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## Evaluation of the Practice Guide for Intervention (PGI): Relationships between offender needs and PGI use in case planning and supervision practice

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### **Aims**

To explore relationships between the presenting needs of higher risk community-based offenders, and how supervising officers plan for and deliver PGI activities to address those needs.

### **Methods**

Case management needs and planned PGI modules were examined in reference to case plans developed for medium or higher risk offenders who commenced community supervision between 1 January 2017 and 31 June 2018 (n = 12,627). Delivery of PGI modules in supervision sessions was examined through records of PGI case notes developed over the study period (n = 224,939). Analysis of PGI delivery at the exercise level utilised a text mining tool previously developed for this purpose (Chong, Raudino, Thaler, & Howard, 2017).

### **Results**

Offenders had an average of four case management needs listed in their case plans, and three PGI modules to address those needs. The most commonly identified needs were Alcohol and Drug, Education and Employment, Accommodation, Domestic Violence and Aggression. Four of the 13 domains of need had moderate or higher correlations with planning for specific PGI modules; conversely, seven of the 12 elective PGI modules were consistently correlated with specific case management needs. There tended to be clear conceptual associations between correlated needs and PGI modules in case plans. Delivery of PGI content often corresponded with case plans although delivery of unplanned content was also common. A large proportion of total PGI activity related to exercises within the 'Assessment and Planning', 'Achieving Goals' and 'General Skills' modules.

### **Conclusion**

This study adds to previous evaluations by generating insights about offenders' case management needs and how they correspond with planning and delivery of PGI content at the population level. The observed patterns of PGI utilisation are relevant to the intended and actual applicability of content in addressing offenders' needs, with potential implications for development of model tools and training.

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## INTRODUCTION

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A central aim of offender management is to promote behaviour change and reduce their risk of reoffending. The risk need responsivity (RNR: Andrews & Bonta, 2010) model provides an established framework for achieving these aims by detailing what interventions should be delivered, how they should be delivered and who they should be delivered to. The Risk principle states that the intensity of interventions should be tailored to the offender's risk of reoffending; the Need principle states that interventions should target offenders' criminogenic needs that are related to their offending behaviour; while the Responsivity principle refers to the delivery of interventions in a manner that is appropriate to the learning style of the offender. Studies have shown that interventions with increasing adherence to RNR principles are associated with significant reductions in recidivism rates (e.g. Andrews & Bonta, 2009; 2010).

Although RNR principles have traditionally been applied in formal group-based treatment programs, there is growing recognition that they can be applied in practices of one-to-one community supervision for offenders serving parole or community-based orders to improve reoffending outcomes (Cullen, Jonson, & Mears, 2017; Labrecque, Schweitzer, & Smith, 2014; Ricks & Loudon, 2015; Bourgon & Gutierrez, 2012). In an early influential study, Bonta and colleagues (2008) argued that community supervision in and of itself may not be effective in reducing recidivism if supervising officers show poor adherence to RNR principles in sessions with offenders. They reasoned that offender outcomes may be improved by training officers to more closely adhere to RNR principles in sessions with offenders.

Several initiatives have been developed to train officers to apply principles of effective intervention in sessions with offenders. The Strategic Training

Initiative in Community Supervision (STICS) developed by the Corrections Research Division of Public Safety Canada was one of the first initiatives to apply a RNR framework to a community supervision model (Bonta et al. 2011). Key elements of STICS include training officers to build rapport and develop positive working relationships with offenders and to identify and address offenders' dynamic risk factors, particularly those relating to pro-criminal attitudes, in supervision sessions. Another key component of STICS involves providing ongoing support to maintain and develop officers' skills. Evaluations have shown that implementation of STICS has been associated with reduced recidivism rates and increased officer morale and confidence in working with difficult offenders (Bonta et al., 2011; Bonta, Bourgon, Rugge, Gress, & Gutierrez, 2013).

Other jurisdictions have shown similar innovations in the development of system-wide officer training initiatives. The Staff Training Aimed at Reducing Re-arrest (STARR) and the Effective Practices in Community Supervision (EPICS) are similar training initiatives aimed at increasing officer skills and adherence to RNR principles (Labrecque, Smith, Schweitzer & Thompson, 2013; Robinson, VanBenschoten, Alexander, & Lowenkamp, 2011). Evaluations of EPICS and STARR have found that offenders who were supervised by trained officers had significantly lower recidivism rates when compared to offenders who were supervised by untrained officers (Smith, Schweitzer, Labrecque & Latessa, 2012; Robinson et al., 2011).

Whereas STICS, STARRS and EPICS have primarily focused on development of supervisors' skills for interacting with offenders in accordance with RNR principles, the Citizenship program implemented by the United Kingdom National Probation Service has been oriented towards increasing the range and quality of content that may be utilised by supervisors to address offenders' needs (Pearson, McDougall, Kanaan, Bowles, & Torgerson, 2011). Citizenship links identification of dynamic risk factors in case planning to in-session delivery of

structured intervention modules that address needs relating to alcohol and drug misuse, lifestyle and associates, relationships, and wellbeing. Citizenship also promotes a collaborative effort between supervising officers and external service providers who can assist offenders in addressing criminogenic and other support needs.

### The Practice Guide for Intervention

Following the example of other jurisdictions, the Community Corrections division of Corrective Services NSW (CSNSW) implemented the Practice Guide for Intervention (PGI) in 2016. The PGI is a structured framework of 56 manualised exercises that supervising officers selectively work through with offenders in sessions. Exercises are grouped into 13 modules (see Table 1) and are designed to address a range of offender criminogenic and responsivity factors, as well as facilitate case planning and other case management processes<sup>1</sup>.

The first module of the PGI (module 1 'Assessment and Planning') contains two mandatory introduction and case planning exercises (Exercise 1.1 'Supervision Expectations' and 1.2 'Offence Mapping': see Appendix 1) that are undertaken with all offenders. These exercises correspond with completion of the Level of Service Inventory – Revised (LSI-R: Andrews & Bonta, 1995), so that determination of an offender's risk and needs and development of a case plan is empirically supported. The remainder of PGI exercises are elective and can be flexibly delivered based on identification of offenders' case management needs, acute presenting factors (e.g. relapse or other crisis) and stage of supervision. Only offenders with medium or higher risk of

reoffending are prioritised for delivery of elective PGI exercises.

Table 1. List of PGI modules

Module number	Module theme
Module 1	Assessment and Planning
Module 2	Achieving Goals
Module 3	Dealing with Setbacks
Module 4	Managing Stress and Anger
Module 5	Managing Impulsivity
Module 6	Managing Environment
Module 7	Managing Cravings
Module 8	Interpersonal Relationship
Module 9	Communication
Module 10	Conflict Resolution
Module 11	Self-Awareness
Module 12	Prosocial Lifestyle
Module 13	General Skills

The PGI was implemented by CSNSW using a phased approach to provide supervising officers with opportunities to become familiar with content and develop their skills and confidence in delivery. From June 2016 officers were provided initial training and were encouraged to apply PGI content in sessions on a voluntary basis. From January 2017, use of the PGI was made mandatory with all supervised offenders who were assessed to have medium or higher risk of reoffending (for more detailed information on PGI operations see Howard, Chong, Thaler, & Tran, 2019; Thaler, Chong, Raudino & Howard, 2019).

### The Current Study

The PGI was designed to complement and improve upon existing CSNSW community supervision practices that are aligned with RNR principles. For example, the existing framework for offender case management is informed by development of a case plan based on empirically supported assessments of each offender's risk of reoffending and criminogenic needs, using the LSI-R and other measures. The PGI is then intended to expand on the tools supervising officers have in planning and delivering interventions that address those needs (see also Gleicher, Manchak & Cullen, 2013).

<sup>1</sup> An updated version of the PGI was released in June 2019, which contains additional exercises to a total of 59 exercises across the 13 modules. This report focuses on the first iteration of the PGI model because the development timeframe and sampling for this study encompassed the first iteration only.

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In accordance with RNR principles, it follows that the PGI model is more likely to promote behaviour change when it has consistent and observable applications to offenders' needs as identified in the case plan. That is, under optimal conditions supervising officers would be able to plan for and select PGI content that is conceptually and clinically relevant to offenders' needs. In addition, delivery of PGI content in sessions would correspond with formulations of offenders' needs and case management responses in the case plan.

A related challenge of content-oriented models of supervision such as PGI and Citizenship (Pearson et al., 2011) is that they provide structured, manualised intervention activities and materials that supervising officers can apply in sessions. While this approach has the advantage of promoting consistency across settings and officers, there is an increased need for review to ensure that the provided content has applicability to the range of needs presented by target offenders and shows appropriate uptake by staff. From a measurement standpoint, patterns of underutilisation of intervention content could reflect a number of factors that can inform continuous improvement, including limited relevance of materials to common needs; difficulties associating specific needs with content during intervention planning; or poor perceived useability of materials during sessions.

The aim of this study is to explore the relationships between presenting needs of higher risk offenders who are a priority for PGI interventions, and how supervising officers plan for and deliver PGI content to address those needs. To achieve this aim, we examined patterns of prevalence and correlations between domains of need and PGI modules selected as case management strategies in CSNSW case plans developed for the offender cohort. We also examined how case plans corresponded with case notes outlining the PGI modules and exercises delivered to offenders during supervision sessions.

## METHODS

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### Sample

The cohort of interest for this study consisted of case plans for all supervised offenders with medium or higher risk of reoffending, as assessed by the LSI-R, who commenced their community supervision orders between 1 January 2017 and 31 June 2018 (n = 12,920). This study timeframe was selected to correspond with implementation phases of the PGI model where offenders in the target cohort were required to receive PGI content as part of their supervision. Case plans that did not contain any identified case management needs (n = 293) were excluded. This resulted in a final sample of 12,627 offender case plans.

### Materials

Data used for this study were extracted from the CSNSW Offender Integrated Management System (OIMS). OIMS is the central operational database maintained by CSNSW which records a range of demographic and administrative information about all offenders under CSNSW supervision in custody and in the community.

The primary data of interest for this study included Community Corrections case plans and PGI case notes for all offenders in the sample. The case plan outlines identified domains of need for each offender as well as casework steps to address those needs. For the purposes of this study we examined the most recent case plans attached to offenders' supervision episodes, which provides information on all needs that have been identified during the episode as well as casework steps that are either current or have been previously completed to address those needs.

PGI case notes are records of activities with offenders during supervision sessions, which include category fields for the PGI module delivered as well as free text fields that can be used to report on specific PGI exercises delivered.

A total of 232,504 PGI case notes were recorded within the study period. Case notes that did not contain any written text (495 case notes) or were identified to be non-PGI related<sup>2</sup> (2,702 case notes) were removed from analysis. Given that the scope of the study was on PGI activity in the community setting, a further 4,368 case notes that were created by the parole unit division of Community Corrections for offenders in custody prior to their release were removed. This resulted in a final dataset of 224,939 case notes.

## Design and analysis

### Case planning

Two variables of interest were examined from offenders' case plans. These were the identified case management needs and the PGI modules that were scheduled as casework steps to address those needs.

Each of the 13 domains of case management need that can be selected for the Community Corrections case plan were included in analyses. These were Accommodation; Aggression; Alcohol and Drug; Companions; Domestic Violence; Education and Employment; Emotional and Personality; Family; Financial; Gambling; Gang and Organised Crime; Leisure; and Motivation. In line with the aims of the study, analyses of PGI modules focused on elective behaviour change oriented modules and excluded the largely mandatory module #1 'Assessment and Planning', unless otherwise noted<sup>3</sup>.

<sup>2</sup> PGI case notes may be recorded as 'PGI Other' which is used to document sessions that fall outside specific implementation of any of the 13 PGI modules, but during which behaviour-change conversations were conducted.

<sup>3</sup> Module #1 'Assessment and Planning' contains two mandatory exercises in addition to three elective exercises (see Appendix 1). In keeping with the aims of this study, analyses of elective PGI module use excluded all activity involving module #1. This is because data at the module level did not allow for distinction between the mandatory and elective exercises contained in this module.

Analyses of case plan data included descriptive statistics to examine the prevalence of domains of need and selected PGI modules at the population level. Measures of association between needs and modules included bivariate correlation statistics and weighted networks, which were conducted using R. An advantage of weighted network diagrams is that they allow for visualisation of how needs and PGI modules cluster in terms of direction and strength of associations.

### Delivery of PGI content

Total PGI delivery activity was primarily analysed at the descriptive level using data derived from all PGI case notes recorded over the study period. Analyses of relationships between planned and delivered PGI modules utilised a reduced sample of offenders in the study who had completed their supervision episode prior to the data extraction date (n = 5,351). This approach was intended to reduce artificial censoring of case management activities among offenders who were in early stages of, or continued to undergo, active supervision at the end of the study period.

As previously mentioned, supervision case notes include drop-down category fields which can be used to nominate the PGI module that was the primary focus of delivery in the session. PGI activities at the module level were therefore quantified using records from the category fields.

In contrast, information on PGI exercise use in supervision sessions is embedded in free text fields. To address this we applied the Case Quantify and Search Tool (C-QST), which uses text mining techniques to automatically detect PGI exercise information from the free text content of case notes (Chong, Raudino, Thaler, & Howard, 2017). The C-QST allows for quantification of the specific PGI exercises used in sessions, and is also sensitive to use of multiple exercises within a session and therefore may generate more accurate measures of activity frequency relative to a simple count of the number of PGI case notes recorded.



Preliminary data checks indicated that the C-QST performed within reasonable margins of error for the purposes of this study (see Appendix 2).

## RESULTS

### Prevalence of case management needs in case plans

Offenders in the study sample had an average (median) of four case management needs listed in their most recent case plan. The range of needs listed was between one and 12 domains, and the majority of the sample (80.5%) had between three and six domains listed. Consistent with the risk profile of offenders in the sample, few offenders were recorded to have one (1.3%) or two (7.5%) domains of need in case plans.

Table 2 shows the prevalence of case management needs in case plans among the study sample. Of the 13 examined needs, Alcohol and Drug was the most prevalent need, identified in 92.8% of case plans. This was followed by Education and Employment (39.5%), Accommodation (32.0%), Domestic Violence (31.5%), and Aggression (30.9%). The least prevalent needs were affiliation with Gangs and Organised Crime (1.2%), Gambling (2.9%), and Emotional and Personality (5.7%).

Table 2. Prevalence of case management needs in case plans

Case management need	% case plans
Alcohol and Drug	92.8
Education and Employment	39.5
Accommodation	32.0
Domestic Violence	31.5
Aggression	30.9
Family	23.6
Companions	15.7
Financial	11.4
Motivation	6.6
Leisure	5.9
Emotional and Personality	5.7
Gambling	2.9
Gangs and Organised Crime	1.2

### Prevalence of PGI modules in case plans

After excluding the mandatory introductory PGI module, case plans in the sample recorded an average (median) of three PGI modules as casework steps to address offenders' needs. While the number of modules listed ranged between zero and 12, the majority of plans recorded between two and five modules (73.4%) and very few recorded 10 or more modules (0.7%). A non-negligible proportion of offenders (8.4%) did not have any PGI modules listed in their case plans to address domains of need.

Table 3. Prevalence of elective PGI modules in case plans

PGI module	Theme	% case plans
Module 2	Achieving Goals	37.0
Module 3	Dealing with Setbacks	5.6
Module 4	Managing Stress and Anger	34.2
Module 5	Managing Impulsivity	27.9
Module 6	Managing Environment	32.6
Module 7	Managing Cravings	51.6
Module 8	Interpersonal Relationships	21.1
Module 9	Communication	11.0
Module 10	Conflict Resolution	18.3
Module 11	Self-Awareness	13.8
Module 12	Prosocial Lifestyle	18.5
Module 13	General Skills	9.9

Table 3 also shows the prevalence of elective PGI modules in case plans<sup>4</sup>. Consistent with the relative prevalence of domains of need, the most frequently recorded elective module was #7 'Managing Cravings' (51.6%). The next most prevalent module was #2 'Achieving Goals' (37.0%), followed by #4 'Managing Stress and Anger' (34.2%). The least prevalent modules were #3 'Dealing with Setbacks' (5.6%), #13 'General Skills' (9.9%) and #9 'Communication' (11.0%).

<sup>4</sup> We note that 59.3% had PGI module #1 'Assessment and Planning' listed in their case plan. This may not be a valid indicator of how content from the module is applied to case planning, given that exercises from this module are generally completed prior to developing the case plan.

## Correlations between case management needs and PGI modules

As a global indicator of the correspondence between identification of case management needs and planning for PGI activity, we first examined the bivariate correlation between total number of needs and number of PGI modules listed in the case plan. As illustrated in Figure 3, there was a small but significant positive correlation between the number of needs and modules ( $r = 0.17$ ,  $p < .001$ ). This indicates that as the number of listed needs increases, the number of PGI modules listed also increases. The correlation was of weak effect size, however (e.g. Cohen, 1988), and the scatterplot distribution of Figure 3 suggests that there was no clear relationship between number of needs and number of PGI modules in the case plan for many offenders. For example, the majority of case plans which had no PGI modules listed (70.5%) also recorded between three and six domains of need.



Figure 3. Scatterplot showing the correlation between the number of case management needs and elective PGI modules in case plans.

Gross correspondence between number of case management needs and PGI planning activities may give limited information about how supervising officers select and apply PGI content, in the event that such decisions are affected by other practical case management considerations.

For example, officers may generate briefer or less comprehensive case plans if the supervision period is considered too short to address all case management needs.

To account for this we also examined more qualitative associations between presence of each case management need and presence of each elective PGI module in the case plan, using a series of bivariate Pearson product-moment correlations. Bonferroni correction was applied to correct for familywise error rates.

In the interests of brevity, Table 4 shows pairwise correlations between domains of need and individual PGI modules with an effect size of medium or higher ( $r \geq 0.3$ ). Of the 13 examined case management needs, four were significantly associated with PGI modules: Aggression, Alcohol and Drug, Companions, and Domestic Violence.

Examination of the pattern of bivariate correlations indicated that needs tended to be meaningfully associated with discrete PGI modules at the conceptual level. For example, there was a strong correlation between having identified Alcohol and Drug needs and having PGI module #7 'Managing Cravings' scheduled in the case plan. Similarly, identification of needs in the Aggression domain was regularly associated with PGI module #4 'Managing Stress and Anger'. Case plans of offenders with negative companion influences also frequently included modules aimed at assisting offenders in managing their environment and building prosocial lifestyles.

Identification of needs in the Domestic Violence domain appeared to be associated with more comprehensive planning of PGI interventions. Supervising officers who identified domestic violence needs regularly scheduled a number of PGI modules, including module #4 'Managing Stress and Anger', module #8 'Interpersonal Relationships', #9 'Communication' and #10 'Conflict Resolution'. The Domestic Violence domain was also negatively correlated with

module #12 'Prosocial Lifestyle', indicating that presence of domestic violence needs was associated with a lower likelihood of planned intervention using this module.

Conversely, Table 4 shows that nine of the examined case management needs were not correlated with planning for any of the PGI modules with moderate or higher effect size. These included relatively commonly identified domains such as Accommodation; Education and Employment; Family and Financial needs, in addition to other domains relating to Gambling; Gang and Organised Crime; Leisure; Motivation; and Emotional and Personality needs.

A number of PGI modules were also not represented in Table 4, indicating that planning for these modules was not consistently associated with any specific case management needs. These included modules #2 'Achieving Goals', #3 'Dealing with Setbacks', #5 'Managing Impulsivity', #11 'Self-Awareness', and #13 'General Skills'.

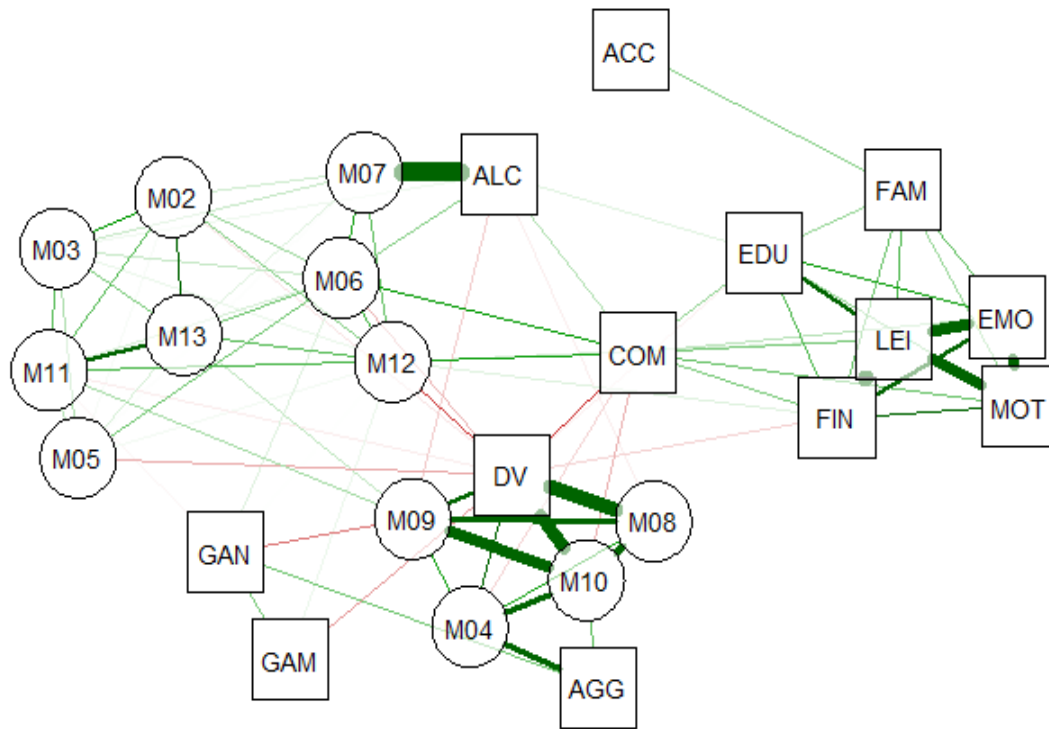
To further examine the correspondence between needs and modules, Figure 4 shows a network diagram which illustrates the relationships between groups of case management needs and modules. Each node on the figure represents either a need (square) or a PGI module (circle). The colour of the lines shows the direction of the correlation; green indicates a positive relationship between variables while red indicates a negative relationship. Effect sizes of correlations are indicated by the thickness of the lines while the physical proximity between nodes is indicative of how nodes are clustered. Only significant correlations of  $r \geq 0.1$  are shown in Figure 4.

A number of relationships between case planning components that were detailed in Table 4 are also illustrated by the weighted network diagram. For example, the heavy green line between 'ALC' and 'M07' represents the positive correlation with high effect size between the Alcohol and Drug domain of need and PGI module #7 'Managing Cravings'. The group of green lines around the 'DV' marker also illustrates that the Domestic Violence case management need tended to be consistently associated with a cluster of listed PGI modules.

Table 4. Correlations between case management needs and elective PGI modules

Case management need	PGI module
Accommodation	-
Aggression	#4 Managing Stress and Anger ( $r = 0.4$ )
Alcohol and Drug	#7 Managing Cravings ( $r = 0.7$ )
Companions	#6 Managing Environment ( $r = 0.3$ ); #12 Prosocial Lifestyle ( $r = 0.3$ )
Domestic Violence	#4 Managing Stress and Anger ( $r = 0.3$ ); #8 Interpersonal Relationships ( $r = 0.6$ ); #9 Communication ( $r = 0.4$ ); #10 Conflict Resolution ( $r = 0.6$ ); #12 Prosocial Lifestyle ( $r = -0.3$ )
Education and Employment	-
Emotional and Personality	-
Family	-
Financial	-
Gambling	-
Gangs and Organised Crime	-
Leisure	-
Motivation	-





Abbreviation	Case management need	Abbreviation	PGI module
ACC	Accommodation	M02	#2 Achieving Goals
AGG	Aggression	M03	#3 Dealing with Setbacks
ALC	Alcohol and Drug	M04	#4 Managing Stress and Anger
COM	Companions	M05	#5 Managing Impulsivity
DV	Domestic Violence	M06	#6 Managing Environment
EDU	Education and Employment	M07	#7 Managing Cravings
EMO	Emotional and Personality	M08	#8 Interpersonal Relationship
FAM	Family	M09	#9 Communication
FIN	Financial	M10	#10 Conflict Resolution
GAM	Gambling	M11	#11 Self-Awareness
GAN	Gangs and Organised Crime	M12	#12 Prosocial Lifestyle
LEI	Leisure	M13	#13 General Skills
MOT	Motivation		

Figure 4. Weighted network diagram showing correlations between needs and PGI modules in case plans.

Interestingly, the weighted network also shows that a number of low prevalence case management needs, including Leisure, Emotional and Personality, and Motivation, tend to cluster together while having minimal correlations with any of the PGI modules. This suggests that case plans listing these needs often record all three needs concurrently, which is accompanied by low or inconsistent recording of PGI modules to address needs.

A number of PGI modules with weak correlations to domains of case management need, including modules #2, #3, #11, and #13, were also shown to cluster together in the weighted network. However, the correlations between these PGI modules were also relatively weak, indicating that case plans did not consistently record these modules together.

## Delivery of PGI content in supervision sessions

In the following analyses, we examined the extent to which different PGI modules and exercises were delivered in supervision sessions with offenders within the study period. Table 5 shows the distribution of PGI modules that were nominated as the focus of sessions in PGI case notes over the study period (n = 224,939). It can be seen that PGI module #1 was the most delivered module, accounting for almost half of all PGI content (45.5%) delivered in the study period. This was followed by modules #2 ‘Achieving Goals’ (11.8%) and #13 ‘General Skills’ (9.4%).

To provide deeper insights into content delivery at the exercise level, the following analysis quantified delivery of PGI exercises using the C-QST (see Appendix 1 for a list of PGI exercises). Limiting the analysis only to case notes that were recognised by the C-QST (n = 193,531; see Appendix 2), Figure 5 shows the relative proportions of case notes that were created for each of the elective PGI exercises.

Table 5. Distribution of case notes created for each PGI module

PGI module	Theme	% case notes
Module 1	Assessment and Planning	45.5
Module 2	Achieving Goals	11.8
Module 3	Dealing with Setbacks	2.0
Module 4	Managing Stress and Anger	5.9
Module 5	Managing Impulsivity	3.2
Module 6	Managing Environment	4.4
Module 7	Managing Cravings	6.7
Module 8	Interpersonal Relationships	3.0
Module 9	Communication	1.8
Module 10	Conflict Resolution	1.4
Module 11	Self-Awareness	2.7
Module 12	Prosocial Lifestyle	2.2
Module 13	General Skills	9.4

Exercise 13.2 ‘Progress Review’ was the most frequently used elective exercise within the sampled period, referenced in 7.6% (14,708) of case notes. This was followed by two exercises from module #2, Exercise 2.1 ‘Identifying Values’ (5.6%) and Exercise 2.3 ‘Short and Long Term Goals’ (5.5%).

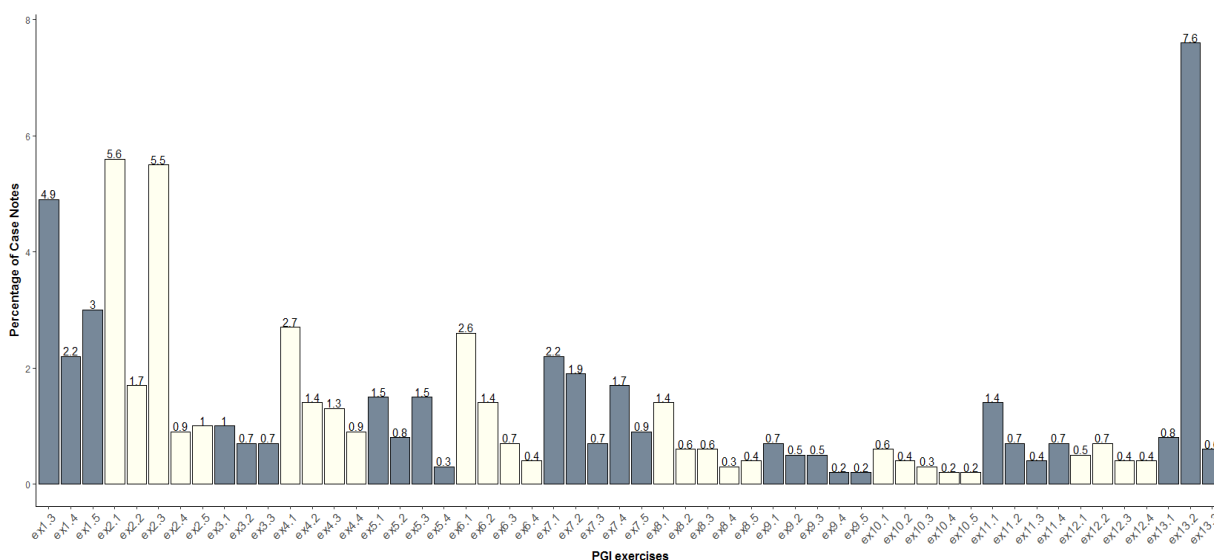


Figure 5. Distribution of case notes created for each elective PGI exercise.

The least frequently delivered exercises were from modules #10 and #9: Exercise 10.4 ‘Avoiding Escalation of Conflict’, Exercise 10.5 ‘Rules for Fair Fighting’, Exercise 9.4 ‘Communication Consequences’ and Exercise 9.5 ‘Practicing Assertive Behaviour’, each of which were referenced in 0.2% of case notes respectively.

Figure 5 also shows that delivery of elective PGI content appeared to be driven by high frequency use of a small subset of exercises, such as Exercises 13.2, 2.1 and 2.3. In particular the delivery of PGI Module #13 was mainly driven by a single exercise, Exercise 13.2 ‘Progress Review’.

### Relationships between case plans and delivery of PGI modules

Figure 6 shows the proportion of offenders who received one or more exercises from modules that were scheduled in their case plan, by the end of their supervision episode. It can be seen that PGI modules #13 ‘General Skills’ and #2 ‘Achieving Goals’ were most frequently delivered as planned, with 75.0% and 74.0% of offenders completing at least one exercise from these modules as per their case plans. In contrast, PGI modules #10 ‘Conflict Resolution’ (30.7%) and #12 ‘Prosocial Lifestyle’ (31.3%) were the modules that were most likely to remain undelivered by the end of offenders’ community supervision episodes.

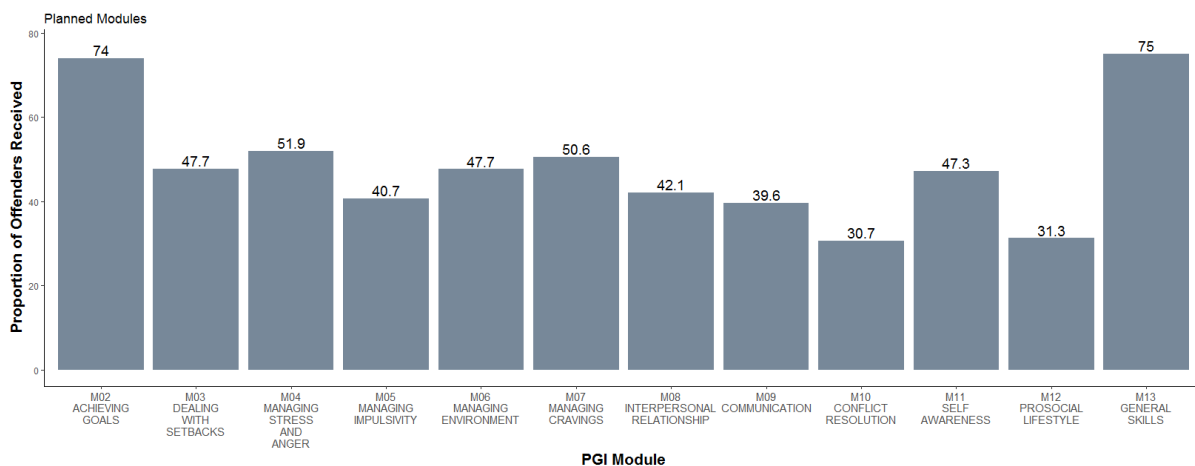


Figure 6. Proportion of offenders who received PGI activity outlined in the case plan, by PGI module

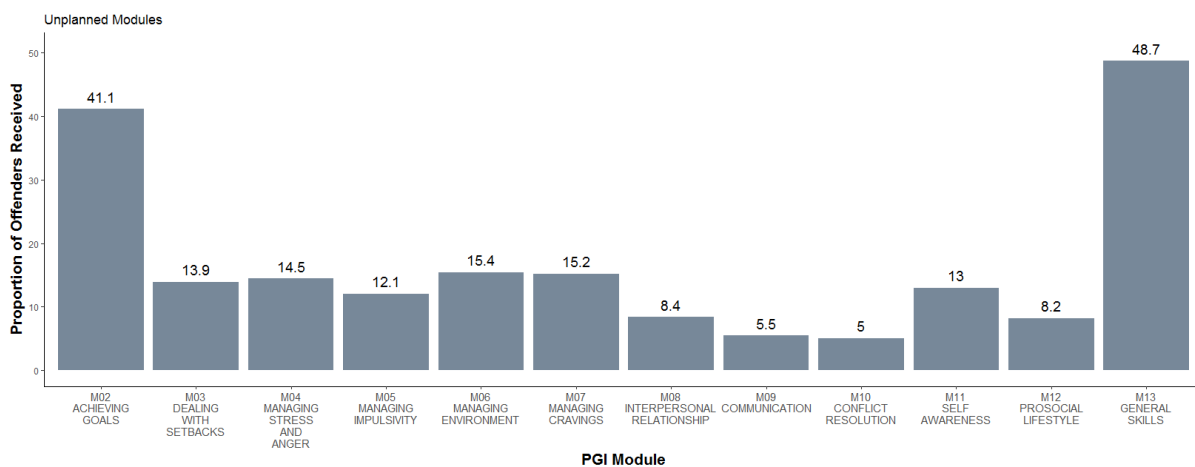


Figure 7. Proportion of offenders who received PGI activity that was not outlined in the case plan, by PGI module.

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Adopting a different perspective, Figure 7 shows the proportion of offenders who received one or more exercises from modules that were not scheduled in their case plans. Similar to patterns seen in Figure 6, exercises from PGI modules #2 and #13 were most frequently delivered outside of case plans. Further, modules with low rates of delivery when planned, including modules #10 and #12 as well as module #9 'Communication', also showed the lowest rates of unplanned delivery.

## DISCUSSION

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The results of this study give a novel perspective on the distribution of identified needs among medium or higher risk, community-based offenders who are a priority for intervention under the PGI model. Consistent with other research on offender needs (e.g. Andrews & Bonta, 2010), offenders in this sample showed a high prevalence of instrumental or social support needs including accommodation, education and employment. Offenders also commonly presented needs that are common targets of cognitive-behavioural intervention, including those related to alcohol and drug use, aggression and domestic violence, which may be more amenable to an individualised behaviour change model such as the PGI.

Prevalence data and measures of association indicated that selection of PGI modules in case plans mirrored patterns of identified case management needs in a number of cases. For example, module #7 'Managing Cravings' was the most commonly selected elective PGI module in case plans, corresponding to a strong positive correlation with the Alcohol and Drug domain of need. A similar association was found between module #4 'Managing Stress and Anger' and the Aggression domain. In these cases there was clear evidence of conceptual associations between common case management needs and the availability and selection of PGI content in case plans.

Interestingly, the Domestic Violence domain was also associated with selection of a broader constellation of PGI modules to address related needs. This observed pattern of module selection is relevant from a clinical perspective, given that case plan domains such as domestic violence, aggression and others are likely to encompass a range of dynamic risk factors that are associated with specific offending behaviours rather than a single discrete target for intervention (e.g. Hilton & Radatz, 2018; Klepfisz, Daffern, & Day, 2016). Consistent with this, the PGI model provides guidance on delivery of exercises to complement offenders' participation in the CSNSW EQUIPS group intervention programs (see Howard & Chong, 2019; Zhang, Wei, Howard, & Galouzis, 2019), which in the case of EQUIPS Domestic Abuse includes recommendations for activities relating to stress and anger; interpersonal relationships; communication; and conflict resolution as well as impulsivity and self-awareness. From the data it is unclear why selection of multiple PGI modules for the Domestic Violence domain of need reflected guidance on complementary interventions for EQUIPS Domestic Abuse, while similar patterns were not observed in the case of the Aggression (in reference to EQUIPS Aggression) and Alcohol and Drug (in reference to EQUIPS Addiction) domains of case management need.

In addition, a number of case management needs did not show associations with planning for any specific PGI modules. These often included high prevalence domains that reflected more instrumental needs, such as Accommodation; Education and Employment; and Financial domains, as well as lower prevalence needs such as those represented by the Leisure; Motivation; and Emotional and Personality domains. The weighted network analysis also showed that these lower prevalence domains tended to correlate with each other, which may be indicative of patterns within a subset of case plans whereby a wide or exhaustive range of needs are identified,

accompanied by infrequent or irregular selection of PGI modules in response. A possible interpretation of the data is that supervising officers may have difficulty identifying appropriate PGI content to address non-instrumental needs that are relatively infrequent factors in the case plan.

Similarly, slightly less than half of elective PGI modules were not consistently identified as a method of addressing any domain of need in the case plan. In some cases these modules involved exercises that appeared to pertain to case management process more broadly, such as identifying goals, progress reviews, and dealing with setbacks. It is not surprising that these modules would show limited associations with identified needs, in the event that they are fluidly incorporated into the case management process or used independently of specific targets of intervention.

In addition, some PGI modules with weak correlations to domains of need appeared to involve interventions for common dynamic risk factors. One prominent example of this is module #5 'Managing Impulsivity'. Impulsivity has been identified as a key risk factor for various types of offending and other high-risk behaviour (e.g. Gottfredson & Hirschi, 1990; Pratt & Cullen, 2000). The prevalence of module #5 in case plans (27.9% of all examined case plans) reflects awareness of the commonality of related issues to case management of offenders among supervising officers. However, the absence of consistent associations with specific needs may indicate challenges in adapting PGI content for more generalised risk factors to schedules of intervention for domains such as substance use and violent or domestic violence offending.

The results of this study also provided preliminary insights into how planning for PGI content corresponds to delivery of PGI activities in sessions with offenders. In general, rates of delivery of many planned PGI modules tended to be low, and

this was counteracted by frequent delivery of unplanned PGI modules. This is not unexpected, given the dynamic nature of offenders' needs and model emphasis on flexibility when addressing current issues or case management process factors in sessions. We also acknowledge that the available data were limited, because many offenders who had ended their supervision episode during the study period would have had their order revoked and therefore did not have opportunities to engage in the full schedule of planned intervention.

One pattern to emerge from the data was that a large proportion of both planned and unplanned PGI activity related to delivery of more generalist process-oriented modules, particularly module #2 'Achieving Goals' and module #13 'General Skills'. Data derived from the C-QST tool indicated that this was largely driven by a small subset of exercises, namely 'Progress Review', 'Achieving Goals' and 'Short and Long Term Goals'. Again, routine delivery of process-oriented PGI exercises may be expected considering their broad applicability to large numbers of offenders and at multiple stages of the case management process; operational feedback has also suggested that progress reviews may be commonly applied by other staff in the event that the primary supervising officer is temporarily unavailable. However, the results raise implications about the extent to which indicators of gross PGI activity (e.g. session dosage) reflect direct interventions to meet the identified needs of offenders and address their risk of reoffending in accordance with RNR principles.

On the other hand, delivery of PGI modules and exercises to address specific identified risk factors was lower when compared to planning for those modules and indicators of PGI activity in total. The lowest rates of delivery for planned PGI modules were observed for module #10 'Conflict Resolution' (30.7%) and module #12 'Prosocial Lifestyle' (31.3%), which may indicate that officers find the content or structure of these exercises



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particularly challenging to deliver. Consistent with this, a previous process evaluation of the PGI indicated that many officers apply exercises based on a range of factors such as familiarity with content, perceived utility of activity worksheets, and the likelihood that offenders will engage in material, as well as the offender's case management needs (Thaler et al., 2019). More broadly, underutilisation of planned exercises to address offenders' needs relative to process-oriented PGI activities may indicate that some officers continue to experience challenges in directly incorporating behaviour change conversations into face to face sessions with offenders.

## Conclusion

The PGI model of community supervision provides a systematic framework of behaviour change interventions that encourages supervising officers to show greater adherence to RNR principles in supervision sessions with offenders. A clear benefit of a content-oriented model such as the PGI is that it provides extensive manualised resources that enable officers to consistently adopt an agent of change role and address offenders' needs in sessions. Conversely, a critical component for successful implementation is that model content is applicable to the presenting needs of offenders, and officers are able to plan and deliver content in a way that addresses those needs.

This study aimed to generate insights about planning and delivery of PGI content during the full implementation phase of the model, and how this corresponds with the case management needs of priority offenders. Continuous improvement of the model may be facilitated by review of the findings with consideration to the intended and observed applications of PGI content. For example, underutilisation of specific PGI modules in case planning may indicate that content has limited applications in servicing common needs, or alternatively that the content is not being used as intended to address particular needs. Similarly,

weak associations between needs and PGI planning could inform opportunities for further development of relevant content or guidance on how to incorporate existing content into an integrated schedule of intervention for that need. Lower than expected delivery of PGI activities could further reflect perceived or actual challenges with how content can be utilised in sessions with offenders, ranging from suitability of the provided materials to time constraints within sessions or over the course of supervision.

In this regard, while this study found multiple instances of positive associations between offenders' needs and utilisation of the PGI, there were indications that a large proportion of aggregate PGI activity to date has involved generalist and process-oriented exercises that were often unrelated to the offender's case plans. Flexible delivery of such content can facilitate continuity of the case management process and responsiveness to offenders' changing needs; we also acknowledge that data on PGI delivery may have been limited by our definitions of supervision completion and the relatively early stage of implementation for the model in general. However, the results also raise implications about the extent to which intervention activities and overall dosage are intended or expected to directly address offenders' criminogenic needs. Review of the policy and procedures relating to more process-oriented activity may assist in increasing the likelihood that the PGI model promotes behaviour change and ultimately reduces risk of reoffending among offenders under community supervision.

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## Appendix 1. List of PGI exercises

Module number	Module theme	Exercise number	Exercise theme
1	Assessment and Planning	1.1	Supervision Expectations
		1.2	Offence Mapping
		1.3	Readiness to Change
		1.4	Decision Balance Chart
		1.5	Impact of Offending
2	Achieving Goals	2.1	Identifying Values
		2.2	The Problem of Immediate Gratification
		2.3	Short and Long Term Goals
		2.4	Previous Success
		2.5	Starting Change
3	Dealing with Setbacks	3.1	Defining Success
		3.2	Re-defining Mistakes
		3.3	Mistake Mapping
4	Managing Stress and Anger	4.1	Identifying Stress Factors
		4.2	Different Levels of Anger
		4.3	Reacting to Stress
		4.4	Reducing Stress
		5.1	Planning Ahead
5	Managing Impulsivity	5.2	Food for Thought
		5.3	Stop Think Act
		5.4	Beliefs and Assumptions
		6.1	High Risk Situations
		6.2	Identifying High Risk People
6	Managing Environment	6.3	Avoiding High Risk People
		6.4	Managing High Risk People
		7.1	Early Warning Signs of Relapse
		7.2	Recognising Triggers for Cravings
7	Managing Cravings	7.3	Coping with Cravings
		7.4	Reducing Risk of Relapse
		7.5	Lapse Plan
		8.1	Mapping Relationships
		8.2	Relationship cost Benefit
8	Interpersonal Relationships	8.3	Relationship Health Check
		8.4	Relationship Belief Systems
		8.5	Building a Good Relationship
		9.1	Communication Skills
		9.2	Barriers to Effective Communication
9	Communication	9.3	Assertive communication
		9.4	Communication Consequences
		9.5	Practicing Assertive Behaviour
		10.1	The Purpose of Conflict
		10.2	Other Points of View
10	Conflict Resolution	10.3	Resolving Conflict in Relationships
		10.4	Avoiding Escalation of Conflict
		10.5	Rules for Fair Fighting
		11.1	My Strengths
11	Self-Awareness	11.2	Controlling Thoughts
		11.3	Thinking about Thinking
		11.4	Awareness of Daily Activities
		12.1	Past Prosocial Relationships
12	Prosocial Lifestyle	12.2	New Prosocial Relationships
		12.3	Belonging to a Community
		12.4	Planning Prosocial Activities
		13.1	Problem solving plan
13	General Skills	13.2	Progress review
		13.3	Mindfulness

## Appendix 2. Validation of the C-QST

From the entire dataset of 224,939 PGI case notes, the C-QST was unable to detect explicit references to PGI use in 31,408 (14.0%) of the examined case notes. These will be referred to as residual case notes. In order to further test the validity of the C-QST tool, a random sample of 50 residual case notes was extracted for a manual qualitative review.

Close to 30% of the residual case notes were administrative case notes that were unrelated to and did not make any reference to PGI activity (e.g. *“offender did report on 22 2 19 as directed. Casenotes did not save. No issues of concern noted”*).

While the remainder of the residual case notes did show some evidence of PGI use, the C-QST was unable to recognise these case notes due to the limitations of the tool (discussed in Chong et al., 2017). As an example, the C-QST is unable to process case notes that contain less than 5 words, and there were 876 case notes that violated this requirement. In addition, a total of 1,143 case notes contained less than 15 words and provided insufficient detail regarding PGI use. Generally, most case notes with a low word count contained insufficient information pertaining to the content of PGI delivery to allow for coding at the module or exercise level (e.g. *“review offender reported and appeared well and engaged in the exercise”*).

As the C-QST is a purpose built research tool, a conservative threshold was adopted by design to minimise noise and errors in the data while selectively identifying case notes where there is a high degree of confidence that PGI use was clearly documented. In this regard, there were few instances where the C-QST falsely identified PGI use when there was no explicit evidence of PGI use documented in the case note (less than 5%). The sensitivity threshold of the tool was therefore considered to be appropriate for the purposes of this study.

A further test was conducted to examine whether the C-QST performed consistently across all modules; that the tool did not perform significantly worse at identifying one module. Under the assumption that issues in case noting are consistent across all PGI modules, it was expected that the distribution of PGI modules in the residual case notes should be similar to the distribution of PGI modules in the total dataset of case notes.

Figure A1 showed that the two distributions of PGI modules appeared broadly similar. A chi-squared test did detect small but statistically significant differences in the distributions,  $\chi^2(12) = 1074.9$ ,  $p < .001$ , which appeared to be related to some observed variability in modules #1, #2 and #13. Notwithstanding this result, given the similarity in the overall shape of the distribution and that the small differences in proportions between the two distributions, we concluded that the C-QST was performing in a manner that did not introduce substantial bias in the detection of content from specific modules.

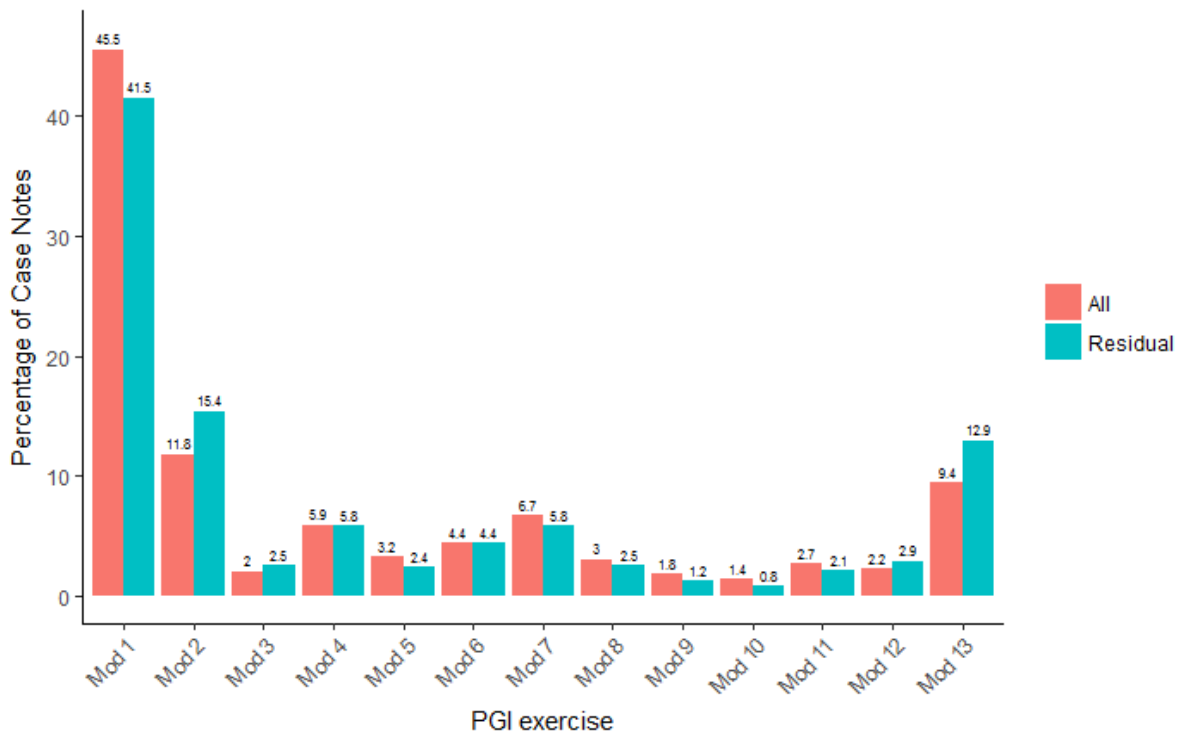


Figure A1. Distributions of PGI modules in all case notes (red) and in the sample of residual case notes (green).





# Other CRES Research Titles

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RB43	Effectiveness of the Initial Transitional Support (ITS) Service 2014-2017 – December 2019	RP 58	Evaluation of vocational training in custody: Offenders' experiences of training and pathways to post-release employment – August 2017
RP61	Evaluation of EQUIPS treatment pathways for domestic violence offenders in New South Wales – September 2019	RP 57	Evaluation of vocational training in custody: Relationships between Training, Post-Release Employment and Recidivism – August 2017
RP60	Process evaluation of the Practice Guide for Intervention (PGI): Staff experiences of implementation and continuing service delivery – September 2019	RP 56	The Case Quantify and Search Tool (C-QST) – December 2017
RB 42	Desistance in an ageing inmate population: An examination of trends in age, assessed risk of recidivism and criminogenic needs – September 2019	RD 6	Increase in the community corrections population – August 2017
RB 41	The Custody Triage Risk Assessment Scale (Custody TRAS): An updated statistical model for predicting risk of return to custody – August 2019	RP 55	Process Evaluation of the Custody Based Intensive Treatment (CUBIT) Programs for Sex Offenders – October 2016
RB 40	Effects of the Practice Guide for Intervention (PGI) on behaviour change intervention dosage among community-based offenders – May 2019	RP 34	Judicial Outcomes of Remand Inmates in New South Wales – October 2016
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RP59	Process evaluation of the Practice Guide for Intervention (PGI): Staff perceptions of community supervision in the context of change – February 2019	RP 53	Evaluation of the Getting SMART Program – June 2013
RB38	The Community Triage Risk Assessment Scale: A Statistical model for predicting recidivism among community-based offenders – October 2018	RP 52	Drug Use in the Inmate Population - prevalence, nature and context – June 2013
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RB36	Forty is the new thirty (for recidivism): Trends in offender age, reimprisonment, and time to desistance among NSW custodial population – August 2018	RB 33	Evaluation of Community Offender Services Programs Drug & Alcohol Addiction and Relapse Prevention, Three Years Out – September 2011
RB35	The Criminal Reimprisonment Estimate Scale (CRES): A Statistical model for predicting risk of reimprisonment – May 2018	RB 32	Trends in the adult indigenous inmate population in NSW 1998-2010 – December 2011



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