identified as having residential rehabilitation supports in place directly after residential withdrawal
  - five clients who disengaged from the service, could not be contacted directly or had indicated they did not want service contact
  - three clients were identified as requiring other services (e.g. forensic clients)
  - three clients who appear to have self-identified that methamphetamine was not their primary or regularly used drug
Who did and who did not engage in stepped-care?

Examining and comparing client characteristics for those who did, and those who did not receive stepped-care is possible but there are limitations to how these data may be interpreted. The available data do provide some indication that a large proportion of non-engaged clients were ineligible and/or had disengaged from treatment; however it is not possible to definitively distinguish between clients who were difficult to engage, refused stepped-care, were not offered stepped-care due to ineligibility, or were not offered stepped-care due to staffing issues (e.g. limited staff capacity or oversight).

A simplistic overview of client characteristics is provided here to give some indication of who received stepped-care services and may assist in the identification of gaps or limitations in the model’s approach.

Table 2. Client characteristics - comparison between stepped-care and no-contact clients

<table>
<thead>
<tr>
<th>Characteristic/outcome at assessment (N)</th>
<th>No contact</th>
<th>Stepped-care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (n=104)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean 28 years (range 17-48)</td>
<td>Mean 30 years (range 17-45)</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (n=43)</td>
<td>46% (n=29)</td>
<td>34% (n=14)</td>
</tr>
<tr>
<td>Male (n=61)</td>
<td>54% (n=34)</td>
<td>66% (n=27)</td>
</tr>
<tr>
<td><strong>Unemployed (n=97)</strong></td>
<td>76% (n=45)</td>
<td>75% (n=29)</td>
</tr>
<tr>
<td><strong>Australian born (n=104)</strong></td>
<td>92% (n=58)</td>
<td>90% (n=37)</td>
</tr>
<tr>
<td><strong>ATSI (n=104)</strong></td>
<td>13% (n=8)</td>
<td>10% (n=4)</td>
</tr>
<tr>
<td><strong>Accommodation (n=103)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private rental/ own home</td>
<td>52% (n=33)</td>
<td>68% (n=27)</td>
</tr>
<tr>
<td>Boarding House</td>
<td>16% (n=10)</td>
<td>7.5% (n=3)</td>
</tr>
<tr>
<td>Homeless</td>
<td>14% (n=9)</td>
<td>7.5% (n=3)</td>
</tr>
<tr>
<td><strong>Average K10 score (range) (n=103)</strong></td>
<td>33 (12-49)</td>
<td>34 (14-50)</td>
</tr>
<tr>
<td><strong>Average quality of life rating (range) (n=62)</strong></td>
<td>2.7 (1-5)</td>
<td>2.6 (1-5)</td>
</tr>
<tr>
<td><strong>Average satisfaction with health (range) (n=62)</strong></td>
<td>2.4 (1-4)</td>
<td>2.5 (1-4)</td>
</tr>
<tr>
<td><strong>Average SDS score (range) (n=58)</strong></td>
<td>11.1 (3-15)</td>
<td>10.5 (2-15)</td>
</tr>
<tr>
<td><strong>Average days used MA past four weeks (range) (n=101)</strong></td>
<td>16 (1-28)</td>
<td>14 (2-28)</td>
</tr>
<tr>
<td><strong>Main route of MA administration – injecting (n=104)</strong></td>
<td>32% (n=20)</td>
<td>17% (n=7)</td>
</tr>
</tbody>
</table>

As can be seen in Table 2, clients that did and did not engage with the stepped-care withdrawal groups were comparable at initial assessment in relation to demographics, levels of psychological distress and quality of life. Differences between the groups included:

- a larger proportion of women were in the ‘no contact’ group (46%, n=29), compared with those who engaged with stepped-care (34%, n=14)
there was a substantially higher proportion of methamphetamine injecting drug users in the no-contact group (32%, n=20) compared to the stepped care sample (17%, n=7), with overall slightly higher levels of methamphetamine use and dependence severity.

the ‘no-contact’ group was more likely to be homeless or living in a boarding house (30%, n=19) compared to the stepped-care group (15%, n=6).

Clients with more severe dependence and instability in their lives appeared to be less likely to be successfully contacted and engaged by NRW staff and this issue is supported by feedback from staff regarding the difficulties in making contact with this client group.

**Treatment outcomes - Residential withdrawal**

**Overall outcomes**

**Length of stay in residential withdrawal**

Treatment data were available for 66 treatment episodes with methamphetamine users admitted to ReGen's RW units between February 18 and August 12th 2014. Of those episodes, 49 were admissions to Curran Place and 19 were admissions to the Williams House unit for young adults. The 66 episodes relate to 65 individual clients.

Overall, the median stay in RW was seven days (mean = 6.3 days; range 0-16 days), and 54.5% completed at least seven days of withdrawal support.

The average stay of the sample in Williams House (7.8 days, range 2-16) was slightly longer than in Curran Place (5.7 days, range 1-11).

**Withdrawal symptoms**

In the residential units, clients identified as using methamphetamine were administered the Amphetamine Cessation Symptom Assessment (ACSA) daily, to measure the presence and severity of withdrawal symptoms.

At admission to the unit, the average ACSA withdrawal score was 27.5 out of a possible score of 64, where higher numbers indicate greater withdrawal symptom severity. As a group overall, clients in residential treatment showed reductions in ACSA scores over their time in the unit, however individual ACSA scores varied greatly.

From data available for 31 clients at day five in the residential unit, the average ACSA score had decreased from 29.3 at day one to 23.5 at day five. Compared to their experience of withdrawal scores at admission, by day five:

- 87% (n=27) recorded at least some reduction in ACSA score (decreases ranging from 1 to 29)
- 42% of the group had ACSA scores of 15 or less
four (13%) individuals indicated increased levels of withdrawal symptoms, with ACSA score increases ranging from 4 to 48 (these were clients who had not received step-up support and data available for two clients indicated they had used on the day, or day before admission).

Similar reductions in withdrawal symptoms were evident among a smaller sample with ACSA data available at both admission and day seven of residential treatment (n=19):
- average ACSA scores reduced significantly from 29.2 at day 1 to 18.6 on day seven
- around 58% of this sample had withdrawal scores of 15 or less by day seven
- the majority of clients (n=16) reported at least some reduction in withdrawal symptom severity, with scores decreased by a range from 7 to 40 points.

Of four clients that stayed for 10 days, average ACSA scores on day two of residential withdrawal was 23.5 (range 14 to 31) and reduced to 8.3 (4-20) by day 10 (day one data only available for two clients).

Clients were generally still experiencing at least a low level of withdrawal symptoms by day seven. Overall, although some people showed increases in withdrawal symptoms, the majority of clients showed some reduction of withdrawal symptoms.

Step-up outcomes
For reporting purposes and to explore the impact of treatment received, clients who engaged in RW were grouped into:
1. those who had no contact with the NRW nurses prior to their admission to residential withdrawal (‘no-contact group’, n = 44)
2. those who received at least one support contact from the NRW team prior to entering residential withdrawal (‘step-up group’, n=22).

Methamphetamine use on assessment
Changes in methamphetamine use from assessment to admission to the residential unit were examined in a sub-sample of participants with relevant data collected at both assessment and admission to withdrawal (n=49):
- the no-contact group (n=34) slightly increased their average length of time since last methamphetamine use from 6.9 days at assessment to 7.5 days before admission to the unit
- the step-up group (n=15) had slightly decreased their average length of time since their last methamphetamine use, from 6.2 days to 5.4 days
- the step-up group had a substantially smaller proportion of participants reporting using methamphetamine on the day of, or the day before, entering residential withdrawal
- there were no substantial differences in average quantity of methamphetamine used in the past month for the no-contact clients (3.4 points) and step-up client (3.6 points).
Table 3: Patterns of methamphetamine use prior to residential withdrawal admission

<table>
<thead>
<tr>
<th></th>
<th>No-contact group (n=39)</th>
<th>Step-up group (n=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median days since last methamphetamine use (mean; range)</td>
<td>2 (7.1; 0-48)</td>
<td>3 (6.5; 0-37)</td>
</tr>
<tr>
<td>Proportion of clients who used methamphetamine on day of, or day before, admission to unit</td>
<td>46.2% (n=18)</td>
<td>22.7% (n=5)</td>
</tr>
<tr>
<td>Proportion of clients who used methamphetamine three or fewer days prior to admission</td>
<td>66.6% (n=26)</td>
<td>54.5% (n=12)</td>
</tr>
</tbody>
</table>

Withdrawal symptoms

Based on the ACSA scale administered daily:

- there were no substantial differences in severity of withdrawal symptoms reported at admission between the two groups
- compared to the no-contact group, the step-up group showed greater reductions in ACSA score at days five and seven.

Table 4 shows ACSA scores over time, comparing only those participants with data available across multiple stages of residential treatment.

Table 4: Changes in withdrawal severity (ACSA scores) during residential withdrawal

<table>
<thead>
<tr>
<th></th>
<th>Average ACSA score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day 1</td>
</tr>
<tr>
<td>No-contact (n=9)</td>
<td>31.0</td>
</tr>
<tr>
<td>Step-up (n=7)</td>
<td>25.0</td>
</tr>
</tbody>
</table>

There was insufficient ACSA data available for day 10 to enable a comparison of withdrawal symptoms between the two groups on day 10 of residential treatment.

Length of stay in treatment

Comparing the step-up group with those who had no-contact with NRW staff prior to entering residential withdrawal:

- the step-up group (n=22) had a shorter average stay in the unit (5.8 days) compared to the no-contact group (n=44, average 6.5 days)
- although numbers were small, a slightly greater proportion of clients in the no-contact group left treatment having completed three or fewer days; 16% (n=7) compared to 9% (n=2) in the step-up group.

Psychological distress

At initial assessment, there were no significant differences in psychological distress or severity of methamphetamine dependence between the two groups entering RW, as indicated by scores on the K10 and SDS measures:
• the no-contact group (n=44) had a K10 mean score of 32.6 and the step-up group (n=22) reported a K10 mean of 33.3.
• the average SDS score was 10.8 for the no-contact group (n=39) compared to 11.1 for the step-up group (n=19).

Matching a small sample of participants with data available at different time points shows some reductions in psychological distress from assessment to residential withdrawal discharge for both groups, with no substantial differences in levels of improvement between the no-contact and step-up clients.

Treatment outcomes - Step-down care

Outcome and treatment data were available for a small group of the 20 participants engaged in step-down care with the NRW nursing team.

For 16 of these clients, step-down care commenced on average, 9.6 days after discharge from a residential unit (ranging 0 to 28 days).

Step-down clients had a similar length of stay in residential treatment (6.5 days) to those with no step-down, post-discharge support (6.2 days)

At commencement of step-down care with NRW nurses:
• the average days since last use of methamphetamine was 25 days (reported among sample of 9 clients), ranging 4 to 45 days since last use.
• levels of psychological distress had reduced by a third since assessment (K10 average scores of 29.7 decreased to 18.9; n=9)
• the average ACSA score for 10 participating clients was 17.7 (range 0-43).

Treatment outcomes - 3-month follow-up

Who was followed up

Sixteen clients were followed up approximately three months after their last main contact with ReGen for withdrawal treatment (last main contact was by the RW unit, the NRW team, or their initial assessment date). On average, follow-up information was collected 99 days (ranging 35-170 days) after individuals had ceased withdrawal treatment. Those followed up comprised nine women and seven men, aged 17 to 41 years. Nine clients had attended Curran Place, one had attended Williams House and six clients had not entered residential withdrawal.

Around half of the follow-up sample (n=9) had received some contact with the NRW team during their treatment with ReGen:
• three people received NRW support only
• two Curran Place clients received step-up support
three Curran Place clients had both step-up and step-down contact with the NRW team
one Curran Place client had only post-residential, step-down contact
four people had no contact with NRW and did not complete residential withdrawal

**Overall outcomes at follow-up**

Overall, some positive outcomes were indicated for methamphetamine dependent clients followed-up at three months. Compared to initial assessment:

- the average scores for the severity of dependence scale had more than halved (from 12 at assessment to five at three months)
- the average days of past-month methamphetamine use decreased from around 15 to six days
- small reductions in psychological distress and improvements in quality of life were evident
  - K10 average scores decreased from 34 to 26 at follow-up
  - average quality of life rating increased from 2.5 to 3.6

A large proportion of clients reported contact with ReGen or other AOD treatment services during the three months between withdrawal and follow-up. This small sample of ReGen clients seeking methamphetamine withdrawal treatment suggest there is a high level of ongoing service engagement and effectively facilitated treatment pathways:

- of the seven clients who had not received direct NRW support during the trial, five went on to receive AOD counselling at ReGen or other AOD treatment services, including one client who also recently engaged with the NRW team
- one person from the group of 16 had gone on to attend a residential rehabilitation program

Most respondents identified their main treatment goal as wanting to cease or reduce their methamphetamine use, with some citing specific reasons to cease use such as children in their care (n=2), experiencing psychosis (n=1) and preparing to go overseas (n=1). One person indicated their goal was not related to changing their substance use but was to complete treatment due to family pressure and concerns. Additional treatment goals related to ceasing use and completing treatment to support public housing requirements, and court or legal troubles.

From fourteen respondents with available data:

- seven people felt they had met their treatment goals (four in the stepped-care, three in the no-contact group);
- six people reported they had ‘somewhat’ met their goals;
- one person felt they had not met their primary treatment goal to cease use, but had achieved their secondary goal of slowing down their use.
**Stepped-care outcomes at follow-up**

At follow-up, the sample was grouped to examine outcomes for clients who had no contact with either step-up or step-down care (no-contact group) and clients who did receive any of the stepped-care components (stepped-care group).

Comparing these groups showed that at three months, the stepped-care group had a slightly lower level of psychological distress and greater satisfaction with health and quality of life across most domains, excluding social relations. Table 5 shows relevant scores.

**Table 5: Client outcomes at 3-month follow-up**

<table>
<thead>
<tr>
<th>Health and Wellbeing measures - mean scores</th>
<th>No-contact group</th>
<th>Stepped-care group</th>
</tr>
</thead>
<tbody>
<tr>
<td>K10 – psychological distress</td>
<td>29.3 (n=6)</td>
<td>23.8 (n=9)</td>
</tr>
<tr>
<td>WHOQOL – Quality of life rating</td>
<td>3.0 (n=6)</td>
<td>3.9 (n=8)</td>
</tr>
<tr>
<td>WHOQOL - Satisfaction with health</td>
<td>2.33 (n=6)</td>
<td>3.3 (n=7)</td>
</tr>
<tr>
<td>WHOQOL - Physical</td>
<td>60.0 (n=5)</td>
<td>65.9 (n=9)</td>
</tr>
<tr>
<td>WHOQOL – Psychological</td>
<td>41.7 (n=4)</td>
<td>50.9 (n=9)</td>
</tr>
<tr>
<td>WHOQOL – Social relations</td>
<td>55.0 (n=5)</td>
<td>45.4 (n=9)</td>
</tr>
<tr>
<td>WHOQOL - Environment</td>
<td>57.5 (n=5)</td>
<td>64.1 (n=8)</td>
</tr>
</tbody>
</table>

**Substance use measures**

<table>
<thead>
<tr>
<th>SDS - severity of methamphetamine dependence - mean score</th>
<th>5.4 (n=7)</th>
<th>4.9 (n=9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of days used methamphetamine past 4 weeks</td>
<td>7.5 (0-23) (n=6)</td>
<td>4.0 (0-28) (n=8)</td>
</tr>
</tbody>
</table>

* Note: the number of clients (and missing data) varies for each outcome measure; results are presented for all clients with relevant available data shown for each measure.

At three-month follow-up, the step-up group had a slightly lower level of dependence severity and lower level of recent methamphetamine use. Six people in the step-up group, compared to three in the no-contact group, reported past month abstinence from methamphetamine. These differences were not statistically significant, but may be clinically relevant.

The three-month follow-up sample was very small and therefore findings must be interpreted with caution, but analyses indicated slight trends favouring a greater level of stepped-care contact with client outcomes. For example:

- Small, negative relationships were found between the number of stepped-care contacts and both psychological distress, as measured by K10 scores ($r=-.20$, $n=15$, $p>.05$) and number of days methamphetamine had been used in the past month ($r=-.20$, $n=14$, $p>.05$). This suggests a greater number of contacts may be associated with lower K10 scores and fewer days of recent methamphetamine use at 3 month follow-up; however a larger sample is required before conclusions can be drawn.
The number of stepped-care contacts had the strongest and only statistically significant relationship with clients’ satisfaction with their health at follow-up, (as measured by the WHOQOL-Bref); higher health satisfaction ratings were associated with greater number of stepped-care contacts ($r = .60$, $n = 13$, $p < .05$).

**Client satisfaction**

Fifteen of sixteen clients provided some level of feedback about their experience and satisfaction with treatment they received at three-month follow-up. Nine clients had received some contact from the NRW team during their treatment with ReGen.

**Step-up/Step-down**

From information provided by six clients, the responses concerning contact with the NRW nurses was generally positive though somewhat mixed. Overall, the group rated the helpfulness of their contact with ReGen non-residential withdrawal nurses an average of 3.1 out of the highest possible score of 5.

- one client rated their contact with ReGen NRW nurses as ‘extremely helpful’ and 1 indicated it was ‘very helpful’
- two indicated it was ‘somewhat helpful’
- two found it to be only slightly helpful.

**Residential withdrawal**

For those who attended residential withdrawal, the experience was generally viewed positively with an average rating of their experience in the withdrawal unit of 3.7 out of 5.

- four clients indicated the residential withdrawal experience was ‘very positive’;
- four gave a rating of ‘positive’;
- two people indicated it was ‘ok/neutral’.

There was no difference between the step-up and no-contact groups, with an equal number from each group giving a similar rating of their experience.

**Withdrawal support and ReGen treatment overall**

Overall satisfaction with the treatment support provided by ReGen was very high. From 14 respondents, the average rating of satisfaction was 4.4 on a scale of 1 to 5, with no
difference between the two groups who either did, or did not, receive step-up/step-down support.

Fourteen clients at three-month follow-up gave a response regarding how they felt about the level of withdrawal support they received. From this group:

- around half the sample (n=8) felt they received the right level of support
  - this included four people from both the stepped-care group and four from the no-contact group
- two clients (both from the ‘no-contact’ group) felt they needed a longer time in the residential unit
- one step-up/step-down client reported they would have liked more information about treatment options
- one step-up/step-down client reported needing more support to begin withdrawal before entering the residential unit:
  - this client had multiple telephone and in-person contacts with NRW staff before admission to the unit and indicated a generally positive and satisfied response regarding the level of withdrawal support they received and their satisfaction with treatment overall.

Implementing the new model

Strengths of the model

In response to an online survey for all withdrawal treatment staff, six ReGen staff members provided some feedback regarding the treatment model; five from the residential withdrawal units and one respondent from the non-residential withdrawal team. Additional information was provided in staff discussions with the evaluators.

The main strength of the model and benefits for clients was considered to be the longer withdrawal support it could provide.

- Client feedback also supported a significant need and desire for withdrawal support both before and after entering residential detoxification.
- Workers at Williams House were more likely to emphasise the benefits of the model for clients as being related to step-down, post-residential withdrawal support. This likely relates to the observation that the youth unit generally has shorter a waiting
time for admission and that NRW staff often focused on engaging clients while in the unit as there was not an opportunity to provide step-up support prior to admission.

**Other benefits to providing stepped-care and the changes implemented in the unit were considered by individual staff members to be:**

- a reduction in clients’ agitation, aggression and longer retention in treatment, which in turn boosted staff morale;
- improving understanding of, and attitude towards, methamphetamine withdrawal clients among residential withdrawal staff;
- less clients arriving to the withdrawal unit having just used heavily, and being more able to participate in the treatment program;
  - Note, this observation was associated both with workers providing withdrawal advice to clients prior to admission, as well as considered to be due in part, to delays in the unit waiting list that meant people waiting longer may have already started their withdrawal before entering the unit.

From staff surveys, a number of residential unit staff tended to focus their responses to survey questions about the treatment model on the activities taking place only in the units, rather than commenting on the step-up or step-down components of care. For example, they indicated they saw benefits in some of the audit and evaluation processes, in particular use of the ACSA withdrawal scale, and being able to compare how clients were going over time.

These observations indicated that some residential withdrawal staff perceived there to be clinical benefits - for staff and clients - of the close monitoring of methamphetamine withdrawal symptoms and client outcomes involved in the trial evaluation. However this may also reflect a lack of awareness or engagement of residential staff with the other aspects of the stepped-care model.

**Adapting the step-up withdrawal approach**

During the course of trialling the step-up/step-down withdrawal model, modifications were made to facilitate its implementation.

**Reducing the focus on home-based withdrawal**

Between the planning and the implementation stage, the focus of the ‘step-up’ pre-residential withdrawal support component of the model shifted somewhat. A more intensive approach was initially planned and was thought likely to focus on including: “GP and non-residential nurse in the home during the ‘crash’ – residential – non-residential care” (Aug 2013 report).

In practice, pre-residential withdrawal support was generally provided with a greater focus on pre-admission planning. This less intensive approach included providing information and support (including ‘Getting through amphetamine withdrawal’ written information), and assisting clients to link with other services such as counselling and family services.
Some of the rationale behind the reduced focus on supporting clients’ ‘crash’ period included:

- NRW staff held considerable concerns for safety regarding home visits and felt most methamphetamine dependent clients seeking residential withdrawal were considered only suitable for outpatient withdrawal treatment as clients were often identified as having an unsafe home environment.
- Many clients proved difficult to contact and engage following assessment (as discussed further below).

It is unclear from the available data the degree to which methamphetamine dependent clients may have taken up or preferred the option of home-based withdrawal, or whether a stronger focus and streamlined system of encouraging and providing this form of care could benefit services and clients. However, the evaluation findings identify some significant barriers to a widespread application of this approach for the target client group.

**Broadening the target group**

Before commencing the trial, descriptions of the model suggested a clearer delineation between withdrawal clients who would be offered stepped-care, and those who would not (such as clients living in regional and rural areas). In practice, the stepped-care model appeared to have a broader target group and NRW nurses engaged five clients located in regional or rural areas. This shift may have been part of the reduced focus on, and expectation of, stepped-care providing home-based withdrawal support.

**Timing of step-up response**

The NRW team indicated that there were initial expectations that NRW staff would contact eligible clients within 24 hours of assessment. No data were available on the actual timeline between client assessment and first contact to further examine the success or feasibility of this quick-response approach; however NRW staff observed that this early expectation may not have been achievable within available staffing resources.

**Key issues in implementation**

The evaluation found that significant issues were experienced by ReGen’s NRW team in implementing the methamphetamine step-up/step-down withdrawal model. Sources of information collated for reporting included a journal record kept by NRW staff to document the processes of the new model, staff online surveys and the evaluators’ meeting notes and communications log.

**Co-ordination and communication of the model**

One of the key challenges for putting the model into practice was developing and maintaining communication and co-ordination across staff teams at ReGen. This was the most commonly identified challenge and suggested area for improvement for the model, from both NRW and RW staff.
The issues identified were primarily regarding communication about the proposed model and what was required by different staff, as well as putting systems in place to gain relevant client information across staff in the assessment, non-residential and residential withdrawal teams.

Information from the NRW process journal indicated some early difficulties experienced with the trial.

- Early in the trial some methamphetamine dependent clients were not added to a newly devised NRW waiting list and so were not engaged in step-up care.
- NRW staff were unaware of when clients were being admitted to the residential withdrawal units, limiting their capacity to plan for and engage clients in pre-residential support.
- There was a sense that ReGen staff required greater education regarding common patterns of methamphetamine use to identify clients in need of support, such as ‘when use stated as weekly still problematic for clients’

Feedback from residential staff reflected a lack of awareness or engagement with the stepped-care components of the model and to some degree, a low level of satisfaction with how the model had been introduced and communicated.

In trialling a new approach to service provision it is to be expected that applying new procedures and systems may provide some challenges, and may require adaptation along the way.

The step-up/step-down trial appeared to experience a delay in establishing clear systems to identify and collect data on suitable clients at assessment and/or residential withdrawal units and refer them to the

 withdrawall staff identified communication and co-ordination of stepped care withdrawal model as a key implementation challenge and area to improve

“*I think coordination of the step up-down process is perhaps the biggest challenge.*”

Non-residential withdrawal nurse

“*More coordination between teams involved in clients’ treatment*”

Residential withdrawal nurse

“*…more consistency across workers in completing paperwork*”

AOD support worker – residential withdrawal unit

“*…the information or explanation for the trial program came to staff a bit late. Once we had some understanding it all made sense*”

AOD worker – residential withdrawal unit

*“...initially poor implementation process... nil training nor reasons explaining as to why this model was introduced until staff had to follow up.....”*  

AOD worker – residential unit
NRW team for review and possible follow-up. Some improvements in processes and communication occurred during the trial; however overall staff procedures, roles and expectations for providing and facilitating step-up and step-down withdrawal management could have benefited from greater clarity.

**Contacting and engaging clients**

Contacting and engaging the increasing number of potentially eligible methamphetamine dependent clients presenting to ReGen was identified as a challenge for the NRW team. This was considered to be a time-consuming aspect of NRW’s role and was particularly difficult when clients were still actively using pre-withdrawal. It was also felt that contact efforts may have been hampered by using ReGen telephones with ‘blocked’ phone numbers.

To help address these issues during the trial:

- In approximately late March 2014, the NRW team made efforts to improve communication about the model with potential clients by developing and sending form letters to clients. To follow-up after assessment, letters explained the support services they could offer, and provided the name of a NRW nurse and phone number for support.
- The client group generally required assertive follow-up that involved NRW staff ringing family, friends and workers in attempts to make contact with clients.

**Working with existing processes**

The timing of entry into the residential withdrawal units was identified at the onset of the trial as a potential barrier to the NRW team effectively encouraging client reduction or cessation of methamphetamine use directly prior to admission.

For priority admissions (e.g. ATSI clients) and many younger clients entering Williams House, a much shorter waiting period occurs and there may be limited opportunity for the NRW team to engage with clients prior to their admission to the unit. For the adult unit, clients had potential waiting times of six weeks, but may only receive 48 hours’ notice of an available bed. For clients in particular need of residential supports, or specifically focused on entering residential treatment, this timing would make it difficult for NRW nurses to encourage clients to complete their first few days of abstinence and withdrawal before entering the unit.

To overcome this obstacle:

- an NRW nurse attempted to keep up communication with residential withdrawal staff to facilitate visiting with clients during their stay in the unit;
- the nurse then visited clients to offer and engage them into step-down support on discharge.

This modification to the model provided opportunities for the NRW team to follow-up with some clients to encourage outpatient withdrawal and support preparation to enter the unit.
**Participation in evaluation activities**

To help implement and evaluate the services being provided, a small number of clinical outcome measures were added to the existing assessments and monitoring processes conducted during routine care. A small number of staff referred to the additional processes and clinical forms that were introduced during the trial as being an additional challenge. Other challenges identified were ensuring ReGen staff completed all paperwork at assessment, and the extra time required at assessment to complete forms, particularly in the context of clients who could be quite restless and/or need assistance due to poor literacy.

In early stages of the trial, there appeared to be a lack of clarity among NRW staff regarding the expectations of implementing step-up/step-down and evaluating the trial.

**Staffing and organisational issues**

State-level AOD system reforms were taking place at the same time that ReGen was implementing the new model. ReGen was required to plan and prepare for significant organisational change that would directly impact on the structure of intake and service delivery, as well the working lives of the non-residential withdrawal nurses.

This context of organisational change highlights the challenges faced by the team in implementing a new approach to client care, especially one which required extensive communication among individual NRW staff members, and between the NRW team and other ReGen services.

While all NRW nurses were involved in providing the stepped-care approach to withdrawal for methamphetamine dependent clients, staffing involved one NRW nurse primarily having responsibility for day-to-day co-ordination of the trial, and holding a significant part of the NRW stepped-care caseload. Having a staff member to ‘champion’ the model and provide support and information to the non-residential team as well as to the residential withdrawal and assessment staff was beneficial on one hand, but did leave the program vulnerable to leave of absence.

**Interruptions to delivering the model**

During the methamphetamine step-up/step-down withdrawal trial, from February to July-August 2014, a total of 156 people seeking withdrawal management at ReGen were identified as having problems related to their use of methamphetamine. These clients were referred to the NRW team for further review of their eligibility and possible follow-up to provide stepped-care. Data were made available to the evaluators for 110 clients from this sample, and it is not clear whether or not remaining clients were eligible or were offered stepped-care during the trial.

Examination of process data and contacts with staff indicate that at times during the trial there was limited capacity to consistently offer and provide non-residential withdrawal support to all methamphetamine dependent clients identified as eligible for step-up/step-down.
down. Lack of capacity resulted in a temporary pause of intake of new clients due to a growing waitlist. The NRW program journal also advised that the evaluation was put on hold at one stage of the trial to enable client “files to be checked and updated”.

These delays and issues with providing consistent NRW stepped-care were likely a combination of a wide range of factors including:

- responding to high numbers of eligible clients;
- staffing issues such as capacity and staff engagement/satisfaction including times of reduced capacity due to absences;
- issues with systems of communications between teams
- broad client inclusion criteria for NRW stepped-care

Despite significant challenges during the trial, the team provided services and support to a considerable number methamphetamine dependent clients seeking withdrawal management.
Summary and recommendations

This report presented findings of a pilot evaluation of a novel step-up/step-down model of withdrawal care for people dependent on methamphetamine.

While the sample size was small, results from the pilot suggest that step-up/step-down care was associated with potentially better client preparation for residential withdrawal as evidenced by fewer clients using methamphetamine on the day before or the day of admission. Furthermore, beginning withdrawal (or experiencing a ‘crash’ at home) may have contributed to findings of a shorter duration of stay in residential withdrawal and more rapid resolution of withdrawal symptoms among those in stepped-care when compared to those not in stepped-care. Based on these findings, the new model shows considerable promise in providing the greater flexibility of care for methamphetamine users that is recommended in the literature and meeting the specific treatment and support needs of people who use methamphetamine.

Major systems barriers for implementing the trial were the significant numbers of clients eligible for the trial, the co-incident state-wide AOD systems reform process, limited staff capacity, and lack of smoother communication flow within and between teams at ReGen that were involved in delivering the more intensive support and care.

Results suggested that greater contact with stepped-care services was helpful to clients but it was not clear what the best ‘dose’ or level of engagement was for positive effect. As staff capacity was an obstacle in delivering more intensive care, future development of the step-up/step-down model may include a range of staff roles, such as assertive outreach and counselling staff with a sound understanding of methamphetamine withdrawal and links to NRW services to facilitate home-based and outpatient withdrawal where required.

The Victorian AOD treatment system is in a period of reform and transition. Future development of a stepped-care withdrawal model needs to be planned in the context of the significant changes that have occurred since the trial, such as changes to the treatment intake system and the structure of non-residential withdrawal services.

The findings from the trial and evaluation, including the challenges experienced and lessons learnt, can inform future planning and implementation of new models of withdrawal management. To support implementation of further change it is recommended that ReGen:

1. Conduct a detailed review of the international and national literature to identify models of stepped-care that may inform future development of the model.
2. Consider undertaking additional consultation with service users concerning their views of the withdrawal stepped-care model to enhance future development of the model.

3. Develop and clearly describe the chosen model of step-up/step-down care and build in systems for evaluation.

4. Conduct comprehensive training with all staff members to ensure the active participation of all staff in the conduct of the program, its procedures and protocols, and their role in the evaluation.

5. Consider where the new model sits within a wrap-around approach to client care, which could include:
   a. the use of web-based self-help materials to support client’s preparation for withdrawal and evaluate its effectiveness
   b. developing a targeted and structured after-care program specifically developed for users of methamphetamine to allow seamless transition from residential care, and evaluate its effectiveness
References


