Attachment B | Crown Model Trial

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Background

The *Fifth Review of the Casino Operator and Licence, June 2013* by the VCGLR, recommended that Crown assess the use of player data in relation to intensity, duration and frequency of play as a tool to assist in identifying problem gamblers'.[1] A trial was implemented, with the results provided to the VCGLR on 20 November 2015.

The VCGLR subsequently requested that Crown provide a presentation of the results, to the VCGLR Commissioners at the 28 April 2016 Commission meeting. At this meeting, the then Chair, Dr Bruce Cohen, provided comment that the use of loyalty program Member (**Member**) play data available for persons who subsequently self exclude, could provide the basis for predictive data modelling as a tool to assist in identifying potential problematic play in the general loyalty program Member population.

In correspondence dated 15 September 2016, the VCGLR confirmed the expectation that Crown would review the use of player data for persons who self exclude, to determine whether meaningful or common variables can be identified.

As such, Crown Melbourne's Customer Analytics Team commenced work on a predictive data modelling project entitled the 'Crown Model', using the data available from loyalty program Members in the lead up to self-exclusion. Details of this project have been discussed on several occasions with VCGLR representatives, including a VCGLR data subject matter expert, in late 2017 and early 2018.

Further, the VCGLR's *Sixth Review of the Casino Operator and Licence, June 2018* recommended:

> *Recommendation 7*
>
> *The VCGLR further recommends that Crown Melbourne use observable signs in conjunction with other harm minimisation measures such as data analytics to identify customers at risk of being harmed from gambling.*
>
> *Recommendation 8*
>
> *The VCGLR recommends that Crown Melbourne proceed with development and implementation of comprehensive data analytics tools for all patrons, to proactively identify for intervention patrons at*

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[1] Fifth Review of the Casino Operator and Licence, Victorian Commission for Gambling and Liquor Regulation, June 2013, pg. 99

risk of harm from gambling. These tools would utilise both historical data (with parameters developed from the second player model), and real-time monitoring of play periods. Crown Melbourne should look to models in other jurisdictions, and consult with external data analytics experts, with a view to implementing world-class, proactive approaches with real-time (or near-real time) operational effectiveness. In particular—

(a) for carded play (that is, player activity which can be systematically tracked), Crown Melbourne will have in operation a comprehensive real-time player data analytics tool by 1 January 2020,

(b) for uncarded play (that is, all other player activity), Crown Melbourne will, by 1 January 2019, commence a comprehensive study of all the practical options for a real time player data analytics tool, with a view to reporting in detail (including legal, technical and methodological issues) to the VCGLR by 1 January 2020 and the tool being in operation by 1 July 2022.

Current Process

Apart from the Crown Model Trial, Crown's current process when identifying potential problem gambling behaviours, is via the use of observable signs commonly associated with problem gambling behaviour. These observable signs have an evidence base in research.[2] Crown employees are instructed to refer customers who seek assistance and/or are displaying observable signs to a Responsible Gaming Advisor (**RGA**). The implementation of the Crown Model Trial is viewed and utilised as an additional tool for Responsible Gaming staff.

Collection of Player Data

Crown operates a property wide loyalty program known as Crown Rewards. Members are able to earn points when playing gaming machines, table games (and their electronic versions), purchasing food and beverages, staying in the hotels and when purchasing goods and services from participating Crown Melbourne Complex (**Complex**) retailers. These points can be redeemed for goods, services and gaming play throughout the Complex.

Collection of Member gaming data activity relies on the Member using their card when gaming. As such, there are some limitations in the use of Member data from a research and analytical perspective. These limitations include:

- The Member using their card when gaming, and this may not be at all times (so an incomplete or skewed data set could be captured);

- Only the Member using their card (i.e. no card sharing);

- In terms of gaming play, the Member may also be gambling at other venues, so a complete assessment of their play behaviour is not possible; and

- Data accuracy limitations when collecting Member play data i.e. table games staff input etc.

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[2] 'Validation study on in-venue problem gambler indicators', Thomas, A., Delfabbro, P. and Armstrong, A. (2014), Gambling Research Australia; 'Identifying Problem Gamblers in Gambling Venues', Delfabbro et al (2007) and 'Current Issues related to identifying the problem gambler in the gambling venue' various authors, Australian Gaming Council (2002).

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Objective of the Crown Model Trial

To determine, by way of a 12-month trial, if the Crown Model could be utilised as an additional tool to identify loyalty program Members who may benefit from a responsible gaming intervention.

Timeline

Date	Who	Detail
11 June 2018	Responsible Gaming Team	Finalisation of operational documentation The Responsible Gaming Team received a briefing on the Crown Model Trial
14 June 2018	Crown Melbourne Responsible Gambling Management Committee	The Committee was briefed on the Crown Model Trial
18 June 2018	Customer Analytics Team	Provision of names for adding to paging (a **Tranche**)
25 June 2018	Responsible Gaming Team	Commencement of Crown Model Trial
July 2018 to July 2019	Customer Analytics Team and Responsible Gaming Team	Review following the completion of each Tranche

Methodology and Process

The Customer Analytics Team developed Crown Model identifiers from a review of the data of the Members in the Crown Rewards database.

For the Crown Model Trial, local Members who had used their Crown Rewards card for gaming in the prior 30 days were provided as a 'Tranche' of 100 Members.

Upon receipt of the report, a Responsible Gaming Advisor (**RGA**) placed the Member identifiers on a pager that alerted the RGA team when the Member next used their Crown Rewards card in a gaming device.

When an RGA received an alert that a Member identified on the report had inserted their Member card into a gaming device, they made every reasonable effort to attend that location.

If the Member was not in a position to be approached in a discreet manner, the RGA notated and re-attempted an approach at another time (where possible).

If a Member was able to be approached discreetly, the RGA did so and engaged in conversation.

The RGA discussed the following with the Members:

- An outline of the RGA's role;

- Asked the Member whether they were aware of the Responsible Gaming Centre services and programs;

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- Asked the Member whether they are comfortable with their level of play;

- Reminded the Member to take regular breaks; and

- Provided the Member with an RGC card if appropriate.

The interactions provided an opportunity for the RGA to deliver information about the services and programs of the Responsible Gaming Centre, consider whether there are any responsible gaming issues and take further appropriate action as required.

The interactions were recorded in the database, as well as a separate spreadsheet, which assisted in analysing the effectiveness of the trial and to also provide feedback to the Customer Analytics Team at the scheduled meetings, in order to refine the Crown Model.

Development of the Crown Model

In summary, the objective of the Crown Model is to build a predictive model that identifies patrons who exhibit potential problem gaming behaviour based on data obtained from patron historic gaming activity and some demographic information.

From the Initial Model, a sample of randomly selected Members from a pool of ~200,000 from the Crown Rewards database (meeting the criteria of at least one Table Games or Gaming Machines rating in the last 18 months) was obtained.

After review of Initial Model build, following the first Tranche of the Crown Model Trial, further refinements were made such as:

- analysing up to the last 200 visits instead of relying on a static period of 18 months;

- implementation of a new modelling algorithm (Neural Networks);[3] and

- combining two separate (Table Games and Gaming Machines) models into one, to better capture any interplay between product.

Crown Model Trial Results

The Crown Model Trial as refined, commenced on 25 June 2018 and ceased 30 June 2019.

Nine Tranches were provided by the Customer Analytics team during the Trial period.

Regular meetings with the Customer Analytics Team and Responsible Gaming were held, to review progress and develop refinements based on progress.

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[3] Neural Networks is a modelling algorithm that aims to recognise patterns within a dataset. Over time, modelling has evolved from using simpler techniques (such as regression) to more complex algorithms such as Neural Networks or Gradient Boosting by leveraging advances in computing capacity. These algorithms can be more accurate and help identify patterns not captured by traditional modelling techniques.

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Refinement continued throughout the trial period using gaming player data from persons who subsequently self excluded, as well as empirical observations garnered via conversations/interactions with Members.

On completion of the initial Tranche of Members observed/interacted with, it was found that further time was required between data collected from the observation/interaction, which was used to refine the Crown Model, and the next Tranche to be released. As such, the initial commitment to monthly meetings was reconsidered to be end of Tranche meeting, with nine Tranches completed in the Trial period.

Representatives from the Customer Analytics and Responsible Gaming Teams met post Tranche completion to discuss the Crown Model, provide feedback from staff about the Member interactions and be updated on any refinements. Information from the Customer Analytics Team is provided in ***Appendix A***.

Post-Trial, Crown continued the observations/interactions, to gather the observational data, which may be useful for the next phase of Crown Model refinement.

RGA observations of the trial of the Crown Model suggested that:

- It empowers Responsible Gaming staff to take a proactive role in their duties;

- The interaction could assist Members to prevent any potential problems from escalating;

- Some Members displayed negative attitudes on being approached: defensive and suspicious of Responsible Gaming/Crown's motives;

- There were difficulties in engaging Members who play on tables or in a group, or who are higher tier Members; and

- Limitations from Members not using their own card or not using their card at all times.

It was decided to collect qualitative data from a sample of those Members who had been contacted by an RGA. The aim was to establish whether the interaction with the RGA had any impact, and if so to what effect.

RGAs were engaged to deliver a short questionnaire to be administered by way of unstructured interview, exploring whether the Member had changed their gaming behaviour; had reflected on the interaction; sought formal or informal assistance for problem gaming behaviour; and whether they had discussed the interaction with any other person.

Ten Members, who had previously been interacted with, were randomly selected and interacted with at periods between seven and eight-months post interaction.

Not all Members chose to answer all questions posed by the RGA.

Most recalled being approached by RG employees to talk about their gaming, with a modest number indicating the interaction having any effect on their gaming behaviour.

A more detailed report of the interactions is contained in ***Appendix B***.

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Responsible Gaming Team Data Overview

25 June 2018 – 30 June 2019

The following describes an overview of the data collected by the Responsible Gaming Team when observing or interacting with Members who were identified via the Crown Model Trial. In terms of any previous contact recorded by the Responsible Gaming Department, histories were collected for the prior five years.

- 900 Members were provided to Responsible Gaming from the Customer Analytics team (9 Tranches each with 100 Members);

- Of these 900 Members, 149 collectively had a total of 1134 prior interactions with Responsible Gaming in the preceding five years. Of the 149, there were a minimum of six, and maximum of 28 Members with an average of 17 Members who had a prior interaction with Responsible Gaming across any of the nine Tranches;

- Of the prior interactions with Responsible Gaming from these 149 Members, the top five interactions were:

    o Play Periods - 55.8% - these are reminders of length of play or time on site;

    o Revocation Information – 7.3% - where the Member has inquired about revoking a self exclusion;

    o Welfare – 6.1% - commonly associated with observable signs or follow up when an employee or other customer has raised concerns;

    o Observable Signs – 3.4% - observable signs that were reported to or observed by RGAs;

    o Self Exclusion Information – 2.8% - where a Member has requested information about the Self Exclusion Program;

- Of note is that the bulk of the interactions related to 'Play Periods';

- Of the 900 Members, 526 were engaged and interacted with by Responsible Gaming and 76 Members were observed due to an interaction unable to take place;

- Most Members found the interaction positive, which is a testament to the skill of the RGAs, and also assists in increasing targeted harm minimisation interventions;

- 132 of the 900 Members had no recorded visitation before the Tranche concluded;

- 15 of the 900 Members have proceeded with a voluntary Self Exclusion as at 31 October 2019. Of the 15 Members, nine subsequently self excluded after an average of 155 days following an interaction, with the minimum time between the self exclusion and interaction being 23 days, and the maximum being 305 days;

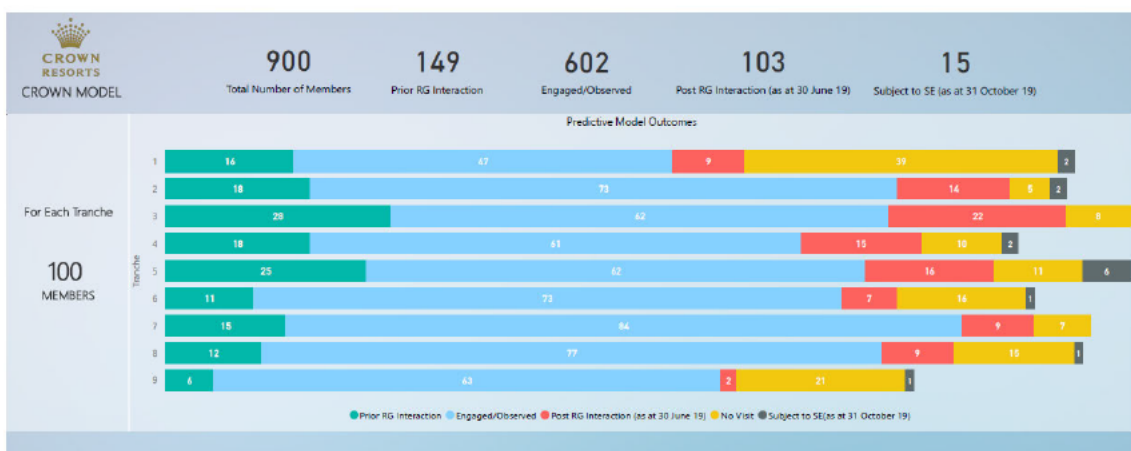*Confidential and commercially sensitive*

- Of the nine Members that self excluded after a follow up or observation, those that were spoken with predominantly indicated that they were not experiencing difficulties with their gambling. All Members that are subject to an interaction with an RGA as part of the Crown Model are furnished with information about responsible gaming programs and services available at Crown. This information is of interest, and will continue to inform the refinements of the Crown Model.

Table 1

Tranche	No. of Members	Prior RG interaction	Engaged/Observed	Post RG Interaction (as at 30 June 19)	No Visit	Subject to SE (as at 31 October 19)
1	100	16	47	9	39	2
2	100	18	73	14	5	2
3	100	28	62	22	8	0
4	100	18	61	15	10	2
5	100	25	62	16	11	6
6	100	11	73	7	16	1
7	100	15	84	9	7	0
8	100	12	77	9	15	1
9	100	6	63	2	21	1
Total	**900**	**149**	**602**	**103**	**132**	**15**

A visual representation of this data is provided below. When considering the above information, the Crown Model Trial has served a useful purpose in that Members who may be playing in a mode similar to persons who subsequently self exclude, appear to have been impacted by early intervention in a Member considering their play behaviour.

Crown Model Trial Conclusion

The Crown Model objective was to build a predictive model that identifies Members who exhibit potential problem gambling behaviour based on data obtained from Member historic gaming activity and some demographic information.

The purpose of the Crown Model Trial was to determine, by way of a 12-month trial, if the Crown Model can be utilised as an additional tool to identify loyalty program Members who may benefit from a responsible gaming intervention.

Data collected and reviewed during the Crown Model Trial provided encouragement to continue and refine the Model.   The final combined data collected shows that an intervention appears to have made some impact on Member behaviour (see Table 1).

There were some adverse reactions to intervention by RG staff with Members. Possible unintended consequence of interactions include:

- encouraging Members to play un-carded;

- encouraging card misuse;

- inhibiting Members' help-seeking behaviour; or

- creating paranoia.

RGAs reported that the response to interactions over the past 12 months have been mixed. They reported that approximately 70% of Members were polite, although appeared uninterested in what they had to say and then ended the interaction. About 25% of Members 'brushed off' the approach and 5% of the conversations were meaningful and could take some time discussing a wide range of issues.

Some reactions may be counterproductive to the desired RG practice. As such, Crown will continue to consider the most optimal interaction strategy, including the use of other tools that will reduce perceived stigma commonly associated with responsible gaming interactions and overcoming inhibitions to help seeking.

<u>Future Directions</u>

The Crown Model Trial provided a good range of indicators based on data, and whilst not refined to 100% accuracy, it will assist in further refinement and building of the base.   As has been part of the Crown Model Trial since inception, in order to validate results, time is required. It was noted that that when potential problem gambling behaviour is identified, it does not necessarily mean that the Member is actually engaged in problem gambling behaviours and that other factors are also equally important to consider.

A major component of assessing the success of the Crown Model continues to be time and volume of data to build the most accurate model. Any machine learning product such as the Crown Model requires sufficient volumes of data and the time to realise the success of the algorithm via validation and the impact an interaction may have.

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In relation to real time data analytics predicting potential problem gambling behaviours, Crown is not aware of any land-based program that is able to achieve this result. Crown is committed, however, to develop data analytics or predictive modelling that can detect patterns of play that can provide an opportunity for early intervention with Members who may be likely to develop difficulties with gambling, and for this detection to be as close to real time as is practicable. Crown is mindful that there are limitations associated with this goal; and will additionally be continuing to review external product solutions that are research and market tested.

Crown intends to continue to refine and develop the Crown Model guided by new literature as it becomes available in consultation with external experts in the field; the Customer Analytics Team and the Responsible Gaming Department.

Appendix A | Crown Model Trial

Responsible Gaming Data

**Tranche 1**

25 June 2018 – 15 September 2018

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 16 have had a prior interaction with RG in the preceding five years;

- 31 of these Members were engaged with and 16 Members were observed (**47**);

- 39 Members had no recorded visit; and

- As at 31 October 2019, two Members from this Tranche have self excluded.

Refinements

Members from Tranche one were kept on the pager for 17 days after Tranche two went live.
Of the list of 100 provided by the Customer Analytics Team, nearly half did not come in and play in the time period. The Customer Analytics Team was advised at the monthly meeting, this was resolved for the next Tranche.

As at 30 June 2019

Fourteen unique post Responsible Gaming interactions occurred from eight Members on Tranche 1, **_who were interacted with or observed_**_:_

Attempted Breach	3
Breach of Self Exclusion	3
Play Periods	3
Revocation Follow Up	2
Revocation Information	1
Self Exclusion	2

One unique post Responsible Gaming interaction occurred from one Member on Tranche 1 **_who_** **_did_** **_not have a data follow up interaction_** _(as at the time the Tranche concluded):_

Play Periods	1

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Tranche 2

30 August 2018 – 14 November 2018

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 18 have had a prior interaction with RG in the preceding five years;

- 67 of these Members were engaged with and 6 Members were observed (**73**);

- Five Members had no recorded visit; and

- As at 31 October 2019, two Members from this Tranche have self excluded.

Refinements

Members were removed from the pager after three attempts of following up without an opportunity presented to engage. Some Members who were unable to be engaged with/observed, were followed up by Service Managers.

All Members provided have had some sort of activity (ratings) within a month before start date. The Model was revised and rebuilt after review and 100 Members selected from Model outputs, while also considering recency (staff feedback) and sampling at all tiers.

As at 30 June 2019

*Twenty-three unique post Responsible Gaming interactions occurred from 11 Members on Tranche 2, **who were interacted with or observed:***

Self Exclusion	1
Mail Suspension	1
Observable Signs	1
Play Periods	17
Seeking other Assistance	1
Self Exclusion Information	1
WOL (Withdrawal of Licence ban)	1

*Five unique post Responsible Gaming interactions occurred from three Members on Tranche 2 **who did not have a data follow up interaction** (as at the time the Tranche concluded):*

Mail Suspension	1
Play Periods	3
Self Exclusion Information	1

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<u>**Tranche 3**</u>

1 November 2018 – 6 December 2018

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 28 have had a prior interaction with RG in the preceding five years;

- 59 of these Members were engaged with and three Members were observed (**62**);

- Eight Members had no recorded visit;

- *49 Members were engaged with and three Members were observed by the RG team, 10 Members were engaged with by the Service Managers; and*

- As at 31 October 2019, no Members from this Tranche have self excluded.

<u>*Refinements*</u>

In this Tranche, due to initial difficulty interacting with premium Members, commenced Platinum Members spoken to by Gaming staff (who were provided with briefing/script).

<u>*Customer Analytics Team changes*</u>

Customer Analytics Team comment - Same model and selection process used as for Tranche 2.

As at 30 June 2019

*Seventy-eight unique post Responsible Gaming interactions occurred from 16 Members on Tranche 3, **who were interacted with or observed:***

WOL recommendation	2
WOL	4
Alert Notice Generated	1
Observable Signs	6
Play Periods	58
Seeking other Assistance	1
Time Out	1
Welfare	5

*Twenty-five unique post Responsible Gaming interactions occurred from six Members on Tranche 3 **who did not have a data follow up interaction** (as at the time the Tranche concluded):*

Play Periods	24
Welfare	1

Tranche 4

14 December 2018 – 15 January 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 18 have had a prior interaction with RG in the preceding five years;

- 53 of these Members were engaged with and eight customers were observed (**61**);

- 10 customers had no recorded visit;

- 51 Members were engaged with and eight Members were observed by the RG team, two Members were engaged with by the Service Managers; and

- As at 31 October 2019, two Members from this Tranche have self excluded.

Refinements

No changes from the previous Tranche.

As at 30 June 2019

*Twenty-two unique post Responsible Gaming interactions occurred from five Members on Tranche 4, **who were interacted with or observed:***

Observable Signs	4
Play Periods	12
Seeking other Assistance	1
Welfare	1
WOL	3
WOL recommendation	1

*Forty-nine unique post Responsible Gaming interactions occurred from 10 Members on Tranche 4, **who did not have a data follow up interaction** (as at the time the Tranche concluded):*

Alert Notice Generated	1

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Breach of Self Exclusion	2
Attempted Breach	2
Observable Signs	1
Play Periods	31
Self Exclusion	2
Welfare	5
WOL	4
WOL recommendation	1

Tranche 5

17 January 2019 – 18 February 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 25 have had a prior interaction with RG in the preceding five years;

- 57 of these Members were engaged with and five Members were observed (**62**);

- 11 customers had no recorded visit;

- 43 Members were engaged with and 5 customers were observed by the RG team, 14 Members were engaged with by the Service Managers; and

- As at 31 October 2019, six Members from this Tranche have self excluded.

Refinements

No changes from the previous Tranche.

As at 30 June 2019

Thirty-three unique post Responsible Gaming interactions occurred from nine Members on Tranche 4, ***who were interacted with or observed:***

3rd Party Assistance / Inquiry	1
Attempted Breach	2
Breach of Self Exclusion	7
Mail Suspension	1
Observable Signs	3

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Play Periods	13
Self Exclusion	2
Self Exclusion Information	1
Welfare	3

Sixteen Post RG interactions from Members in Tranche 7 that <u>did not have a data follow up</u> <u>interaction</u>:

Mail Suspension	1
Play Periods	9
Self Exclusion	1
Self Exclusion Information	2
Welfare	3

Tranche 6

28 February 2019 – 01 April 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 11 have had a prior interaction with RG in the preceding five years;

- 62 of these Members were engaged with and 11 customers were observed (**73**);

- 16 customers had no recorded visit;

- 55 Members were engaged with and 11 customers were observed by the RG team, seven Members were engaged with by the Service Managers;

- As at 31 October 2019, one Member from this Tranche has self excluded.

Refinements

No changes from the previous Tranche.

As at 30 June 2019

*Twelve unique post Responsible Gaming interactions occurred from 7 Members on Tranche 6, **who were interacted with or observed:***

3rd Party Assistance / Inquiry	1
Mail Suspension	2

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Play Periods	7
Seeking other Assistance	1
Self Exclusion	1

There were no Post RG interactions from Members in Tranche 6.

__Tranche 7__

4 April 2019 – 6 May 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 15 have had a prior interaction with RG in the preceding five years;

- 76 of these Members were engaged with and eight Members were observed (**84**);

- Seven Members had no recorded visit;

- 65 Members were engaged with and eight Members were observed by the RG team, 11 Members were engaged with by the Service Managers; and

- As at 31 October 2019, no Members from this Tranche have self excluded.

__Refinements__

No changes from the previous Tranche.

As at 30 June 2019

Fifty-six unique post Responsible Gaming interactions occurred from nine Members on Tranche 7, __who were interacted with or observed:__

3rd Party Assistance / Inquiry	1
Mail Suspension	3
Observable Signs	2
Play Periods	34
Seeking other Assistance	1
Self Exclusion Information	2
Self Harm	1
Time Out	1
Unpaid Parking	3

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Welfare	3
WOL	4
WOL recommendation	1

There were no Post RG interactions from Members in Tranche 7.

Tranche 8

9 May 2019 – 3 June 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, 12 have had a prior interaction with RG in the preceding five years;

- 69 of these Members were engaged with and eight Members were observed (**77**);

- 15 customers had no recorded visit;

- 58 Members were engaged with and eight Members were observed by the RG team, 11 Members were engaged with by the Service Managers; and

- As at 31 October 2019, one Member from this Tranche has self excluded.

Refinements

No changes from the previous Tranche.

As at 30 June 2019

Eighteen unique post Responsible Gaming interactions occurred from nine Members on Tranche 8, who were interacted with or observed:

3rd Party Assistance / Inquiry	1
Mail Suspension	1
Play Periods	14
Self Exclusion	1
Self Exclusion Information	1

There were no Post RG interactions from Members in Tranche 8.

Tranche 9

4 June 2019 – 30 June 2019

- 100 Members were provided to Responsible Gaming from the Customer Analytics Team;

- Of these 100, six have had a prior interaction with RG in the preceding five years;

- 52 of these Members were engaged with and 11 Members were observed (**63**);

- 21 Members had no recorded visit;

- 48 Members were engaged with and 11 Members were observed by the RG team, four Members were engaged with by the Service Managers; and

- As at 31 October 2019, one Member from this Tranche has self excluded.

Of the six Members who had a prior interaction with RG, three had a data follow up interaction. None of these three Members had a post interaction with RG.

Refinements

No changes from the previous Tranche.

As at 30 June 2019

Two unique post Responsible Gaming interactions occurred from two customers on Tranche 9, **who were interacted with or observed.**

Mail Suspension	1
Play Periods	1

There were no Post RG interactions from Members in Tranche 9.

All Tranches – 30 June 2019

There were 258 unique post Responsible Gaming interactions from 76 Members from all nine Tranches, **who were interacted with or observed:**

3rd Party Assistance / Inquiry	4
Alert Notice Generated	1
Attempted Breach	5
Breach of Self Exclusion	10
Mail Suspension	9

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Observable Signs	16
Play Periods	159
Revocation Follow Up	2
Revocation Information	1
Seeking other Assistance	5
Self Exclusion	7
Self Exclusion Information	5
Self Harm	1
Time Out	2
Unpaid Parking	3
Welfare	12
WOL (Withdrawal of Licence (Ban))	12
WOL Recommendation	4

There were 96 unique post Responsible Gaming interactions from 27 Members in all nine Tranches, **who** **did not have a data follow up interaction** *(as at the time the Tranche concluded):*

Alert Notice Generated	1
Attempted Breach	2
Breach of Self Exclusion	2
Mail Suspension	2
Observable Signs	1
Play Periods	68
Self Exclusion	3
Self Exclusion Information	3
Welfare	9
WOL	4
WOL recommendation	1

Customer Analytics Data

	Tier	Average Total Visits			Average Hours Per Visit			Average ADT		
		30 Days Before	30 Days After	% Change	30 Days Before	30 Days After	% Change	30 Days Before	30 Days After	% Change
Sent to RG Team	Platinum	19.0	15.4	-19.1%	3.2	3.0	-6.3%	$873	$847	-3.0%
	Gold	16.1	12.4	-22.7%	2.3	1.9	-17.4%	$243	$210	-13.2%
	Silver	14.0	9.7	-30.8%	1.6	1.3	-18.8%	$119	$97	-18.6%
	Member	7.8	4.4	-44.0%	1.4	1.1	-21.4%	$45	$48	5.7%
	Total			-25.81%			-9.52%			-4.48%

	Tier	Average Total Visits			Average Hours Per Visit			Average ADT		
		30 Days Before	30 Days After	% Change	30 Days Before	30 Days After	% Change	30 Days Before	30 Days After	% Change
Control Group	Platinum	28.1	25.0	-11.2%	3.2	2.9	-9.7%	$798	$681	-14.8%
	Gold	29.1	24.0	-17.4%	2.0	1.7	-12.4%	$178	$171	-4.1%
	Silver	18.1	14.4	-20.6%	1.3	1.1	-15.3%	$75	$72	-3.4%
	Member	7.3	6.5	-11.0%	1.2	1.2	-0.8%	$46	$55	19.7%
	Total			-15.44%			-10.53%			-11.23%

Note: *(i) Tier represents Member's Crown Rewards level at the time of Model execution*
(ii) ADT (Average Daily Theoretical) represents a Member's spend per visit
(iii) Visit, Hour and ADT metrics are calculated 30 days pre and 30 days post RG interaction for group sent to RG team
(iv) Visit, Hour and ADT metrics are calculated 30 days pre and 30 days post model execution date

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Appendix B | Crown Model Trial

Follow up Interview with Members who had been Previously Approached

The aim of the follow-up interview is to gain self-report data on Members' initial responses to being approached in the first instance, impact of intervention on subsequent gaming behaviour, the extent to which the approach prompted consideration of seeking formal or informal forms of assistance, and if the approach resulted in a transition to or increase in non-casino gambling formats.

The target members were those previously approached as part of the Crown Model Trial

The timing of the interview is approximately seven months post Responsible Gaming Advisor intervention as part of the Crown Model Trial. The interactions took place in November 2019.

Post Approach Evaluation

Questions posed to the randomly selected members:

1. _Do you recall being approached by a member of our staff some time ago talking to you about your gambling?_

2. _Did you feel the staff member was genuinely interested in your wellbeing?_

3. _Did you change any of your gambling behaviour after that interaction, for example:_

    a. _How often you come here_

    b. _How much time you spend here_

    c. _How much money you spend_

4. _Did you speak to anyone about your gambling after the interaction? (e.g. counsellor, friends or family)._

5. _Do you think this is a useful interaction and if so would you talk to others about it._

Record their demeanour, happy or annoyed to be approached.

Results

Ten members who were approached by staff as the result of the player data tracking were later followed up by staff to ask about their experience.

Most people recalled being approached by a staff member to talk about their gaming: Seven 'yes', two 'no' and one "not really, it was so long ago".

More than half the people approached found the staff member was genuinely interested in their wellbeing, with six members responding as 'yes', and four member responses as inconclusive as they could either not recall any or some of the interaction or chose not to comment.

Confidential and commercially sensitive

A modest number of people (three out of seven who responded to this query) indicated that the staff interaction helped change their gaming behaviour. Four people indicated no change of their gaming behaviour.

The three members who responded positively to the interaction further stated that:

> *"Yes, I reduced the amount of money and time I spent here."*

> *"I came to the casino and gambled less."*

> *"Not really but spending less now."*

Three out of seven members who had a response recorded, admitted to having spoken to others about their gaming after the interaction. One of them spoke to a counsellor (whom they were already seeing about a separate matter), one talked to her mother, and the other stated that she *"told a lot to people that I got approached"*. The other four patrons reported that they did not talk to anyone.

Nine members indicated that the interaction was useful and would talk to others about it.

Interviewing staff recorded approached patrons' demeanour mostly positive - eight *"happy"*, one *"neutral"*, one *"no"* (annoyed) – *"Patron asked please leave me alone"*.