Review of electronic gaming machine pre-commitment features
Transaction history statements

Anna Thomas, Angela Rintoul, Julie Deblaquiere, Andrew Armstrong, Sharnee Moore, Rachel Carson and Darren Christensen

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Disclaimer

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Acknowledgements

Abbreviations

AGRC	Australian Gambling Research Centre
AIFS	Australian Institute of Family Studies
EGM	Electronic Gaming Machine
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs
REA	Rapid Evidence Assessment

Executive summary

Background

Gambling is widely available in Australia but can result in harm. The effects of gambling problems can extend well beyond the individual, and even low-risk gamblers can experience episodes that put them at risk of harmful consequences. Local, state and federal governments and the gambling industry all have an important role to play in protecting the public from gambling-related harms. Achieving an appropriate balance between implementing effective harm minimisation measures and the continued enjoyment of gambling is a significant consideration for all governments (Productivity Commission, 2010).

Approximately 75–80% of gambling-related problems are associated with electronic gaming machines (EGMs) (Delfabbro, 2012). There is evidence that gamblers, and problem gamblers in particular, often underestimate their EGM expenditure (Nower & Blaszczynski, 2010; Productivity Commission, 2010). Around 70% of EGM users report that they sometimes exceed their spending limits, and 12% do so often or always (Productivity Commission, 2010). The provision of transaction history or account summary information as part of an EGM pre-commitment system would contribute towards improving awareness among EGM users of their gambling expenditure and facilitate insights into gambling behaviour. This information would be useful to inform decisions about other features of the pre-commitment system, including determining an appropriate loss limit and whether it may be appropriate to access self-exclusion features of the pre-commitment system.

There are several different pre-commitment designs, the most significant options varying by:

- how gamblers enter the pre-commitment system:
    - *full*—it is compulsory to use a gambler registration system; or
    - *partial*—there is a choice to gamble either within or outside a registration system; and
- within a full or partial system, how they interact with limit-setting features:
    - *mandatory*—all gamblers are required to set limits; or
    - *voluntary*—gamblers may choose whether they set limits or not.

The Australian Institute of Family Studies (AIFS) was commissioned by the former Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)[a] to research options for the introduction of transaction history statements within a broader pre-commitment system. This report synthesises existing evidence and opinions from regulators, academics, government officials and EGM venue operators relating to the optimum design of transaction history statement features within an EGM pre-commitment system in order to increase consumer protection and reduce harm.

Methodology

The report synthesises evidence collected in 2013 using two information-gathering approaches:

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a   Now the Department of Social Services.

- a rapid evidence assessment (REA) was conducted to provide an overview of research that addresses the design of transaction history statement pre-commitment features; and

- consultations were held with key stakeholders in selected government, industry and research sectors in Australia and internationally regarding existing and proposed pre-commitment systems, including the design of transaction history statements.

Rationale for developing a transaction history statements system

Transaction history summaries of EGM expenditure can function as both a consumer protection tool that details the amount and place of expenditure, and a reflexive learning tool that supports harm minimisation by providing an objective account of gambling behaviour. From a harm minimisation perspective, the goal of a transaction history statement is to provide accurate information on spending to inform decisions about appropriate EGM loss limits, ultimately supporting the prevention of gambling problems.

Summary transaction statements provided as part of a pre-commitment or cashless gambling system have been relatively popular and widely used by gamblers when made available. However, where transaction history statements have been provided, their use appears to be dependent upon the quality and utility of the system architecture. Importantly, the provision of account summary information has been cited as a key incentive for encouraging enrolment in voluntary pre-commitment systems in Australia.

Several pre-commitment systems are already in place through some Australian gambling corporations and venues, with transaction history statements provided to loyalty program members, people who have enrolled in cashless gaming and those who have registered to use pre-commitment systems. Pre-commitment systems have also been implemented across several international jurisdictions: Nova Scotia in Canada, Sweden, and Norway. Their design varies in terms of whether the overall pre-commitment system is full or partial and whether use of features such as limit setting is mandatory or voluntary. The overall design of a pre-commitment system has implications for its effectiveness.

Transaction history statement design features

While EGMs are capable of recording a vast amount of information, it is important to ensure that summary expenditure information presented to consumers is simple, easily interpreted and accessible in a variety of formats. Consideration should be given to:

- statement content;

- frequency of transmission to consumers; and

- methods of accessibility.

The key question for EGM users is: "How much money have I spent?". This information should be summarised across a variety of intervals. It should also be pushed periodically to users and be available in real time.

While further research is needed to determine the level of detail consumers find most useful for behaviour change and harm minimisation purposes, the transaction history statement must be simple, clear and easy to understand. The information contained in the statement should, at a minimum, contain net expenditure per day/session over the course of a set time period, such as by month or quarter. Annual summaries should also be provided. To assist gamblers to track their gambling behaviour, statements could also detail the date any loss limits were set, as well as instances where the loss limit was reached and/or breached.

Current-session or "real-time" summaries should include total money loaded onto the machine; money withdrawn; machine balance; whether the EGM user is "up" or "down" at the point in time for which information is displayed (i.e., for that session); and progress towards nominated loss limit.

Account summary information should be accessible in a manner similar to a bank account. As well as being accessible on demand, periodic statements should be sent at regular time intervals. Annual or biannual statements are likely to be too infrequent as it would be possible to spend very large amounts in between statements. Monthly or quarterly statements are more appropriate from a best-practice perspective. Statements should be accessible and/or sent through a variety of means including:

- online (i.e., on a website or smartphone application);
- email;
- post;
- phone;
- self-service in-venue kiosk;
- venue staff; and
- on the EGM terminal itself.

Statements should be accessible both inside and outside venues, as the information may function in different ways in different spaces. Transaction history statements may be particularly informative for setting EGM loss limits if the information is accurate and disconnected from the point of sale. Evidence indicates that consumers overestimate their capacity to adhere to limits when they are stimulated by the visual and auditory cues of the EGM venue. Outside of the EGM venue, they may be able to more carefully reflect on appropriate levels of spending. Making transaction information available at the venue improves consumer protection and can provide gamblers with real-time expenditure information.

Although it is important that the system prefaces basic and essential information at the beginning to avoid overwhelming people, it should be capable of generating more sophisticated applications at a later stage as customers become more comfortable with features. One useful additional feature that could be incorporated at a later stage would be relevant comparative gambling information. For example, provision of comparative spend data of the general population and/or higher risk gamblers may enhance the potential for behaviour change in higher risk gamblers. This technique, known as "social nudging", can support individuals to develop healthier behaviours.

Further, consumers may find that comparing current expenditure on EGMs to other leisure activities or goods that could be purchased for the equivalent amount of money provides them with valuable insights into their gambling behaviour. This may assist users in assessing whether their expenditure is excessive and again encourage gamblers who may be at risk of harm to reduce the amount of time and money they spend on EGMs.

Transaction history statement data could also feed into the "lifelogging" cultural phenomenon of the "quantified self". This movement emerged from the discipline of personalised preventive health. The approach aims to provide users with new ways to understand, interpret and self-govern their behaviour by providing them with personal tracking data to identify and manage risks in advance (Swan, 2012). There is potential to develop sophisticated self-tracking data about EGM use, as well as ways to visualise data generated through programs that could track a more nuanced picture of gambling patterns.

Creating conditions for successful implementation of EGM pre-commitment

There are several conditions that will assist in facilitating a successful implementation:

- Industry consultation processes will be important in capturing knowledge and expertise that can assist in developing a cost-effective and feasible transaction history statement design. Industry consultation is also an opportunity to discuss and minimise concerns or potential resistance to a pre-commitment system. Staff in venues are key gatekeepers in ensuring consumers understand and access pre-commitment systems with ease. Staff will require training in the rollout of a pre-commitment system to ensure smooth implementation.

- Concerns about privacy can potentially undermine the integrity of the entire pre-commitment system, particularly if enforcement of a single card for a single gambler is not well managed. It is essential that data security and integrity is maintained to ensure the confidence of consumers and providers in the transaction history statement and broader pre-commitment system.

- The overall pre-commitment system needs to be promoted in a way that highlights the benefits for all consumers. Well-designed communication strategies implemented both before and during rollout of a pre-commitment system will assist in encouraging consumer uptake.

- Legislation needs to balance the interests of the range of stakeholders who might use pre-commitment system data. Consideration should be given to obtaining consent from gamblers when registering for a pre-commitment system for the provider to collect de-identified information to be used for the purposes of harm minimisation research. There are significant opportunities for research should gamblers consent; however, data collected through a transaction history system is likely to reveal gamblers with problematic expenditure, and this may raise questions about providers' duty of care and the enforcement of responsible gambling codes of practice.

- The full potential value of a pre-commitment transaction history statements system will not be realised unless a number of conditions are met:

  – The pre-commitment system must cover a broad geographic area, for example, state- or nation-wide. If consumers are able to gamble on EGMs outside the pre-commitment system, this spending would not be captured in statements and account summary information, making them less accurate in terms of recording overall EGM spend.

  – Transaction history statements can be provided in both full and partial pre-commitment systems. However, the efficacy of these statements will be compromised within a partial system if gambling occurs outside the system. If EGM users are able to gamble without using their card (or other device) (e.g., through non-registered use of the EGM), then periodic spend data provided to the gambler will again not capture their total expenditure.

  – The accuracy of gambling expenditure data is also compromised in situations where gamblers are able to use multiple cards, or share or swap cards. Preventing card sharing, and enforcing the use of a single registration device for a single user, will assist in ensuring the integrity of the system. Transaction history statement data can become meaningless if gamblers regularly use multiple cards.

- Periodic and "live-action" statements should be accompanied by support and referral information to ensure customers know where to seek assistance if their spending is becoming problematic, particularly given the likely confronting nature of some account summary information.

- It is essential that information and referrals to counselling, financial advice and gambling treatment services are provided alongside the implementation of a pre-commitment system, as pre-commitment may result in an increase in EGM users seeking assistance.

Recommendations and conclusions

A key finding of the review and consultation is that a transaction history statement system must be flexible, simple to use and easy to understand. A staged introduction, involving the rollout of a basic system that is capable of being built upon, is likely to result in a smoother implementation. At a minimum, this would initially include the amount of money spent per day/ session; the date; level of loss limit; and the number of times this limit was reached over the period of the statement. It may additionally include the duration of time spent gambling and the venue at which this took place. This information should be automatically provided periodically (monthly or quarterly), with a greater level of detail available on demand. Further research with EGM users is required to articulate the type and level of detail that they would like to receive and how often they would like to receive these statements. Research is also needed to determine whether the provision of periodic statements triggers faulty cognitions and, if so, how this can be minimised.

A pre-commitment system is part of a range of measures that could be employed to improve the safety of EGMs and provide better consumer protection. While some gamblers may find ways to circumvent measures designed to reduce EGM harm, there is a likely net benefit in introducing transaction history statements; it will lead to improved consumer protection and has the potential to minimise EGM harm if mechanisms are in place to minimise the likelihood of gamblers using several accounts.

A clear finding from consultations and the literature was that early pre-commitment systems and self-exclusion features were based on minimal evidence, with the design being driven by technological capability rather than theory or any clear understanding of gambler behaviour. There were important lessons learned from these early implementations and consultation data show that later designs were strongly influenced by the evidence and experiences of earlier trials and implementations.

This report provides a review of transaction history statements, including best practice design options. It provides a valuable resource that could be used by both state and federal governments to inform their design and implementation choices within pre-commitment systems. Further empirical research would also build on existing knowledge to enable improvements in the effective provision of transaction history statements.

1 Transaction history statements in an effective pre-commitment system

1.1 Review context

Local, state and federal governments and the gambling industry all have an important role to play in protecting the public from gambling-related harms. Achieving an appropriate balance between implementing effective harm minimisation measures and the continued enjoyment of gambling is a significant consideration for all governments (Productivity Commission, 2010).

The Australian Institute of Family Studies (AIFS) was commissioned by the former Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)[1] to research options for the introduction of transaction history statement features within a broader pre-commitment system. The Australian Gambling Research Centre, which is housed at AIFS, undertook this work.

A transaction history statement provides consumers with a summary record of gambling expenditure, loss limits and instances where the limits prevented further EGM use. It may also include information about the location and duration of gambling. Regulators in Australia and around the world have called for the introduction of transaction history statements for EGM users. The Australian Productivity Commission (2010) has likewise recommended that these account summaries be made available to all EGM users. It was the commission's view that transaction history statement provision was one of the most practical and cost-effective pre-commitment features. The recommendation comes as the impetus grows for the introduction of improved effectiveness of pre-commitment systems, and a greater emphasis on strategies to reduce harm and protect consumers.

This report examines evidence from research literature and opinions from regulators, academics, government officials and EGM venue operators relating to the optimum design of transaction history statement features within an EGM pre-commitment system. These data were collected in 2013. The report provides analysis and options relating to the application of a transaction history statement system to EGMs as a consumer protection or harm minimisation measure. The findings are designed to inform policy development, including any potential pre-commitment trials.

1.2 EGM gambling in Australia

More than 70% of the adult population in Australia participate in some form of gambling each year. The most popular forms of gambling are currently lotteries (60%), scratch tickets (30%), EGMs (30%), wagers on horse or dog races (20%), and Keno (15%). The remaining activities have participation rates of less than 10% each, including sports betting, casino games, Internet gambling and bingo (Delfabbro, 2012).

In 2008–09, expenditure on EGMs accounted for $12 billion, or 63% of the $19 billion spent on all gambling in Australia. Wagering accounted for 15%, while the remainder, including lotteries and Keno, accounted for 12%. Taxes on gambling provided $5 billion, or 10%, of the total tax revenue collected by the states and territories. EGMs provided the single largest

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1   Now the Department of Social Services (DSS).

source of gambling revenue for all states and territories (except Western Australia), contributing between 37% in the Northern Territory and 73% in South Australia to total gambling revenue (Productivity Commission, 2010).

The likelihood that gambling may result in harm is low for those who participate in lotto, scratch tickets, bingo or raffles, but increases considerably with frequency of gambling on table games, wagering and, especially, EGMs (Productivity Commission, 2010). Around 600,000, or 4%, of Australian adults use EGMs at least weekly (Productivity Commission, 2010). Around 15% (90,000) of these regular gamblers are considered "problem gamblers", and a further 15% are at moderate risk of becoming problem gamblers. These rates are much higher than the prevalence of problem (1%) and moderate-risk (2%) gamblers among the total population of Australian adults who gamble, as people who use EGMs regularly are more likely to experience gambling problems. Further, problem and moderate-risk gamblers account for around 41% and 19% of EGM spending respectively, totalling 60% or $7.2 billion of all machine gaming expenditure (Productivity Commission, 2010).

Problem gambling is defined in terms of both behaviour and consequences. It is characterised by gamblers having difficulties in limiting the amount of time and/or money spent on gambling, resulting in adverse consequences for them, other people, or the community (Neal, Delfabbro, & O'Neil, 2005). Adverse consequences typically involve financial problems (including mortgage foreclosure, inability to pay bills/rent, or inability to purchase essentials such as food) and relationship breakdown. These harms extend to the family and friends of people who experience problem gambling. Work performance is often affected, resulting in absenteeism and potential job loss. Clinical distress is frequently reported, with attempted suicide or suicide in the worst cases. Consequences of gambling problems can also lead to legal or criminal issues when debts remain unpaid, or when theft or domestic violence result from financial or emotional strain (American Psychiatric Association, 2000; Productivity Commission, 2010).

While the focus of research and intervention has tended to take a medical approach (by focusing on those identified as "problem gamblers"), it is recognised that the broader population of non-problem EGM gamblers can also experience harm. Approximately 75–80% of gambling-related problems are associated with EGMs (Delfabbro, 2012). Around 70% of EGM gamblers report that they sometimes exceed their spending limits, and 12% do so often or always. Moreover, while overspend events tend to be rare among the lowest risk EGM gamblers, who play only occasionally, there are so many lower risk EGM gamblers that the aggregate number of overspends is large, as are the opportunities for harm (Productivity Commission, 2010). Therefore, there is clear evidence that EGM gambling places a considerable burden of risk on individuals and communities. Such levels of risk strongly support a public health approach that targets prevention and harm minimisation policies at EGM gambling, and suggests that policy measures with even modest efficacy in reducing harm will be worthwhile. Successful prevention measures will have positive outcomes for gamblers and communities in the form of reduced harms, as well as for the gambling industry by providing a safer product.

1.3   Role of government

Governments have a role to play in minimising the prevalence and harms of problem gambling and protecting the wider community. At the same time, a key policy challenge for government is to maintain the enjoyment of gambling. Achieving a balance between effective consumer protection and harm minimisation and continued enjoyment of gambling is a significant consideration for government (Productivity Commission, 2010).

From the Productivity Commission's (2010) point of view, research and government policy should be directed towards understanding and influencing the epidemiology of problem gambling, particularly prevalence and incidence. The commission moreover argued for adopting a public health approach to gambling problems that focuses on the harm caused by problem gambling episodes to all gamblers and to the community. This approach emphasises protective factors for those presently not at risk, and harm minimisation factors for those who are at risk. It stands in contrast to the traditional medical approach in which the focus has been on clinical or diagnosed cases of problem gambling. A clinical focus does not address the fact that many gamblers in low- and moderate-risk groups are at risk of harm and experience adverse consequences from

spending more than they can afford. Studies have also shown that only a minority of individuals experiencing gambling problems seek professional help through services such as counselling (Hodgins, Wynne, & Makarchuk, 1999; Slutske, 2006). Consequently, governments are more likely to be effective if they regulate environmental factors, like gaming machine technology or venue behaviour, through, for example, options to set limits and self-exclude from gambling, providing transaction histories, setting slower spin rates, restricting bet size and removing features such as "losses disguised as wins" (Delfabbro, 2012; Dixon, Harrigan, Sandhu, Collins, & Fugelsang, 2010; Livingstone & Woolley, 2008). Effective targeting of such elements can assist gamblers to prevent and reduce harm, and have minimal impact on consumer enjoyment.

1.4 Rationale for transaction history information

Accurate record of spending

There is evidence that gamblers, and problem gamblers in particular, often underestimate their EGM expenditure (Nower & Blaszczynski, 2010; Productivity Commission, 2010). It is important, therefore, to provide people with an accurate record of spending. The primary reason for providing gamblers with transaction history statements is to increase awareness of how much money they are spending. The Productivity Commission's view of using transaction history statements as a harm reduction tool follows from the 2003–04 Australian Household Expenditure Survey, in which people greatly underestimated how much they had spent on EGMs. The Australian Bureau of Statistics asked people to estimate their gaming machine losses, and when this was compared with tax and industry data, the losses reported by respondents only added to around 3% of the real total (cited in Productivity Commission, 2010). This may be because people are reluctant to report potentially stigmatising information (i.e., financial losses), and because winning is often a much more memorable event than losing (Blaszczynski, Ladouceur, Goulet, & Savard, 2008; Delfabbro, Osborn, Nevile, Skelt, & McMillen, 2007). Another potential reason for this is that the price of EGM gambling is not well communicated or understood by consumers (Woolley, Livingstone, Harrigan, & Rintoul, 2013). The fact that receipts are not issued exacerbates the tendency for gamblers to underestimate their spending (Productivity Commission, 2010).

Having access to accurate data enables gamblers to keep track of their expenditure and facilitates consideration and reflection on their level of spending. Increased awareness of spending may also indirectly lead people to more carefully consider the affordability of their gambling within their broader household budget. Research by McDonnell Phillips Pty Ltd (2006), for example, found that around half (51%) of regular Australian gamblers admitted to not always calculating the affordability of their gambling and that at least one-in-five regular gamblers (21%) "never" considered the affordability of their gambling. The authors further found that calculating the affordability of gambling was frequently associated with setting a maximum gambling spend limit, and gamblers who calculated affordability were generally less likely to go over their gambling spend limit. Having a clear understanding about how much is being spent, therefore, may lead to gamblers making more conscious decisions about their gambling spending, including using limit-setting features where these are also available to ensure they do not spend more than is affordable.

Transaction history information can challenge erroneous beliefs

Gamblers commonly hold irrational cognitions or erroneous beliefs about gambling. These beliefs can lead to spending extended lengths of time gambling and incurring excessive expenditure. The availability heuristic falls within this rubric. Heuristics are cognitive short cuts that people use to quickly and easily make choices to cope with the many decisions that must be made in real life (Westen, Burton, & Kowalski, 2006). They work well most of the time but can lead to irrational judgements or negative outcomes at times. The availability heuristic refers to the tendency for people to infer frequency based on how readily something comes to mind.

In effect, people think that events that quickly come to mind are more frequent than those that do not come to mind as readily (Westen et al., 2006).

In terms of gambling, the effects of the availability heuristic are two-fold. Firstly, there is an inherent *memory bias*, such that wins tend to be more easily recalled than losses (Blaszczynski et al., 2008; Delfabbro et al., 2007). People thus focus more closely on their wins than their losses, which leads them to think that they win on a more frequent basis than they do in reality. This is particularly likely to happen with EGM gambling, where individual bets occur very frequently, and lively sounds and lights accompany wins. In contrast, individual losses pass without event and so are not very memorable. These beliefs are compounded by the structural characteristics of EGMs that can mislead gamblers into thinking they have won, when in reality, overall, they have lost. After a typical loss the machine will go into a period of relative quiet; however, when a "loss disguised as a win", or "false win" occurs (i.e., when the amount "won" is less than the wager), the accompanying sights and sounds generated by the machine are similar to those played during an actual win (i.e., when the amount won is greater than the wager) (Dixon et al., 2010).

The second type of availability heuristic relates to the *availability of others' wins*. When playing EGMs, for example, the music that accompanies wins is clearly heard throughout a gaming room while losses among the group go unheard. This again fosters the belief that winning is a common event and reinforces their own belief that a win will happen if they continue playing (Fortune & Goodie, 2012). Again, these beliefs are encouraged by the characteristics of certain features of EGMs, such as losses disguised as wins (Dixon et al., 2010).

Another misconception is the "gamblers fallacy", which is an erroneous belief that a win is due because it has not occurred for some time (Delfabbro & Winefield, 1999). Each loss, therefore, is seen as increasing the probability of a win in the near future. This belief can lead to chasing behaviour in an attempt to recoup money spent, with losses leading to an increase, rather than decrease, in gambling (Parke & Griffiths, 2005; Toneatto, Blitz-Miller, Calderwood, Dragonetti, & Tsanos, 1997; Walker, 1992).

Another erroneous belief that can lead to continued gambling relates to attribution biases. Gamblers will attribute wins to internal factors, such as effort or skill, while attributing unsuccessful outcomes to external factors, such as bad luck (Langer & Roth, 1975; Toneatto et al., 1997; Walker, 1992).

Each of these cognitive misconceptions about gambling can lead to extended gambling sessions and higher spends because people think that they are winning far more than they often are in reality. Further, research has shown that higher risk or problem gamblers hold these beliefs to a greater extent than non-problem gamblers (Joukhador, Blaszczynski, & Maccallum, 2003). Having access to accurate information about wins and losses, in the form of transaction history statements, may assist in countering these cognitive misconceptions by challenging distorted views of spending and demonstrating that the gambler is losing more than they are winning over the long term.

Pre-commitment systems and EGM transaction history statements

Transaction history summaries of expenditure can function as both a consumer protection tool that accurately details the amount and location of EGM expenditure and a reflexive learning tool that supports harm minimisation by providing an objective account of gambling behaviour that can counter erroneous beliefs about wins and losses. From a harm minimisation perspective, the goal of a transaction history statement is to provide insight into decisions about appropriate EGM spending limits, ultimately supporting the prevention of gambling problems. This should ultimately lead to a decrease in harms associated with gambling. In turn, this is anticipated to result in a reduction in the use of health, community and legal services (Productivity Commission, 2010).

Transaction history information can be provided as a periodic statement, detailing total wins and losses. Another format of the statement includes live summaries, pop-up dialogue boxes and alerts, which are displayed within a gambling session to inform gamblers how long they

have been gambling and how much they have won or lost at any point in time. Providing an account of expenditure through the provision of account summary and transaction history statements would bring the practices of the EGM gambling sector in line with other businesses that, by law, must provide a record of expenditure or receipts to customers.

A transaction history statement is a less interactive feature of the pre-commitment system. It provides a transaction account summary but does not on its own require any decisions to be made around limits. However, the provision of this feature may act as a gateway to other more interactive pre-commitment tools, such as loss limits and self-exclusion, thereby enhancing the effectiveness of the entire system. Used as a reflective learning tool, the transaction history statement may prompt EGM users to activate limit-setting and self-exclusion features, particularly if gamblers' perceptions of expenditure and actual expenditure differ.

There is considerable consumer demand for a transaction history statement system; a study of Victorian EGM users found 68% of 418 surveyed were interested in receiving a statement of their total cumulative losses for a gaming session (Rodda & Cowie, 2005). Furthermore, 54% were also interested in knowing how long they had been gambling. Likewise, 150 problem gamblers and their families rated the importance of having a transaction history statement that shows cumulative wins and losses as a 4 out of 5 (New Focus Research, 2005), where a rating of 5 represented "important".

Pre-commitment models available

There are a number of different pre-commitment models. The most significant variable that differentiates models is whether the system is *full* or *partial*. A full system is the compulsory use of gambler registration, while a partial system gives the gambler the choice to either gamble within a registration system or gamble outside one. Within this, the system can be *mandatory* or *voluntary*. Mandatory systems require all gamblers to set limits (e.g., on how much money or time is spent gambling), while voluntary systems allow gamblers to choose whether they will set limits or not. These design options for limit setting are summarised in Table 1.1.

Table 1.1: Pre-commitment design options		
	Customers must register (full)	**Customers do not have to register (partial)**
Limit setting required (mandatory)	Full, mandatory	Partial, mandatory
Limit setting not required (voluntary)	Full, voluntary	Partial, voluntary

> For the purposes of this report we refer to a full system as requiring all gamblers to use some form of registration every time they gamble, while a mandatory system is the compulsory use of responsible gambling features, including limit setting.

A system where all gamblers are required to register to gamble (e.g., using a card or logging on with an ID) and are required to set a limit would be a full and mandatory system. A system where gamblers do not need to register to gamble and are not required to set a limit is a partial and voluntary system. If an individual sets their monetary and/or time limits to zero, they would effectively be self-excluding.

The main system design decision is two-fold: between a full and partial system and between mandatory and voluntary approaches. The system can then be further defined by its implementation characteristics, an important one in this context being whether limits set are *exceedable* or *non-exceedable*, or *opt-in* or *opt-out* (i.e., whether a gambler is presented with pre-commitment options they can opt in to, or presented with options they can opt out from).

1.5   Project objectives and research questions

Objectives

The objective of this project was to gather information from a number of sources relating to transaction history statement features that can be used to inform policy development. The analysis (based on data gathered in 2013) was based on:

■ a literature review of relevant social policy and public health research, including grey literature;

■ information gathered at state government and key stakeholder level regarding existing pre-commitment options in Australia related to transaction history statements; and

■ stakeholder consultations with relevant Australian state and territory government officials, venue operators and researchers in the Australian Capital Territory (ACT), Queensland, South Australia and Victoria, and internationally in New Zealand, Norway, Canada and Sweden.

The stakeholder consultations discussed the design of transaction history statement features as part of a broader pre-commitment system, rationales and theories that support development, and, where the information was available, how well these features were working in existing systems and whether amendments/enhancements were being considered

Priority research questions

This report addresses six priority research questions relating to the design of transaction history statement features:

■ What is the program logic for why transaction history statements would be effective? What effects would you expect to see and for whom?

■ What is the best way to design transaction history statement features as part of an effective and efficient pre-commitment system that will maximise harm minimisation outcomes?

■ What information should be included in the statement to make it most effective for gamblers?

■ How should this information be presented to gamblers to encourage their understanding of their gambling expenditure?

■ How could gamblers access statements? Should statements be automatically provided? If so, how often?

■ What is the current state of play across jurisdictions and overseas?

1.6   Summary of methodology

Literature review

A rapid evidence assessment (REA) was performed to provide an overview of existing research that addresses the design of transaction history features. An REA rather than a systematic review was conducted in response to the time frame specified in the project brief. REAs aim to be rigorous and explicit in method and remain systematic, but make concessions on the breadth of the process by limiting particular aspects of the systematic review process (Government Social Research Service, 2009). The search process used by the research team is outlined in Figure 1.1 (on page 7).

Stakeholder consultations

Consultations were conducted with relevant Australian state government officials and researchers ($n = 8$, Queensland, South Australia and Victoria), selected government officials internationally ($n = 5$, Canada, Norway and Sweden), and with selected venue operators ($n = 8$, Australian Capital Territory, Victoria, New Zealand and Norway) regarding options for existing/planned pre-commitment features.

The consultations were conducted to determine how pre-commitment features had been designed and, where the information was available, how well those features were working and whether amendments or enhancements were being considered.

In total, information received from 13 consultations involving 21 professionals (who, in consultation with the former FaHCSIA, were identified as having expertise in the area) was incorporated into this report.

Further details on the methodology used can be found in Appendix A.

Stage 1	
Identify sources/legislation to be searched Identify and pilot search terms	Identified electronic databases that had facilities to search academic, legislative and/or grey literature. Identified specialist websites to search. Defined combinations of search terms specific to each priority research question.
Stage 2	
Conduct initial search and create initial database of references	Entered search terms systematically into the databases. Created Endnote database of all "hits".
Stage 3	
Remove duplicates, apply inclusion/exclusion criteria by reading title and abstract	Removed duplicate hits. Applied the inclusion/exclusion criteria by reading title and abstract.
Stage 4	
Group hits by research question, and revise and apply inclusion/exclusion criteria	Refined and applied inclusion/exclusion criteria specific to each research question, based on developing understanding of scope of literature and to ensure manageable number of hits.
Stage 5	
Read and extract data and/or relevant legislative provisions	Extracted information and applicable legislative items relevant to research questions from each source using a data extraction template.
Stage 6	
Manual search and follow-up of references	Supplemented the systematic search by manually searching contents and bibliographies of key sources.
Stage 7	
Quality assessment	Different strengths and weaknesses of each study were described and tabled. Studies and literature of greatest strength and relevance were identified.

Figure 1.1:   Overview of rapid evidence assessment method

1.7   Structure of the report

This report will provide an analysis of the literature and findings from the consultations, and discuss options for the optimal design elements of transaction history statements within an EGM pre-commitment system. Chapter 2 provides an overview of existing legislation in Australian jurisdictions and overseas where account summaries are available. Chapter 3 discusses the key aspects and content of transaction history statement design, data ownership and privacy issues, and more advanced self-tracking systems that could support greater consumer awareness of EGM expenditure. Chapter 4 summarises the optimal design aspects required for a pre-commitment system that reduces harm and improves consumer protection, and identifies areas for future testing in a trial.

2 A snapshot of transaction history measures

2.1 Transaction history statement systems in Australia

Commonwealth statutory framework

In addition to legislation in each state and territory, the Australian Government has established national gambling legislation. The *National Gambling Reform Act 2012* sets out a package of harm reduction measures to address problem gambling. The Act sets minimum standards around these measures that apply in each state and territory in relation to EGMs and forms part of a broader commitment by the government to assist problem gamblers. The Act operates concurrently with state and territory legislation and is not intended to limit the ability of a state or territory to impose stricter measures. At the time of writing this report, the Commonwealth legislation was not yet operational and so has not been addressed in further detail as part of this report.

State and territory frameworks

While the 2012 Commonwealth gambling legislation has the effect of providing an overarching framework to align the state and territory pre-commitment schemes from 2018, some states and territories already have legislation setting out specific requirements with respect to the provision of transaction history statements to loyalty scheme or other relevant club members.

In Victoria, the *Gambling Regulation Act 2003* establishes a requirement that, at least every 12 months, venue loyalty scheme providers give each participant in the scheme a gambler activity statement. This statement must be provided by post, email, fax or other means of electronic communication, or must be available for collection at the venue by the gambler. In terms of pre-commitment, the Victorian *Gambling Regulation Amendment (Licensing) Act 2009* and the Gambling Regulation (Pre-Commitment) Regulations 2012 both stipulate that from December 2010, EGMs must be capable of supporting a pre-commitment system. Then, in late October 2013, the Victorian Government introduced the Gambling Regulation Amendment (Pre-commitment) Bill 2013 to amend the *Gambling Regulation Act 2003* to enable provision for a pre-commitment system to commence from 1 December 2015. Under this system, it will be compulsory for all EGMs in all venues in Victoria to be connected to a state-wide pre-commitment system. Gamblers will then be able to choose if they wish to use the pre-commitment system or not. A trial of a card-based pre-commitment system that could be used across multiple venues was underway in eastern Australian states at the time of writing, but no information on the trial outcomes was available.

In NSW, the Gaming Machines Regulation 2010 requires that venues make gambler activity statements available to loyalty scheme members, but venues are not obligated to provide them except on request. In the ACT, the Gaming Machine Regulation 2004 only obligates venues to provide monthly transaction history statements to gamblers who hold accounts.

Venues have adopted Responsible Gambling Codes of Conduct (or similar) that are approved by state and territory governments. These provide guidance for venues around a range of

responsible gambling practices. However, only the Responsible Gambling Mandatory Code of Practice in Tasmania and the Queensland Government's Minimum Technical Requirements for Card-Based Gaming establish a clear policy requirement that venues offer a mechanism for gamblers to access a transaction history statement.

In accordance with the Tasmanian Code, where activity is recorded, gambler activity statements must be provided to loyalty scheme members at least once a year and must show points accruals separately for gambling and non-gambling activities (where applicable). For any gambling activity, the statement must show the dollar amount of any expenditure during the period.

In Queensland, account balances and account statements must be provided to registered gamblers on request. Statements must include sufficient information to allow the gambler to compare the statement against their own records of deposits and withdrawals since the last issued statement. Account statements must also include details of the total amount of money expended on gambling; showing, at a minimum, account balances, wins, turnover and spend (calculated as turnover less wins).

Legislation has also been passed by the Parliament in South Australia that from 1 July 2014 introduces a number of changes concerning problem gambling, including requirements that venues provide transaction history statements. The detail of this scheme is to be set out in regulations, which had yet to be made at the time of writing.

In a number of venues, the provision of transaction history statements is linked to a pre-commitment scheme. For example, the Crown Group, which operates casinos in Western Australia and Victoria, offers a gambler activity statement at least every 12 months to members of the Play Safe Limits program or venue loyalty scheme. In Western Australia, the statement is available on request, but in Victoria venues are obligated (by stricter legislative requirements) to provide the statement to members. Gambler activity statements provide information on each member's EGM activity, including all wins and losses for the period of the statement.

Similarly, Echo Entertainment, which operates the casinos in NSW and Queensland, offers the Absolute Assist program as part of operator's loyalty scheme program, which allows members to open a card-based gambling account and to set daily spend limits. Gamblers are reminded of their spending limit and the percentage used that day when they insert their loyalty card into an EGM (by way of a balance displayed on the scrolling screen). Members can also check their loyalty scheme account balance online.

The casino in South Australia offers a pre-commitment program that allows gamblers to set individual limits in relation to the amount of money that they wish to spend, the amount of time that they wish to spend at the venue and/or the amount of visits they wish to make per week. Account summaries are available through the use of this program. Pre-commitment schemes are also available in a number of non-casino venues in South Australia. For example, the PlaySmart scheme is available in over 70 EGM venues. This scheme allows reward club members to set time and spend limits. Gamblers can access a transaction history statement on request, showing the dates and venues of gambling sessions, how long each session of play was, expenditure, and win totals and details of any limit breaches.

2.2 Transaction history statement systems in Nova Scotia, Norway, Sweden and New Zealand

Nova Scotia, Canada

The Nova Scotia Provincial Lotteries and Casino Corporation (NSPLCC) is responsible for managing gambling in Nova Scotia in accordance with the provincial *Gaming Control Act SNS, 1994–95, C4.* The NSPLCC has introduced the My-Play System, which is a full, voluntary pre-commitment system that allows gamblers to access their EGM play history and set time and spend limits. A gambler is required to register for My-Play in order to play EGMs in the province, but can choose not to set any limits and may continue to play after they have exceeded any limits by inserting a different My-Play card into the EGM.

My-Play allows two levels of gambler registration: light enrolment, which doesn't require identification, and full enrolment, which requires gamblers to show government-issued identification to register (but this information is not retained on the account). The other key difference is that full enrolment is account-based and enables a gambler's transaction/account history to be transferred to another card, whereas light enrolment is card-based only and gamblers require the card to access any play history.

Gamblers can register for My-Play using an automated terminal at the gambling venue or by approaching specified venue staff. Gamblers who register with My-Play are issued with an anonymous account identification number, a membership card and a PIN. The card allows gamblers to access a range of features by inserting it into the EGM, including setting time and spending limits and monitoring their play against those limits. Once a limit is set, it may be decreased, but it cannot be increased or removed for the period to which it relates (that is, for the day, week, month or year).

Gamblers can use their My-Play card to access a record of play for a current session: how long the session of play has been to that point, how much money has been put in the machine, how much has been cashed out and gambler's current balance of money in the machine. Gamblers can also use their My-Play cards in the EGM to access a longer term transaction history (for a week, month or year).

Norway

In Norway, EGMs are subject to strict harm minimisation measures and all legal gambling operations are wholly owned by the state. There is a mandatory pre-commitment system in place in relation to all EGMs. EGMs are cashless and require a card to operate. Prior to playing, gamblers must either accept a prescribed maximum daily or monthly loss limit, or may elect to set lower loss limits. The cards are widely issued and are linked to identifying information; only one card is issued per gambler and all winnings are paid into a bank account linked to the card (which is also used to access an individual's taxation records).

Gamblers may use their card to access a transaction history at the EGM or via the operator's website. The transaction history shows a full record of past play.

Sweden

The Swedish Gambling Authority has overall responsibility for licensing, regulating and monitoring gambling in Sweden. Svenska Spel, the largest gambling company in Sweden, is state-owned and runs a variety of gambling activities, including sports betting, online and EGM gambling, bingo and lotteries. Corporate responsibility to provide safe gambling is of major importance such that the company has a stated aim to prioritise social responsibility over maximising profits. Svenska Spel controls approximately 50% of the legal gambling market in Sweden and has over 6,000 EGMs in stores, restaurants, pubs and bingo halls, as well as four casinos across the country. EGMs in Sweden have legislated maximum limits on bets of Kr5 (approximately A\$0.85) and win payouts of 100 times the bet. PlayScan, the Svenska Spel voluntary responsible gambling tool, has been used for some years in the company's online gambling business and has recently been trialled in Vegas video lottery terminals (as EGMs are called in Sweden). The PlayScan system provides gamblers with access to a variety of pre-commitment features that are designed to monitor spending and identify problematic patterns of gambling (for a review, see Griffiths, Wood, & Parke, 2009). The PlayScan system was trialled in EGMs in August–September 2013 but there was no information available at the time of writing regarding trial outcomes (stakeholder consultations; Griffiths et al., 2009).[2]

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2   See also the websites of the Swedish Gambling Authority at <www.lotteriinspektionen.se/en/> and of Svenska Spel at <svenskaspel.se>.

New Zealand

The Department of Internal Affairs regulates gambling in New Zealand and administers the *Gambling Act 2003* and the Gambling (Harm Prevention and Minimisation) Regulations 2004, which set out a series of measures that, although not specifically requiring venues to provide transaction history statements, support gamblers to monitor their EGM losses. That is, the regulations require that EGMs allow gamblers to elect to have messages displayed on the machine during play relating to the duration of the session of play, the amount (expressed in dollars and cents) that the gambler has spent during the session of play, and the gambler's net wins and losses during that session of play.

Regardless of whether a gambler elects to have messages displayed on the machine, EGMs in New Zealand are required by law to support a "break in play" feature. In accordance with this requirement, EGMs will interrupt play at irregular intervals, timed so that a gambler cannot engage in more than 30 minutes of continuous play, and ask the gambler if they wish to continue with their session of play. At each break in play the EGM is required to display a message on screen showing the duration of the session of play, the amount (expressed in dollars and cents) that the gambler has spent during the session of play, and the gambler's net wins and losses during that session of play.

At the venue level, the casino operator provides transaction history statements as part of the venue loyalty scheme. Gamblers can use their loyalty card to access a printout of their recent transaction history (last week or month) and can complete a paper request form at the venue for a transaction history that covers a longer time period. A facial recognition system to identify banned problem gamblers is currently being trialled at SkyCity Casino in Auckland, with no data available at the time of writing on its effectiveness (stakeholder consultations; Auckland University of Technology, 2013).

3 Transaction history statement design

This chapter provides an overview of the key aspects of transaction history statement design, including both periodic and real time information. It outlines suggested content of this system, including formats and accessibility options, and provides an overview of more advanced data visualisation and self-tracking systems that could support greater consumer awareness of EGM expenditure.

3.1 Effectiveness of transaction history information

Summary account statements provided as part of a pre-commitment or cashless gambling system have been relatively popular and widely used by gamblers in some settings. However, where transaction history statements have been provided, their use appears to be dependent upon the quality and utility of the system architecture. International studies have shown particularly high levels of interest in account summary information. In a Global Online Gambler Survey of 10,865 people across 96 countries, the most popular responsible gambling feature was receiving regular financial statements, with 75% of respondents considering this to be at least quite useful. In comparison, only 51% considered limit setting, which was the least popular responsible gambling mechanism, to be at least quite useful (Griffiths et al., 2009). However, the study did not examine whether or not statement information affected spending, or whether usefulness ratings differed across gambler type.

A Canadian study found that 88% of surveyed EGM users would have liked to receive a summary of their gambling expenditure (Centre for the Advancement of Best Practices, 2009). Transaction history statements were also found to be the most popular feature of EGM pre-commitment systems trials in Nova Scotia: 68% of panel respondents used the "My Account" feature, which summarises expenditure over various periods of time, and 59% used the "Live Action" feature, a real time account of expenditure available during a gambling session (Focal Research, 2007).

Further, an evaluation following the commencement of the province-wide rollout of pre-commitment in Nova Scotia showed that a larger proportion of problem gamblers were in favour of the ability to track spending over time (49% in favour; 12% neutral) compared with the total overall (39% in favour; 16% neutral) (Focal Research, 2010). This suggests that problem gamblers in particular may value the provision of accurate spend data. Similarly, in the Nova Scotia trials, there was a preferential gradient across gambling categories in relation to the anticipated usefulness of this feature, with problem gamblers showing greater interest in this feature (4 on a scale of 1–5, where higher scores indicated greater usefulness) compared to non-problem gamblers (who scored an average of 1.8) (Focal Research, 2010).

Provision of account summary information has been cited as a key incentive for encouraging enrolment in voluntary pre-commitment systems in Australia. For example, in a NSW cashless EGM system, 67% of respondents reported they would find a gambler activity statement useful (Nisbet, 2005). However, in contrast to the reported interest in and use of transaction history statements and "Live Action" in Nova Scotia, transaction history statement systems developed in Australia are generally reported to be underused, with poor quality design apparently a limiting factor. For example, the Change Tracker card trial in South Australia aimed to investigate whether

use of a card to track expenditure could be useful in counselling sessions. However, the system required manual logging of expenditure. While a key motivation for participating in this trial was the capacity for EGM users to track money spend on gambling, poorly designed (i.e., manual) systems evidently have limited utility (Responsible Gambling Working Party, 2010). Of the 48 clients who were invited to join this trial, only 14 opted to use this card, and very few (5) used the card as intended (Responsible Gambling Working Party, 2012a).

The complexity of a system can also reduce enthusiasm and use. In a trial of the SIMPLAY system in Redcliffe, NSW, most participants reportedly could not understand their expenditure statements. This is likely to have occurred because these statements were provided in an inconvenient and difficult to interpret format on "three separate fragmented pieces of thermal roll" (Schottler Consulting, 2009, p. 7). This finding was verified in consultations where governments, researchers and industry representatives highlighted the need for the information to be simply presented and easily understood. Some stated that presenting information on a single page in a form that is easily understood by the gambler would increase the utility of this feature. However, as the *National Gambling Reform Act 2012* specifies, the statement should be capable of being provided in an electronic format.

If communications regarding the potential benefits of this system are weak it may also result in low use of this feature. A study of the J-Card PlaySmart system in South Australia (Schottler Consulting, 2010), for example, found lower interest in the transaction statement feature compared to the ability to set EGM expenditure limits. This system provides both printed and online statements, yet half (51%) of the respondents did not think the ability to obtain gambler activity statements would be useful. No gamblers in this trial actually accessed an activity statement, and only 14% of users were aware this feature was available. The limited promotion of and education about this feature to EGM users may explain the relatively high proportion of respondents who rated this as "not at all useful".

In Norway and Sweden, a variety of forms of gambling activities are recorded on transaction history statements. There is merit in considering this, as synchronising account summary information across multiple forms of available gambling in a single statement would provide an accurate statement of full gambling spending. The authors were unable to find any available information evaluating the usefulness or effectiveness of this type of synchronised transaction history statement.

There is clear interest in transaction history information. However, the success of any pre-commitment system is likely to be dependent on the ease with which the technology operates, as well as the presentation, promotion, and management of its component features. The design of a transaction history statement feature within this system should aim to maximise both acceptance and uptake of this consumer protection tool. When designing an effective transaction statement system, consideration should therefore be given to the technological aspects (i.e., content, format and presentation) as well as the management and implementation of the system (i.e., promotion of the feature and recruitment of EGM users) to increase the likelihood that the tool will contribute to the harm reduction objectives of the broader pre-commitment system. These different aspects are displayed in the program logic diagram shown in Figure 3.1 (on page 15), and are discussed in detail in the following sections.

3.2   Types of transaction history statement information

The type of information provided, when and where it is presented, and the level of detail it contains will depend on the format of the transaction statement; that is, whether it is provided in a relatively "historical" format as a periodic statement or whether it is presented during a gambling session as a real time or live action summary of expenditure. Below we discuss in detail what, when, and where information can be provided for both periodic and real time or live action summaries to be effective in reducing harm and improving consumer protection.

Objective: To reduce harm and improve EGM consumer protection by providing accurate account summary data to users

Process factors

Resources	What is offered	How it works
Technology	Account summary information (statement of expenditure, wins, time spent gambling, limits, limit breaches)	Provides accurate personal account summary data over various time frames
Evidence	Accessibility to information both outside and inside venue	Outside venue: enables considered decision-making; in venue: facilitates immediate response
Funding		
Policy	Provision of account summaries: automatic (push messaging); periodic; on demand (online, phone)	User is made aware of EGM expenditure
Legislation		
Overarching system design	Comparative spend data (personal limits; relative community spending; spending of problem gamblers)	Provides comparative spending information to inform better decision making

Expected outcomes

Short-term	Medium-term	Longer term
Statements provide accurate information about how much money and time is spent on EGMs. Increased awareness of, and reflection on, spending. Challenges erroneous beliefs about EGM use (expenditure and time)	Consider setting loss and time limits. Increased awareness of, and reflection on, EGM use. Reflective learning about spending patterns and behaviour. Use statements and summaries to monitor spending and adjust relative to budget and loss limits	Reduction in harmful spending. Increased control of EGM spending, improved finances. Decrease in co-morbid conditions. Improved health and wellbeing, including physiological, mental, relationships. Decreased use of health, community and legal services
Increased awareness of how personal spending compares to community. Challenges erroneous beliefs about EGM use (compared to others)	Use comparative information to adjust EGM use (time and money spent gambling) if needed	Gambling behaviour aligns with appropriate community levels

Stakeholders

- Federal, state and local government
- Gamblers and families
- Community sector groups
- Industry: clubs, hotels, casinos, manufacturers
- Prevention and treatment professionals
- Researchers and academics
- General public

Risks and unintended consequences

- Consumer privacy concerns.
- Data security breaches.
- Card/PIN swapping will undermine accuracy of data in transaction history statements and allows EGM users to circumvent harm-minimisation features such as loss limits.
- Irrational cognitions about wins following losses. Chasing behaviours may be triggered when gamblers see their account summary information.
- User annoyance if information is provided too often, leading to disengagement or lack of support for the system. Low awareness of spending (if accessed infrequently or if information is ignored).
- Using loyalty cards as the vehicle to offer pre-commitment sends mixed messages to consumers about the safety of gambling/gambling environment.

Mitigation strategies

- Ensure transmissions of transaction statements (electronic and hard copy) are marked "confidential". Ensure server data security.
- Restrict access to data only to registered individuals. Provide opt-in mechanism for user data to be used in harm minimisation research.
- Enforce regulation of one card for one user. Payment of jackpots/wins directly into the registered account of the EGM user, if using cashless gaming.
- Research to determine the extent to which chasing losses or erroneous beliefs occurs as a result of providing account summary data. Provide messages to encourage more realistic beliefs about winning and the dangers of chasing losses.
- Research to determine the appropriate frequency of account summary and reminders about loss limits to ensure they are informative and avoid potential user annoyance. Develop systems that are sensitive to the behaviours of individual users; that is, frequent gamblers are sent statements more regularly than infrequent gamblers. Ensure user account summary information is easily accessible. Provide "push"/alert messages to users.
- Separate loyalty programs from pre-commitment systems if possible. If considering combining the two, conduct research to measure the effects on consumers of combining these systems (attitudes and behaviours).
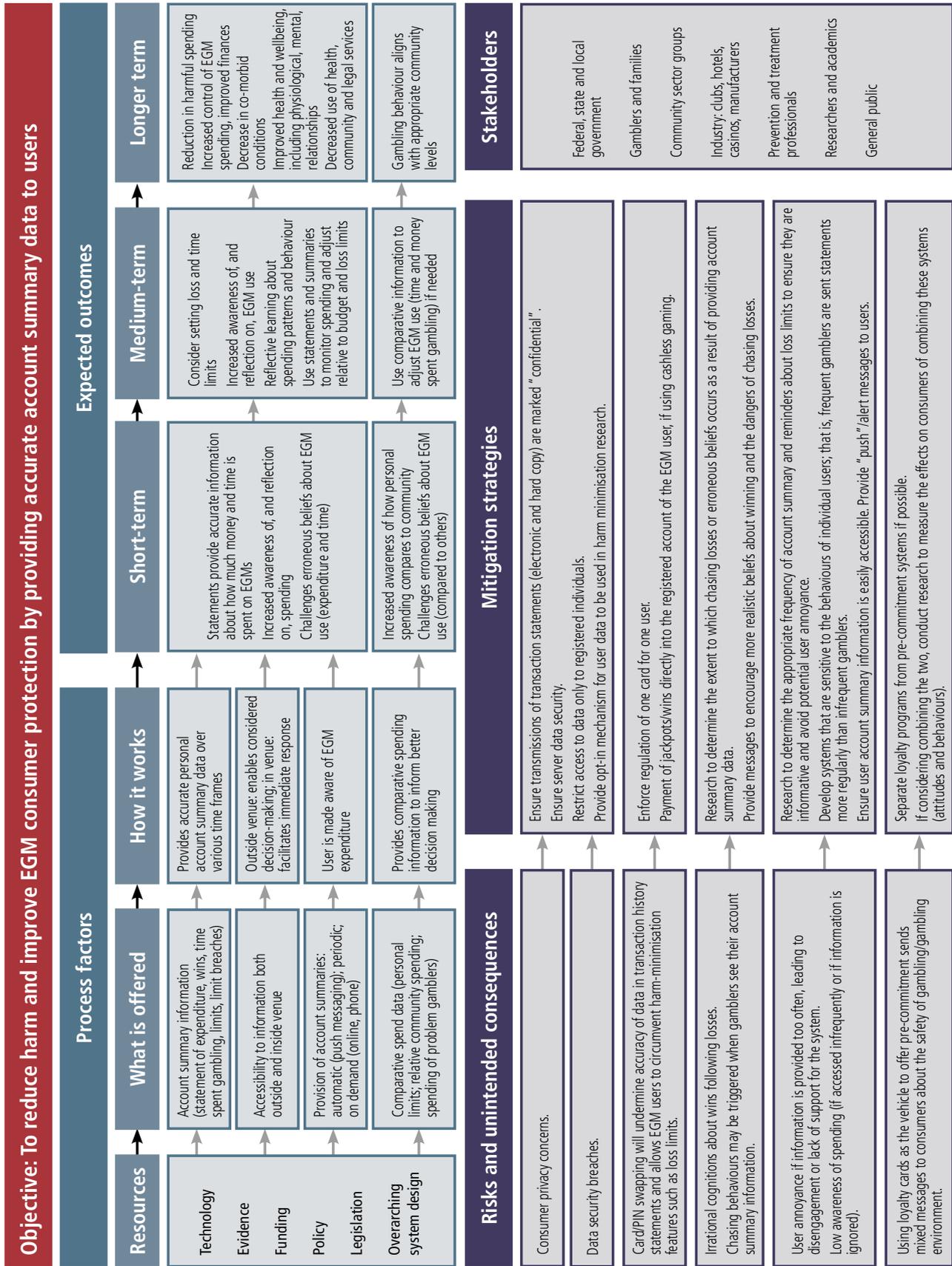
Figure 3.1: Program logic model for transaction history statements

Key messages

- While EGMs are capable of recording a vast amount of information, it is important that summary expenditure information presented to consumers is initially simple, easily interpreted and accessible in a variety of formats.

- The key question for EGM users is: "How much money have I spent?". This information should be summarised across a variety of intervals. It should also be pushed periodically to users and available in real time.

- Statements need to be accessible inside and outside venues, as this information may function in different ways in different spaces. Transaction history statements may be particularly informative for setting EGM loss limits if the information is accurate and provided outside of an EGM venue.

- Transaction history statements should be accessible in a variety of ways (phone, online, smartphone application, email, post, in venues, and on EGMs, including through pop-up messaging).

- A basic system should be capable of generating more sophisticated applications at a later stage that compares user information to enhance the potential for behaviour change.

- Further research is needed to determine the level of detail consumers find most useful for behaviour change and harm minimisation purposes.

Periodic transaction history statements

What information to provide

One of the most important considerations when designing transaction history statements is the type and level of information that needs to be provided to gamblers. The technological capabilities of EGMs and pre-commitment technology means machines are capable of generating and transmitting large volumes of data, including money loaded into the machine, credits staked, amounts won and lost, lines wagered,[3] time on device, spin rate, machine type, machine price (or return-to-player),[4] game volatility,[5] venue and location and so on.

Given the continuous nature of EGM gambling, and the resulting large amounts of data generated from each session, it is important to determine what level of detail a transaction history statement should contain that is useful to EGM users, while not overwhelming them with unwanted information. A typical EGM gambler in NSW makes 832 consecutive purchasing decisions in a gambling session (Productivity Commission, 2010). A detailed record of each of these individual transactions would, over time, overwhelm the typical gambler, particularly those who gamble frequently. It would also be irrelevant for many EGM users, who are not interested in the results of hundreds of separate purchases, but rather how much they have spent over the course of a day, week, month or year. This was highlighted in consultations— essentially, what every consumer should know from a basic consumer protection and harm minimisation perspective is "How much have I spent?".

There was some discussion in consultations about how to treat winnings in transaction history statements. It was suggested this information could be presented in a similar way to a bank statement. A day/session summary of expenditure could appear on the statement, with a negative value for losses and a positive value if the individual has won money, thereby indicating if the user is "up" or "down" in any particular session.

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3   "Lines wagered" refers to the number of lines selected and which bets are placed on a multi-line reel EGM.

4   "Return-to-player" (RTP) is the regulated minimum payback percentage of EGMs, also known as the "price". In Australia, the minimum RTP is 85% over the life of the machine. This can also be described as a maximum price of 15% (Woolley et al., 2013).

5   Volatility refers to the variance in the distribution of outcomes over a number of games. Some games have a wider variance in performance (standard deviation) than others. Volatility is therefore the relationship of prize values and the frequencies (or infrequencies) of their occurrence (Woolley et al., 2013).

Based on a review of information from other jurisdictions, this summary information can produce a complex and overly long document. For those who gamble frequently, periodic transaction history statements can be quite lengthy and confusing documents as they can detail:

■ date of use;

■ venue;

■ duration of EGM use over day/session (24-hour period, e.g., 8:00–7:59 am);

■ daily balance; and

■ net expenditure.[6]

Figure 3.2 displays an example of an existing transaction statement system, the "My Account" summary available in Nova Scotia, Canada. This information is displayed on the EGM terminal.

Notes: "The My Account feature tracked overall game outcomes for three key pieces of information: 1) The total amount of money put into the machine by the player, "out-of-pocket" or "reinvestment" of cashed-out winnings, (My cash in); 2) The total amount of money cashed out of the machines during play (My cash out); and, 3) The total accumulated amount the player either won (+) or lost (–) (i.e., cash in minus cash out) over a specified period (Up/Down), not including any winnings that the player did not cash out of the machine. The player could select either a daily, weekly, monthly, or a yearly summary period. My Account was a voluntary feature that was activated by touching the screen. An additional screen touch was required to bring up the values for the time period selected and a final screen touch closed the feature once a player had finished viewing the information." (Focal Research, 2007, p. 9)

Source: Focal Research (2007)

Figure 3.2: My Account monitoring (information feature), Nova Scotia

There is still a lack of clarity regarding the level of detail and type of information that is most effective for behaviour change. There was, however, a consensus both among consultation participants and in the published literature that this information should be presented simply and clearly. The most contentious area concerned the level of detail to be provided about spending across time. This is discussed in detail in the next section. Information that can be included is discussed in the following section.

Expenditure summary time frames

Periodic account summary statements could summarise total day/session expenditure over a month, quarter and year. A focus should be on reporting on expenditure over time frames that

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6   Net expenditure is calculated as the gross amount wagered minus wins. See further discussion on this under "Language used".

are meaningful for accounting purposes, and also for enhancing the accuracy of EGM user recall of their cumulative spending. Previous studies have demonstrated that gamblers significantly underestimate their past month's expenditure, compared with that of the past day (Blaszczynski et al., 2008). A more detailed description of session expenditure could be provided, with a line item summary of the venue and duration of gambling over each day/session. This day/session summary should report overall expenditure, with instances where net wins are incurred reported with a positive figure and instances where net losses are incurred with a negative figure. The running total of the statement would accord with the interval of the statement under which it has been issued; that is, monthly or quarterly.

Providing a forecast of expenditure for the year if levels of EGM spending are maintained could trigger behaviour change. This could function in the same way that credit card statements now forecast the cost and number of years it would take to repay the bill should the cardholder only repay the minimum amount. Presenting account summary data in this way may prompt gamblers to reflect on whether the level of spending is actually affordable in the context of their overall budget.

In addition to providing information for individual sessions/days, summarising information over longer time frames (e.g., total spend per month) may allow gamblers to relate any spending peaks to personal circumstances to identify triggers for excessive spending. For example, spending may vary in relation to income payments or significant cultural, religious or sporting events. This may assist gamblers in identifying the need for other pre-commitment features such as self-exclusion or limit setting. It could also be used as a discussion tool by those seeking counselling for gambling problems, by providing objective insights into their gambling behaviour.

A year-to-date tally together with daily expenditure would contextualise spending per day/session in relation to longer periods of time. This may increase awareness that regularly gambling even seemingly small amounts of money over the course of a day or week can add up to large sums over a period of time.

Figure 3.3 shows the summary information provided to New Zealand Lottery (NZ Lotto) account holders, which displays each ticket purchased. Using this format for EGMs, however, given the relatively continuous nature of EGM gambling, would require significant adaptation, such as collapsing individual stakes to the overall day/session net expenditure.
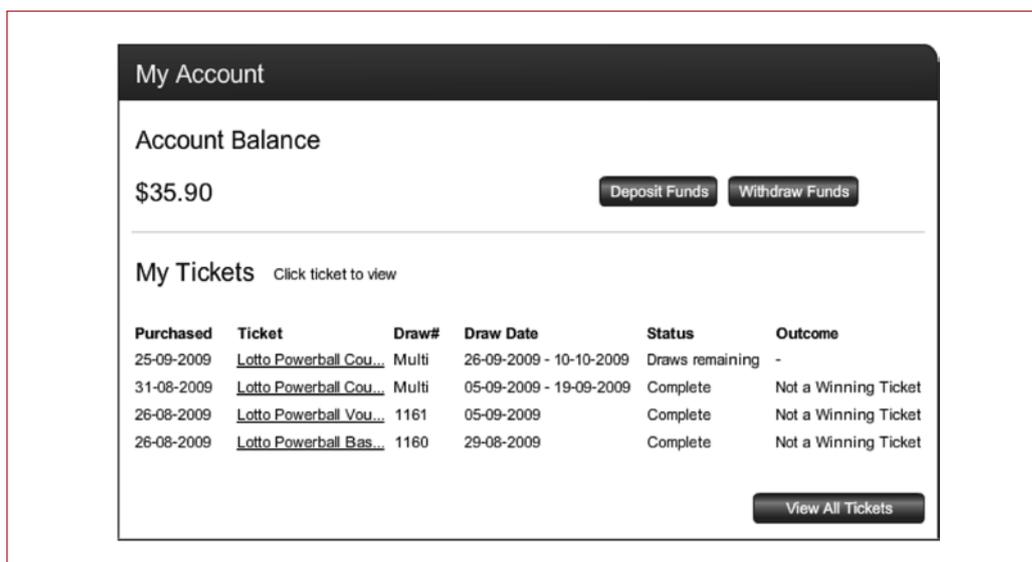
Source: Productivity Commission (2010)

Figure 3.3: My Lotto transaction account details, NZ Lottery

Transaction history statements are likely to be more useful to gamblers if they are linked to personal limit-setting functions already in use. Periodic online and paper-based transaction statements could provide comparative information of actual spend in relation to loss limits set,

and record where breaches of limits have occurred. This could support greater awareness of spending and may lead to behaviour modification. A system is being implemented in South Australia that provides a tally of the number of times loss limits have been exceeded on periodic statements (Responsible Gambling Working Party, 2012b).

Time frames for providing information about gambling could also be tailored to personal circumstances or limits. A consultee reported they were considering providing transaction history statements to gamblers when they passed a certain threshold level related to their personal limits (percentage of their limit), and that the format of this statement may vary according to gambling behaviour displayed.

Capturing a level of detail that is informative, without being overwhelming, for monitoring gambling expenditure—and by extension providing some insights into gambling behaviour—may assist consumers to adhere to their spending budget.

Available evidence for what constitutes valuable and essential information is weak, and requires further research to determine the level of detail and type of information that is most effective for behaviour change.

Language used

There are many ways to describe and calculate gambling spending, and a range of terminologies can be employed to reflect these different calculations. Consultations and prior trials and implementation of these systems highlight the need to ensure language and terminology used in the system is meaningful to the consumer. The published evaluation of the Redcliffe SIMPLAY account summary, for example, reported that EGM users were confused by the terminology "draw up" and "draw down" (Schottler Consulting, 2009). A government official noted that the language used should be about "spending", not "losses", as this relates to the real spending of gamblers (not machine turnover) and is more clearly understood by gamblers.

Employing terminology that is meaningful to consumers will support optimal use of the account summary system. For example:

- In gambling, a "loss" to a gambler is a "win" for the house. Losses and wins should be described from the perspective of a gambler. Consultee trial data suggest venue staff may require training to comply with this requirement.

- A "gross wager" is the total amount of bets, which arguably overstates expenditure, as this would include winnings or credits, which are typically reinvested in the game, especially during EGM gambling (Clotfelter, 2005).

- "Net turnover" includes money wagered as well as "wins".

- "Net expenditure" is the gross amount wagered minus wins (i.e., the amount of money spent by the gambler). Net expenditure is considered the most appropriate terminology as it captures the amount of money spent by the gambler.

When statements should be available

In addition to presenting information that is comprehensive but simple to understand, access to the transaction history statement data needs to be timely. A combination of push and pull messaging could be used to ensure that EGM users are regularly informed of their level of EGM expenditure. Push messaging refers to information that is sent to consumers, whereas pull messaging relies upon the motivation of consumers to seek out information. Users should be able to log onto their account in the same way in which they may currently access a bank account or social media site.

It is important that account summaries are sent out (pushed) to consumers at regular intervals. This is to ensure gamblers are provided with information on a minimum number of occasions, to improve consumer protection. It also ensures that those who may be most reluctant to view this information are prompted to see the account summary, as these consumers may be the most at risk. Legislation in Victoria currently requires annual statements to be sent to those in loyalty programs, with plans for future pre-commitment systems to similarly provide annual statements via email, unless requested more frequently by the gambler. New legislation in South Australia

will require all gamblers enrolled in a pre-commitment system to receive an automatically generated activity statement every six months. This can be received by post or SMS, or is available for pick-up at a venue. On-demand summary statements may also be accessed in a similar way to a bank account.

It is likely that infrequent (i.e., six-monthly or annual) delivery of account summaries are less useful for harm minimisation purposes than statements provided on a more regular basis. Evidence demonstrates that gamblers consistently underestimate their expenditure (Productivity Commission, 2010), with problem gamblers being more likely than other gamblers to lose track of their expenditure (Nower & Blaszczynski, 2010). Quarterly or monthly summary statements would provide consumers with the capacity to monitor their spending at more regular intervals, providing them with the opportunity to:

- recognise excessive spending sooner;

- obtain timely evidence about whether setting a limit on EGM spend would be helpful;

- inform better decisions about appropriate EGM expenditure limits; and

- seek assistance before gambling spending becomes out of control.

A potential unintended consequence of sending information to gamblers about their level of spending is that it may trigger irrational cognitions in some gamblers, prompting them to try and recover their losses (Bernhard, Lucas, & Jang, 2006; Focal Research, 2007; Omnifacts Bristol Research, 2007). In Nova Scotia, 9% of gamblers reported that they would try and recover their losses after seeing their account summary information (Omnifacts Bristol Research, 2007). Further, account summaries that are received at infrequent intervals may lead to situations where gamblers are presented with information that they find confronting. One study reported that providing an activity statement may lead to suicidal thoughts, with one gambler stating "you would want to kill yourself [if you knew what you spent]" (Nisbet, 2005, p. 59). More regular provision of information would mitigate this as gamblers would be provided with an accurate summary of spending with reasonable frequency. In addition to this, account summary information should always be accompanied with materials and/or links to problem gambling hotlines and support services.

Further, even without activity statements, excessive spending will eventually become apparent to gamblers, and chasing losses will occur in the absence of these statements if the individual is prone to this behaviour. The benefit of providing account summary information should be that excessive expenditure is recognised earlier than it may otherwise have been. This means that gamblers who are at risk of developing a problem may recognise this sooner than they may have done otherwise.

In addition to regular provision of statements, account summaries should be available on demand. This provides the gambler with better customer service and maximum flexibility in understanding their level of expenditure, which would support better monitoring and control of spending.

Where statements can be accessed

Consultees suggested that gamblers should be able to access to transaction history statement information from multiple sources and in multiple formats. Full transaction history statements could be made available via post, online, SMS, smartphone applications, email, and at the venue through kiosks and/or EGMs.

Participants in consultations felt that ease of availability and privacy were important considerations affecting the usefulness of transaction history statements. At one location, technological limitations meant that account summary information was only stored at the venue kiosk, so gamblers could not access cumulative transaction history information without requesting staff to re-upload their information to the kiosk. Other consultees noted that having a separate reader or second screen (particularly those that were located beside the EGMs rather than being integrated within them) is not best practice and that messaging on EGM screens is preferable.

The format of the statement will determine which transmission security measures are appropriate. Postal and SMS delivery were considered somewhat problematic from a privacy perspective; however, risks can be reduced with plain non-identifying envelopes marked "confidential" for

statements provided by post, and sending links to information rather than actual information in SMS messages. Furthermore, allowing discretion in messaging on EGM screens, and providing statements in accordance with gamblers' preferences were identified as important when developing an effective, user-friendly system. Data privacy is discussed in more detail later in this chapter.

Periodic statements should be accessible through a variety of means, including:

- online (i.e., on a website or smartphone application);
- by email;
- by post;
- by phone;
- at an automated or self-service in-venue kiosk that allows printing;
- from venue staff; and
- on the EGM terminal itself.

The availability of periodic statements would be most effective if they match the current accessibility of credit card transaction statements; that is, if they are available via smartphone applications and online.

Hot and cold cognition environments

Evidence from other areas of risky or potentially addictive behaviours indicates that decision-making is compromised when in a heightened state of arousal or "in the heat of the moment" (Ariely & Loewenstein, 2006). For problem gamblers in an EGM venue, willpower alone is unlikely to be an effective means of resisting urges to spend. The design and layout of the gambling venue is constructed to provide a range of sensory cues that encourage spending, including lighting, sounds and animation on the machines that have been carefully designed to attract the attention of gamblers. An under-appreciation of the effect of these external stimuli on decision-making may lead some gamblers to overestimate their capacity to control their desire to gamble, leading to harmful patterns of spending (Gupta & Derevensky, 2005). In order to support gamblers to make rational spending decisions, it is important to provide information such as EGM transaction histories in "the cold light of day"; that is, in a space removed from these cues to spend. Regularly providing gamblers with expenditure information online, by phone messaging, or mail (outside the gambling environment) is likely to support gamblers to make informed and rational decisions around appropriate loss limits and consider whether it may be necessary to self-exclude.

However, historic spend data should also be available in the gambling venue. This ensures convenience and flexibility for the gambler. This could include on-demand access on the EGM, as being able to access historical information during a gambling session may increase the chances of an individual acting on that information then and there, perhaps by setting up spending limits or instigating self-exclusion. It could also include push messages sent to mobile phones that are synchronised with the gambler's loss limits.

Live action summary statements

Information provided on real-time statements

Live action statements are likely to be effective when presented as a simple matrix that provides a tally of spending for the *current* session of gambling, and links this information to a limit summary, as shown in the example from Nova Scotia in Figure 3.4 (on page 22; Focal Research, 2007).

The information is presented to gamblers in real time. This means that current session summaries include:

- total money loaded onto the machine;
- total money withdrawn;
- the machine balance; and

Notes: "Live Action was similar to the Account Summary feature [shown in figure 3.2] but displayed cash in, cash out and the amount up or down for the specific session being played. There was also an entry for money the player still had 'left' on the machine (Machine balance). Live Action also displayed the status for any other responsible gambling feature the player may have activated regarding money limits" (Focal Research, 2007, p. 10).

Source: Focal Research (2007)

Figure 3.4:   Live Action monitoring (information feature), Nova Scotia

■   whether the EGM user is "up" or "down" at that point in time (i.e., for that session).

There was some discussion in consultations about how to treat winnings in transaction history statements. For live action summaries presented on an EGM this should appear on the statement, with a negative value for losses and a positive value if the individual has won money, thereby indicating if the user is "up" or "down", as shown in Figure 3.4.

When real-time summaries should be provided

Real-time account summary information should be available on the EGM terminal screen to support real-time awareness of actual expenditure during a gambling session. However, this may be costly, as older machines, which are unlikely to be capable of such displays, would need to be updated. Therefore, consideration should be given to phasing in on-terminal display over time, as older machines are replaced.

In addition to the basic access formats that are available on demand, carefully designed push messaging could also be a valuable complement to a periodic tracking system. This may provide an alert to gamblers who have become absorbed in gambling and unaware of their level of spending, something which is known to be an issue for problem EGM gamblers (e.g., Thomas, Sullivan, & Allen, 2009). Pop-up messages have been shown in one study to decrease the likelihood of exceeding spending limits, where of those who received a monetary limit pop-up reminder, 90% adhered to a monetary limit, compared with only 43% of participants who did not (Stewart & Wohl, 2013). The authors of this study concluded that this provides evidence that pop-up messages are capable of interrupting cognitive processes that facilitate dissociation, enabling some gamblers to reflect upon and adhere to limits. Pop-up messages on the EGM terminal (and other forms of push messaging, such as SMS) could therefore be sent at regular intervals and, where applicable, be linked to loss limits so gamblers are reminded when they are approaching their limits.

Pop-up messages are currently in use in some jurisdictions. Consultees discussed messaging being sent at regular intervals during gambling sessions, for example, with information summarising the length of time on the device and the amount of money spent. Consultees in one venue reported that pop-up messages did slow down gambling by encouraging a break in the session and also functioning as a quasi transaction summary. However, it is important to ensure the system is clear and easy to use. Consultations revealed that pop-up messages that require active interaction from gamblers (e.g., to press a button to continue a session or to cash out) confuse some gamblers and cause frustration, particularly among those from non–English speaking backgrounds who may inadvertently press the wrong button.

An evaluation of the pre-commitment system in Nova Scotia found that out of all categories of risk, problem gamblers were most in favour of a feature that allowed them to check how much they were winning or losing during a session (58% desired this feature and a further 7% were neutral, compared to 35% and 11% respectively for no-risk gamblers; Focal Research, 2010). The Live Action feature was also used three to four times more often by problem gamblers when compared with other gamblers (Focal Research, 2007). The reason for this interest was not explored in the evaluation.

While on the face of it this could be seen as a good outcome (high-risk gamblers accessing and using live information on spending), other sources of evidence indicate that there is potential for harm. Some studies, for example, suggest a segment of the gambling population may use the information detailing how much money they have lost to try to win back losses (Bernhard et al., 2006; Focal Research, 2007). This was also echoed by a Canadian focus group participant who suggested: "You could look at it and you might say I have to recover all this money that I lost … like, you have to go back and win it" (Centre for the Advancement of Best Practices, 2009, p. 19). Similarly, the Nova Scotia panel study found that 9% of gamblers reported gambling more to try to recover losses after seeing their account summary (Omnifacts Bristol Research, 2007). However, as noted above with periodic statements, excessive expenditure will come to light in the absence of these statements and the benefit of providing account summary information is that excessive expenditure is likely to be recognised earlier. This provides at-risk gamblers with early and clear information on spending.

Further research is required to determine the appropriate level of detail required in the transaction history statements. Research is also required to explore the effects of providing transaction history statements and real-time expenditure on higher risk gamblers. In particular, whether this type of information may lead some gamblers to chase their losses. This information can then be used to develop ways to reduce any unintended consequences of revealing confronting spending patterns.

Where real time statements could be provided

Some trials/implementations have provided live action statements on a second screen attached to the primary terminal. However, information provided on secondary screens is unlikely to be as useful as information provided on the primary EGM terminal (Productivity Commission, 2010). Queensland's Redcliffe trial of a pre-commitment system also concluded there was a need for the balance check function to be available on the EGM terminal itself (Schottler Consulting, 2009). Consultations revealed that most locations have this feature in operation or are intending to implement it shortly.

Transaction history statements provide up-to-date information that can be acted on immediately if the gambler starts to think their gambling is beginning to get out of control. It is important therefore that links are available to the protective features of the pre-commitment system, that is, limit setting and self-exclusion.

3.3 Comparative data for behaviour change

Key messages

■ "Social nudging", that is, comparing individual consumption data with that of the general population, can support individuals to develop healthier behaviour.

■ Comparing EGM expenditure to activities or goods that could be purchased for equivalent sums of money and/or adapted to cater for equivalent time may encourage gamblers' insights into their levels of spending and prompt them to change behaviour.

■ Adopting strategies developed in other public health social marketing campaigns, such as tobacco control and obesity, may reduce harmful gambling.

■ Social marketing messages could be tailored to the individual's age, gender and income—if these data are available—in line with strategies known to be used in corporate loyalty card programs.

A range of "nudge-like" interventions have been trialled in order to shift behaviours at the population level (Thaler & Sunstein, 2008). The concept of a "nudge" stems from behavioural economics and refers to "choice architecture". This means carefully designing environments so that consumers are more likely to make health- as opposed to harm-promoting consumption decisions. The notion of a nudge can be applied to reduce harmful EGM use. The section below outlines how consumption data have been used to reduce energy and alcohol consumption. A third example is provided that relates to encouraging responsible gambling online.

Energy consumption

Research from San Marcos, California (Thaler & Sunstein, 2008), demonstrated how comparative data through social nudges can be used to reduce energy consumption. In this study, households were provided with information about their energy consumption and were told how this compared with the mean consumption of other households in their neighbourhood; that is, whether it was at, below or above mean consumption. Initial results of this study demonstrated an interesting unintended consequence of the original program design. While households consuming above the mean reduced their energy use, a "boomerang effect" was present, meaning households consuming below the mean actually increased their energy consumption, indicating that informing consumers who are doing better than average is counterproductive as it may inadvertently increase undesirable behaviours. A component of this involved half the households consuming above the mean receiving the quantitative descriptive information accompanied by an unhappy emoticon. These users decreased their energy consumption at a faster rate than those households who received the descriptive data alone. However, significantly, when below average energy users received the happy emoticon, the "boomerang effect" disappeared (Thaler & Sunstein, 2008), meaning that those with below average consumption did not increase their consumption when they received a positive reinforcement for their energy consumption level.

Alcohol consumption

The Drinks Meter is an online tool and smartphone application that allows users to track and assess their alcohol consumption and compare this to others their own age, gender and from their own country. Designed by the UK-based Global Drug Survey, respondent data are also compared against the World Health Organization's alcohol use screen, as well as nation-specific alcohol consumption guidelines. The survey prompts users to estimate whether they think their alcohol consumption is low, moderate or high compared with other people their age and gender. This is designed to encourage reflection on their consumption before ranking this against the population data. The application also provides feedback on how alcohol consumption may be affecting the life of the respondent (Global Drug Survey, 2012). This tool is designed to provide insight into safer levels of alcohol consumption and information, with the aim that this may lead to positive behaviour change.

Gambling expenditure

Svenska Spel developed the PlayScan "responsible gambling" tool for their online gambling customers. PlayScan supports customers to monitor spending and identify problematic patterns of gambling. A "gambling profile predictions" tool uses machine learning techniques—an algorithm to predict the likelihood of gambling problems based on data from the gambler's previous year of spending—and matches this against a model developed to identify likely problem gamblers. If the model predicts a gambler's pattern of behaviour is problematic, the PlayScan system will provide the customer with a warning on ways to adapt their behaviour to avoid risky gambling. The company accesses these data to further enhance harm minimisation measures by deleting customers with gambling problems from the company's direct advertising mailing list and providing these customers with additional responsible gambling tools (Griffiths et al., 2009). For all PlayScan users, a traffic light system is displayed on the screen with a green, orange or red signal to indicate whether the model considers their gambling to be problematic. To some extent, similar tools are available at Problem Gambling Help SA's website,[7] which provides self-help tools such as a gambling calculator for gamblers to assess their level of risk and the Stay on Track smartphone application. A key difference being that these are "pull" services, meaning that information is not directly connected to the users gambling experience. It relies upon gamblers seeking out this information rather than providing this at the site where gambling is taking place.

There may be some caution required in the development of such a system. Firstly, careful consideration needs to be given to what constitutes a "safe" or "risky" level of gambling. Secondly, it would be useful to determine the accuracy of such a model; that is, testing the extent to which misclassification of gamblers may occur. For example, gamblers may be classified as moderate- or high-risk when they are actually no- or low-risk (false positives) or as no- or low-risk when they are actually moderate- or high-risk (false negatives). There could potentially be behavioural and legal consequences in the event of the inaccurate categorisation of gambling behaviours. Research to develop and test the sensitivity and specificity of machine learning algorithms to inform the development of a traffic light system and comparative gambling data would be a valuable contribution to the evidence base.

Similar online and application-based tools could be provided to gamblers to support further insights into patterns with more generalist information. Gambling could be compared to problem gambling, or average population levels of spending. A consideration here is whether comparative information should be national or international. National is intuitively more relevant, but given that Australians are the highest per capita consumers of gambling products globally (Economist Online, 2011), average consumption may be less useful as a harm reduction measure. This also fails to consider that simple average spending comparisons may have a "boomerang effect" for some gamblers, where those gambling below the mean increase their spending. Careful consideration in the design of this system, through the use of "social nudges" (such as those relating to energy consumption described above), could reduce the likelihood of this potential unintended consequence. One possibility may be to provide information that informs no- and low-risk gamblers that they are in the "happy" range, and give comparative data to moderate- and high-risk spenders that demonstrates they are outside the "happy" range. Another option could be to only provide comparative data to those in moderate- or high-risk categories.

Non-gambling expenditure

To further enhance the harm minimisation capabilities of a pre-commitment system, comparisons could be made between EGM expenditure and equivalent non-gambling expenditure and the results promoted to consumers. This could involve making comparisons with leisure activities such as cinema, holidays, theatre or dining out, or essential expenses such as rent or mortgage repayments and education expenses for children, or presenting gambling expenditure as a proportion of income. For instance, people spending $100 a week on gambling could be presented with information to demonstrate how a predicted expenditure of $5,200 a year (if the

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7   See the Problem Gambling Help website at: <www.problemgambling.sa.gov.au/gamblers/how-much-are-you-spending> for further information.

same pattern of gambling is sustained over the year) could be spent. This strategy is currently used on the South Australian Problem Gambling Help website, which asks five questions about the frequency of gambling and amount of money gamblers spend, then provides a calculation of annual expenditure and lists examples of items that could have been purchased with the equivalent money (e.g., 120 Sony PlayStations, 36 months of rent, seven European holidays, a new car or house deposit).[8] Such messages may prompt gamblers to reflect not only on how much they are spending, but also on what else they could be spending that money on.

This type of information proved useful for a participant in an Australian study of problem gambling who was motivated to reduce spending when she realised what she could have used her income on instead:

> When I added it [gambling expenditure] up over the year and looked back, I thought well that was my rego, that was my car insurance, that was a weekend away. That's when I sort of said just do it once every two or three months and it won't hurt. (Thomas et al., 2010, p. 24)

To further tailor the experience, information collected via the pre-commitment system could be used to track individual EGM user's demographic details and gambling behaviour, and linked to health promotion messages, adopting marketing and promotion techniques from the advertising industry. Similar strategies have also been employed in other areas of health promotion aimed at reducing the consumption of potentially harmful products. Examples include messages that present the level and duration of exercise required to burn calorie-dense nutrient-poor food products, or tobacco control measures that use annual calculations of the cost of cigarettes to discourage smoking.

Consideration should be given to ensure that social marketing messages are not construed as being judgemental. One respondent in the consultation process was concerned that both the gambling industry and some consumers may find these comparisons unpalatable, given that gambling is a legal activity. Similarly structured messages have successfully been marketed in other areas of public health, such as tobacco control, but receptiveness to such messages is likely to be subjective. The content of these messages would require further research, ideally using data mining techniques currently employed in corporate marketing and promotions that could tailor comparisons to highlight purchases known to be of interest to the individual consumer, based on their Internet history and search terms. There may be some perceived privacy issues with such a tool, as discussed in section 3.5.

3.4   The quantified self

Extending the ideas presented in the previous section and building upon the reflective learning potential of a transaction history statement, account summary data could feed into the "lifelogging" cultural phenomenon of the "quantified self". Emerging recently from the discipline of personalised preventive health, this approach aims to provide users with new ways to understand and interpret their own behaviour by providing data to individuals to identify and manage risks in advance (Swan, 2012). Quantified self-tracking assumes that "data is an objective resource that can bring visibility, information, and action to a situation quickly, and psychologically there may be an element of empowerment and control" (Swan, 2009, p. 509). Examples of measuring the quantified self include the use of digital technologies to track behaviours such as time and money management, travel and social connections, as well as areas more directly linked to health promotion and disease prevention, like fitness routines, food and drink consumption, and mood tracking. Such data tracking is typically facilitated through the use of mobile phone applications or wearable technologies. Improving EGM users' understanding of their gambling behaviour could be achieved through pre-commitment systems with an embedded account summary system. These data can be used to create more meaningful visualisations that compare the gambler's use with others, identify spikes in activity at certain periods of time, and so on. These practices relating to behaviour monitoring and change could

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8   See the calculator on the Problem Gambling Help website at: <www.problemgambling.sa.gov.au/gamblers/how-much-are-you-spending>.
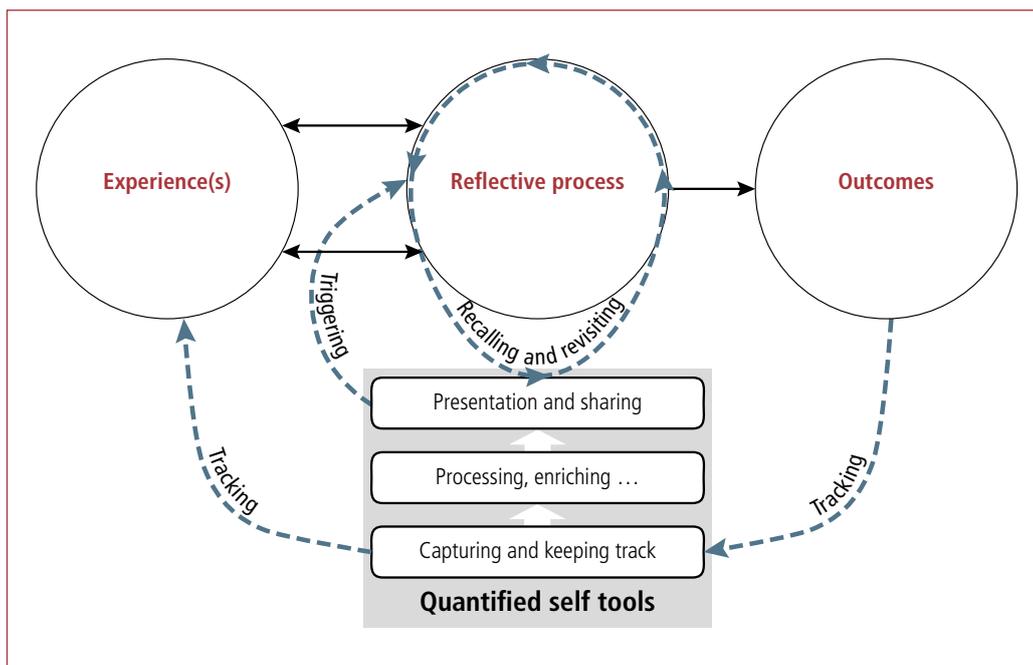
Source: Rivera-Pelayo, Zacharias, Müller, & Braun (2012)

Figure 3.5: Role of the quantified self in the process of reflective learning

provide some benefits for gamblers interested in gaining deeper insights into their gambling behaviour.

Figure 3.5 (on page 27) describes how tracking the quantified self can feed into the reflective learning process.

There is potential to develop sophisticated self-tracking data about EGM use, as well as ways to visualise data generated through programs that could provide a more nuanced picture of gambling patterns. Coupled with contextual information—such as periods that may result in exceeding limits (e.g., windfall income, pay days, or significant cultural, sporting or religious events)—this could assist gamblers in gaining specific details about problematic patterns, including locations where gambling expenditure may be higher than usual (i.e., whether there are characteristics of certain venues that lead to higher levels of expenditure) or particular machines that are likely to be more problematic. This information could provide a valuable record that provides insight into problematic gambling during counselling and treatment sessions.

While the provision of transaction history statements coupled with quantified self practices has the potential to improve consumer protection and provide insights into behaviour, it is unlikely to deliver broad harm minimisation benefits unless complemented with more active pre-commitment features, such as limit-setting and self-exclusion options. The information provided in periodic statements relies upon the motivation of individuals to analyse EGM transactions. Evidence demonstrates that other strategies for reducing harm—such as limit setting, accessibility and the design and characteristics of EGMs—are likely to have greater immediate harm minimisation benefits. If provided in combination with supportive structural interventions, however, quantified-self tracking tools for EGMs could be a useful complement to more active features (limit setting and self-exclusion), and promote health by preventing the development of gambling problems.

3.5 Data ownership and privacy

Ensuring that consumer data are accurate and private will enhance the integrity of an EGM pre-commitment system. Given the large number of stakeholders with a potential interest in these data, it is essential that legislative controls are in place to ensure security and allay privacy

concerns. A range of considerations surrounding this recommendation are outlined in this section.

> ## Key messages
>
> - Concerns about privacy can potentially undermine the integrity of the entire pre-commitment system, particularly if enforcement of a single card for a single gambler is not well managed. It is essential that data security and integrity is maintained to ensure the confidence of consumers and providers in the transaction history statement and broader pre-commitment system.
> - There are significant opportunities for research should gamblers consent to their de-identified gambling data being used for harm minimisation purposes.
> - Legislation needs to carefully balance the interests of the range of stakeholders using data for research purposes. Consideration should be given to obtaining consent from gamblers when they are registering in a pre-commitment system for de-identified information to be collected and used for the purposes of harm minimisation research.
> - The data collected through a transaction history system are likely to reveal gamblers with problematic expenditure, and this may raise questions about providers' duty of care and enforcement of responsible gambling codes of practice.

Consumer and provider privacy concerns

Protecting gamblers' privacy is of paramount importance in any pre-commitment system, to ensure that consumers have confidence in the system and are willing to register their personal information. The capacity to provide detailed and individualised transaction history statements may raise concerns for some EGM users and providers about privacy, surveillance and data security. EGM users may become concerned that venues, staff or the government have access to their personal spending patterns. One consultee, for example, said they were thinking of tailoring transaction history information to individuals' limit-setting information, so that messaging to each customer is linked to that individual's spending in comparison to their pre-set limits. While this is being proposed with customers' interests in mind, this type of data mining could be seen as invading privacy excessively.

In the Australian context, the Productivity Commission (2010) envisaged that the pre-commitment system would only collect data that are necessary to maintain a confidential record of expenditure and time spent gambling, in order to set limits and produce transaction history statements. They recommended that regulators, venues and others would not have access to these data without the consent of the gambler.

Consultees similarly noted gambler concerns about privacy, with suggestions that consumers taking part in some international pre-commitment systems have become concerned that the government was tracking gamblers through the use of cards. This, they suggested, had undermined the integrity of these pre-commitment systems. Australian gambling operators reported that they felt strongly that unless gamblers feel "safe" using the system and that their privacy is maintained, the system will fail.

Given gamblers are evidently comfortable sharing their data with corporate entities for the purposes of loyalty card programs, it is feasible that EGM users accept that these data may be tracked in systems commissioned or managed by governments, particularly if the system is promoted as a harm reduction measure. However, some consumers may not support a pre-commitment system in the same way as they may a loyalty program. Customers may be resistant to others having access to data in the context of preventing the development of gambling problems, citing "Big Brother" concerns. Further, a pre-commitment system may not offer immediate and tangible rewards to consumers in the same way that a loyalty program does. For example, consumers who are not currently experiencing a high level of risk may never see the prevention benefits of pre-commitment if the problem that may have eventuated is averted.

In terms of a voluntary system, most consultees who discussed this issue were of the opinion that pre-commitment without a loyalty program is not likely to be successful. A loyalty program

was argued to provide an incentive to register in a voluntary pre-commitment program. However, the combination of a program designed to increase expenditure (a loyalty program), with a program design to limit expenditure (a pre-commitment program) at best sends a mixed message to EGM users, and at worst may result in potentially serious and severe unintended consequences, such as increased expenditure or the development of gambling problems. The confusion of these two objectives in one card may undermine the harm minimisation objectives of a pre-commitment system. In a mandatory pre-commitment system it would be far easier to legislate the use of a separate card.

In some places where voluntary pre-commitment systems have been established, gamblers have reported concerns that pre-commitment cards could identify them as problem gamblers who are unable to control their spending. Again, a full pre-commitment system would allay gambler concerns about stigma by normalising a registration device, such as a card, for every EGM user. It has been suggested that delivering pre-commitment via a device with a broader purpose (such as a loyalty program) could achieve the same aim. However, as discussed above, use of loyalty programs to deliver pre-commitment has the potential for serious and harmful unintended consequences, including the development of gambling problems. No research has been conducted evaluating the potential increased risk to consumers of signing up to a loyalty program to use pre-commitment. It is vital that any system intending to use loyalty cards to deliver pre-commitment fully evaluate this for such unintended consequences.

Gambling providers in some consultations were careful to stress the need to maintain the privacy of gamblers, and reported no interest in accessing loyalty card or pre-commitment data. However, these reports should be considered critically, as the accepted corporate purpose of loyalty card membership programs includes the monitoring of transactions in order to reward customers in proportion to their spending (Worthington & Fear, 2009). The veracity of claims that gambling providers do not explore loyalty card data was tested in a case before the Supreme Court of Victoria (Lowe, 2012; see below for details).

Opportunities for harm minimisation research

While taking the need for consumer privacy into account, the volume of data potentially available through a pre-commitment system is vast and valuable for the development of harm reduction measures and the regulation of EGM gambling. For example, interest in using these data for harm reduction purposes was expressed in our consultations with various representatives from Australian state governments. Therefore it would be important to establish mechanisms for gamblers to either opt in to, or out of, research when developing this system.

Duty of care and responsible gambling codes of practice

The collection of gambling data tracked to individuals may pose challenges for the responsibilities of gambling providers, as this information may reveal problematic gambling patterns. This is particularly likely to be the case if data are being systematically analysed at a level that would provide information on problematic gambling, or to produce gambler profiles, and is capable of being provided to gambling providers at the venue level.

The extent to which gambling providers use gambler data to identify and interact with at-risk gamblers varies among jurisdictions. Gambling providers in Saskatchewan (Canada), Sweden, Switzerland and the Netherlands are using these data to identify problem gamblers (Centre for the Advancement of Best Practices, 2009; Griffiths et al., 2009). Svenska Spel, the Swedish gambling operator, also use online gambler data for this purpose (Griffiths et al., 2009). The Svenska Spel PlayScan system mines gambler data and models these against patterns of "healthy" and "problematic" behaviour. The organisation responds to problematic gambling patterns by removing these customers from direct advertising and promotions and providing them with information about available responsible gambling tools (Griffiths et al., 2009). Several Australia-based gambling providers also noted that they ceased promoting gambling products to customers who had self-excluded, although they emphasised that they did not analyse loyalty or pre-commitment program data to identify other potentially problematic gamblers.

If gambling providers access individual spending data, they may be obligated to restrict access to their product, in line with existing duty of care obligations and responsible gambling codes of practice. The potential legal consequences of this have been demonstrated in court proceedings brought against Crown Casino by the Bendigo Bank. The bank was defrauded more than three million dollars by a former employee, who was also a member of the casino's loyalty card program. The Bendigo Bank argued that Crown should have prevented this customer from gambling at its premises earlier, alleging that Crown:

- wilfully shut its eyes to the obvious fact that the bank employee had stolen all or most of the moneys she wagered or bet at the casino;

- wilfully and recklessly failed to make inquiries an honest and reasonable person would make as to the source of the funds wagered or bet by the bank employee at the casino; and

- had knowledge of circumstances that would have indicated to an honest and reasonable person that the bank employee had stolen all or most of the moneys wagered or bet by her at the casino (Lowe, 2012).

Current responsible gambling codes of conduct typically rely upon venue staff identifying and interacting with customers displaying signs of problems. This may require staff to encourage customers to take breaks in their gambling sessions, offering refreshments and/or referring these gamblers to a senior staff member such as a Responsible Gambling Duty Manager (Delfabbro et al., 2007). These strategies rely upon the skills and training of staff to identify relevant risk behaviours and handle these potentially sensitive interactions with care. It also relies upon a management culture that promotes the code of conduct and supports staff to enforce these practices. Consultations with venues found that staff frequently found approaching gamblers to be stressful and that having specialised staff who are specifically trained in dealing with these situations is helpful.

Analysing and comparing transaction history statements to risk profiles has the potential to provide a valuable technological means of assisting in the identification of problem gamblers, which would decrease reliance upon visual identification and intervention by venue staff. This may increase the confidence of staff in excluding identified problem gamblers and reduce the number of interactions they have with people with gambling problems.

3.6   Data integrity

Data integrity is essential to ensure that consumers derive value from this feature. There are a number of systemic considerations to take into account to support obtaining and providing accurate and complete data.

Key messages

The accuracy and completeness of transaction history statements is essential to the integrity of the system, ensuring that gamblers derive value from this feature. This is dependent on the characteristics and usage of the pre-commitment system architecture, including whether:

- the system is networked across jurisdictions;

- everyone who gambles uses the system at every session, ensuring expenditure data accurately chart full expenditure; and

- adequate systems are in place to prevent card sharing.

Range of the network

A jurisdiction-wide pre-commitment system is not the only situation in which the provision of expenditure statements to EGM consumers can occur. Periodic statements, or transaction histories, can be provided in a range of systems that track the expenditure of individuals. These include:

- cashless EGM operation;

- loyalty card programs; and/or
- pre-commitment systems.

However, the full potential of transaction history statements will not be realised if the network does not cover a broad jurisdiction (e.g., state- or nation-wide). If the system is not networked across an entire jurisdiction it will not be capable of capturing EGM gambling undertaken at all locations, and therefore statements will not provide an accurate picture of total gambling spending. The system can be further enhanced if it encompasses multiple forms of gambling so that total spend and spend by gambling form can be provided. Sweden and Norway intend to link EGM account summary systems with other forms of gambling so that consumers have a more accurate summary of their gambling expenditure across various forms.

Full versus partial systems

Transaction history statements can be provided in both full and partial pre-commitment systems. However, the integrity and efficacy of these statements will be compromised within a partial system where gambling occurs outside the system. If EGM users are able to gamble without using a device registered to them (e.g., by using cash or simply not using an identifying device), then periodic spend data provided to the gambler will not capture all EGM gambling.

Card sharing

The integrity of gambling expenditure data is also compromised in situations where gamblers are able to use multiple cards, share or swap cards. This would allow gamblers likely to be struggling most with their expenditure to circumvent predetermined spending limits and lead to an underestimation of the level of spending recorded on account summaries. Consultees stressed that preventing card sharing was a crucial aspect of a functional pre-commitment system and highlighted the challenges that card sharing could pose in compromising the effectiveness of the entire pre-commitment system. Transaction history statement data can become meaningless if gamblers regularly use multiple cards or use other consumers' cards. The review demonstrated transaction history statements would only provide accurate and complete data where an individual consistently uses a single card/log. The accuracy and reliability of transaction history statement data will be compromised if gamblers:

- routinely use multiple or different cards;
- allow others to use their card; and/or
- withdraw the cards when limits are reached (in a partial system).

Similarly, research has shown there is a small proportion of gamblers who share machines; for example, couples who gamble together. In Nova Scotia, around 2% of the 500 surveyed respondents reported gambling with others during the baseline study period (Focal Research, 2010). If these gamblers decide to share a card while they gamble it means that any account summary data captured is inaccurate in terms of delineating an individual's gambling behaviour, but would remain accurate for the couple if they were to consistently gamble together.

While it may not be possible to eliminate the possibility of card sharing entirely, marketing of the benefits of a single card for a single user may support compliance. Introducing mechanisms such as paying dividends into the cardholder's bank account, where this is possible, may also discourage sharing of devices. Ensuring the integrity of the data generated, stored and transmitted through a pre-commitment system would assist with greater public acceptance, and use of, the system.

The Nova Scotia trial evaluation concluded that cards needed to be compulsory to optimise the system benefits for gamblers, particularly for those experiencing harm (Focal Research, 2010). This ensures that users receive accurate information and their use is normalised, thereby not creating a tiered system where those with cards are stigmatised as problem gamblers.

Card swapping has been found in both partial and full pre-commitment systems, with one international jurisdiction attempting to minimise this by linking the payment of winnings to bank accounts of the cardholder. To ensure data are accurate and informative, the pre-commitment architecture must be designed to minimise the likelihood of card sharing. The system must

assure—as far as possible—that a single gambler uses a single card, enabling expenditure to be tracked to an individual.

3.7 Counselling referral and support

It is essential that information about and referrals to counselling, financial advice and gambling treatment services are provided alongside the implementation of a pre-commitment system, as such as system may result in a spike in EGM users seeking assistance. Periodic statements and live action summaries should both be accompanied by support and referral information to ensure gamblers know where to seek assistance if their spending is becoming problematic. This is particularly important given the likely confronting nature of some account summary information (Nisbet, 2005). Links and information should also be provided to other features of pre-commitment, such as limit setting and self-exclusion, to support gamblers who are contemplating ways to take better control of EGM spending.

3.8 Effective implementation of transaction history statements

Gambling industry engagement and media promotion can both provide support and advice to facilitate successful pre-commitment implementation, including transaction history statements. The program logic model shown in Figure 3.6 outlines the processes involved in effectively supporting and promoting transaction history statements.

Key messages

Industry engagement

- Industry consultation is valuable for obtaining knowledge to assist in developing a cost-effective and feasible transaction history statement design.
- It is important to engage with industry to ensure that resistance to a pre-commitment system is minimised.
- Industry support and/or compliance is important to ensure enforcement of regulations such as single card use.

Media and communications

- The overall pre-commitment system needs to be promoted in a way that highlights the benefits for all consumers, as well as those at risk of harm.
- Carefully targeted social marketing can be an important strategy to encourage consumer take-up of pre-commitment, both before and during the rollout of the system.

Industry engagement and support

This section considers ways in which groups responsible for system implementation—venue operators, governments and regulators—can provide knowledge and expertise in the effective design and implementation of pre-commitment systems. Consultations were undertaken with these groups in accordance with the terms of reference for this review. It should also be acknowledged that community groups and consumers have significant expertise and knowledge that could inform the development of transaction history statement features within a pre-commitment system.

Evaluations of voluntary pre-commitment systems have found that venue engagement, staff knowledge, and support from industry associations are influential in obtaining gambler participation (Delfabbro, 2012; Department of Justice, 2011; Department of Treasury and Finance, 2010; Office of Regulatory Policy, 2009; Responsible Gambling Working Party, 2012b; Schottler Consulting, 2010).

Objective: To increase effectiveness of transaction history statements by supporting design and implementation

Process factors

Resources	What is offered	How it works
Media and communication + Technology Funding Legislation Evidence Policy System design	Ongoing communication about: (a) benefits of having accurate information about spending; (b) usefulness of comparing your spending to others; (c) how to access and use features	Educates people about usefulness Increased familiarity with, and understanding of, features
Industry + Policy	Input of key stakeholders in design	Expertise enhances design and brings venues on board
	Venue participation in trials; support of implementations	Expertise will enhance implementation and troubleshooting, and encourage gambler engagement
	Staff training	Staff understand need for transaction history statements and how they operate

Expected outcomes

Short-term	Medium-term	Longer term
User awareness and discussion of features / Increased awareness of affordable spending and community spending norms	Good understanding of comparative community norms / Increased uptake / Increased familiarity with product	Use of transaction history statements to understand and manage gambling seen as "normal" behaviour
Improved and consistent design that minimises costs to government and venues	Increased uptake and use of well designed features, reduced resistance from venues	
Support for trials/ pilots; troubleshoot early implementation → fewer implementation issues	Venues/staff supporting consumer use of features, and smooth implementation → high registration by EGM users	Use of transaction history statements seen as "normal"
Staff support and encourage use of features by gamblers		

Risks and unintended consequences

- There may be industry opposition related to potential loss of revenue and/or legal ramifications.
- Excessive involvement of industry may be met with community suspicion.
- Staff may lack knowledge about the system or undermine it, thereby reducing effectiveness. Increase in actual or perceived workload will reduce staff enthusiasm.
- Inadequate or poorly implemented media/communication may reduce enthusiasm.

Mitigation strategies

- Inclusion of industry in the design and trial processes will reduce resistance. Keep communication open to ensure design works from an industry perspective and minimises unnecessary effects on revenue.
- Promote the benefits of this system to users and broader population. Consult and engage with industry and promote corporate social responsibility and benefits for long-term sustainability of industry.
- Provide appropriate and adequate staff training so staff understand need for transaction history statements and how it operates. Industry involvement should assist in streamlining processes to minimise effects on staff workloads.
- Develop communications strategy that outlines the benefits to consumers and venues. Anticipate and proactively respond to possible counter-messaging developed by stakeholders opposed to the introduction of pre-commitment system. Monitor responsiveness and effectiveness during campaigns.

Figure 3.6: Program logic model for encouraging support for transaction history statements

The knowledge and expertise of gambling industry representatives (manufacturers, EGM operators and venues) should be obtained at various stages of the design, implementation and evaluation, which provides industry with a voice in the process, rather than feeling the final product has necessarily been imposed on them. However, this input needs to be carefully considered against the potential conflict of interest that stakeholders have in promoting and encouraging consumption of their product. This means that any engagement with the gambling industry—including hotels, clubs, casino operators and manufacturers—needs to ensure the information and concerns of industry are heard, but with the knowledge that this advice may not always align with a public health approach that seeks to minimise harm. Care must be taken to ensure that commercial and/or vested interests do not exert undue influence on an EGM pre-commitment system.

High-level industry consultation may be useful at the design stage to inform useful features and provide an early alert to particular features that may be unexpectedly problematic. Some consultees also suggested that industry involvement in the testing and trialling of system features could prevent issues incurred in previous trials of transaction history statements, such as features being too complex and difficult for gamblers to use. Moreover, consultation participants confirmed that, in their experience, once gamblers have tried a system and rejected it, a sizeable number would not be willing to try pre-commitment a second time. This may be less problematic in a full, mandatory system where gamblers would be required to use a pre-commitment system. Implementation glitches may therefore have more significant lasting negative effects in a voluntary or partial system.

During consultations, government regulators reported that, where possible, it is important to consider ways to design a system that minimises costs to industry. Venues and government consultees reported that a mandatory EGM pre-commitment system is likely to result in a drop in revenue. Some consultees also suggested that recovery of any possible decrease in gambling would occur over time, but evaluation data are not available to support this contention. Despite this, there may be some tangential benefits to EGM operators and venues in the adoption of a pre-commitment system. For instance, it may encourage the adoption of cashless gaming, which would reduce industry overhead costs (e.g., staffing, money transportation) and provide greater security by eliminating the need to hold large amounts of cash.

Venue and government consultees agreed that optimal pre-commitment design could be achieved through regulators and industry working together, as these two sectors have differing areas of expertise that are needed to develop an integrated and useable system acceptable to gamblers. The support of industry peak bodies to promote the use of pre-commitment features such as transaction history statements to venue operators and managers would also be useful, as venues are in direct contact with gamblers, and support at the venue level will enhance the success of programs. This could include appropriate information flows from peak bodies to venue operators outlining the potential value of measures to their customer base and to venues (e.g., cashless gaming; venue corporate social responsibility). This is more likely to happen if peak bodies feel they have had some voice in the design and trial stages. Venue-level support could mean prominent displays of information, announcements in venues, encouraging enrolment and use of pre-commitment features, and the promotion of the venue as a "responsible gambling environment". All of this would lead to a smoother transition and normalisation of the use of features to better support safer gambling.

Literature and consultations show that operators and venue staff involved in some international pre-commitment systems have played a role in undermining the success of the pre-commitment systems. For example, undermining may occur through staff choosing not to encourage user involvement, assisting gamblers to override defaults, ignoring card swapping, and in some cases even participating in card swapping (e.g., by providing "courtesy" cards) (Bernhard et al., 2006; Delfabbro & O'Neil, 2011; Focal Research, 2007). Some of these examples are clear breaches of regulation and should be overcome through the enforcement of legislation. Others, however, show more passive resistance, which reveals the influence that staff on the ground can have on the acceptance and uptake of pre-commitment. Given this, it is clear that industry support is needed at the venue level. Staff can promote the system on the ground, and will be required to assist EGM users to adopt the system, including troubleshooting system glitches. This is likely to result in gamblers appreciating the value of these features.

One way to increase staff support and compliance is to ensure that there are sufficient resources allocated to staff training in relation to: (a) why the measure is important; (b) what each feature is designed to do and how it will assist gamblers control their gambling; and (c) how to assist customers to sign up and use the features. An example of this can be found in the work that Venue Support Workers do in Victoria to provide industry staff with education and training around harm reduction measures, as well as general support and information. Further, consultations at industry level suggested that programs that do not include sufficient staffing resources or which have ongoing technical issues will lose vital staff support, leading to a flow-on effect of low patron support. Well-designed and tested systems that emphasise simplicity in initial versions should minimise patron confusion and frustration and ensure that staff do not feel overwhelmed with additional work.

The majority of consultations also raised concerns that gamblers may substitute the form of gambling and be lost to other sectors, such as unregulated online gambling. However, at least in the experience of Norway, a substitution effect was not observed following the removal of EGMs in 2007. Furthermore, concern about the development of an illegal EGM market following the ban in Norway proved unfounded (Lund, 2009).

Media and communications

The overall pre-commitment system needs to be promoted in a way that highlights the benefits for all, including those across the continuum of gambling risk categories. While on balance section 3.1 demonstrated that gamblers are generally supportive of the introduction of systems that would enable account summary information to be provided, it is possible that significant investments made by lobby groups over the past several years may have undermined the consumer support for pre-commitment systems more broadly. Consumer messages will need to counterbalance this by promoting the evidence for the utility of these systems, as well as promoting the component features, such as the ability for all gamblers to set loss limits and to self-exclude.

Information from consultations indicate that carefully targeted social marketing could be an important strategy to encourage consumer take-up of a pre-commitment system, both before and during the rollout of the system. Gambling operators have the capacity to promote the system's benefits to customers by using their contact databases to deliver short videos and/ or written or verbal messages via email, loyalty programs, and announcements in venues. However, this is only possible in instances where gambling operators are active supporters of the pre-commitment system. Consultations further noted that governments could actively support pre-commitment through an advertising campaign that could include traditional mass media as well as online promotion.

Importantly, the tone or expression of the messages will also influence whether the content of message can "break through" emotional and cognitive barriers for gamblers. In the venue, gamblers are more likely to be in a "hot cognition" state where they feel stimulated and are extremely responsive to powerful, emotionally salient cues (e.g., distressing or exciting images). Research examining hot/cold cognitions has found that "hot cognitions language" activates similar states. Therefore, for messages to break through to gamblers when they are in the venue, "hot tone" messages should be used (e.g., "power is sticking to my limit"). In contrast, research has shown that "cold" messages (i.e., emphasising objective, rational and factual information) will have less salience when people are proximal to the behaviour (e.g., providing factual information about losses within the venue) (Figner, Mackinlay, Wilkening, & Weber, 2009; Gold, Skinner, Grant, & Plummer, 1991). Cold cognition language may have more influence if provided to gamblers outside the gambling environment; for example, through periodic transaction history statements.

4 Summary and conclusions

Account summary information is an essential component in any pre-commitment system. It can inform consumer decisions about appropriate time and loss limits, and track progress toward these limits. It provides users with a record of expenditure, when a limit was set, at what level, and how often it was reached over a given time interval (monthly/quarterly/annually). This chapter summarises pre-conditions necessary for the delivery of accurate, complete and user-friendly transaction history statements within a pre-commitment system.

Analysis of the literature and advice obtained during consultations indicates that to be effective the system should:

■ support users to consistently gamble using their registered device, thereby ensuring all EGM use is tracked;

■ cover a wide geographic area (i.e., state or country) to ensure as far as possible that all EGM gambling is captured across all venues; and

■ ensure that a single account is used by a single gambler (i.e., prevent card sharing or the use of multiple cards), as this would compromise tracking of an individual's gambling sessions.

Although account summary information can be provided without all of these conditions being met, they would ensure the integrity of the gambling data, which would in turn support the informed use of other pre-commitment system features, such as limit setting and self-exclusion. Consideration should be given to the standardisation of transaction history statements across major forms of gambling. This would provide a more complete summary of gambling expenditure overall, and reduce the likelihood of gamblers becoming confused by the provision of a variety of statements across different forms of gambling.

A range of card-based cashless or EGM pre-commitment system trials have been conducted in Australia and internationally to enable consumers to track their gambling. While trials in Australia have largely focused on the technical feasibility of providing pre-commitment to customers, those internationally have attempted to explore the behavioural outcomes of these measures in the context of pre-commitment systems. Section 3.1 demonstrated that there is consumer support for a system that provides account summary information over various time intervals, both in Australia and internationally.

Results from trials in Australia are mixed in terms of perceived and actual utility. Deficiencies in the system architecture and/or poor implementation may have compromised system efficacy. Examples include the manual transaction history statement system developed in the Change Tracker trial and the J-Card PlaySmart system in South Australia, and the Redcliffe SIMPLAY trial in Queensland that provided statements printed on three separate thermo rolls. These programs demonstrate the need to ensure both the technological rigour of the system (e.g., electronic, networked, integrated, and with a simple display) as well as its careful management and implementation (e.g., staff training, recruitment into and promotion of the system) to increase the uptake and effectiveness of any pre-commitment system and its component features. Furthermore, harm minimisation objectives are more likely to be achieved if transaction history statements are linked to the more active pre-commitment features, such as limit setting and self-exclusion.

4.1 Staged implementation

A range of factors need to be considered in designing an optimal transaction history statement system. Some factors are critical to the functioning of a basic system, while others are ancillary, but may provide an additional level of insight for EGM users. A key finding of the review and consultation was that the system must be **flexible**, **simple to use** and **easy to understand**. A staged introduction involving the initial rollout of a basic system, followed by the gradual introduction of more sophisticated options may enable a smoother implementation that does not overwhelm customers.

Once customers are comfortable with the basic system, comparative data, for example, could be incorporated that provides gamblers with a more nuanced understanding of community-wide gambling behaviour and encourages behaviour change by contextualising personal gambling expenditure within the broader population. In addition, a more sophisticated self-tracking approach, as discussed in section 3.4, could be developed after the implementation of a basic system.

Essential features of a basic system

Essential features of a basic transaction history statement system include the provision of both periodic and "real time" account summary information.

Periodic statements

Initially, transaction history statement content should include a basic summary of account information that is automatically provided periodically. At a minimum this would include:

■ the amount of money spent and won by:

– day or session;

– month or quarter;

– annually;

■ the date and amount at which a loss limit was set; and

■ whether the limit was reached and the number of times this occurred over the period of the statement.

In addition, customers should have unlimited access to summary information on demand (via "pull" mechanisms). This could be via a website, phone, smartphone, automated kiosk in a venue, and the EGM itself, or with venue staff assistance.

"Push" messages containing summaries of the longer transaction statement could be sent periodically via email and mobile phones. These messages could also be transmitted to gamblers approaching nominated loss limits, for example, at 50% and 75% of the limit.

Both push and pull messaging should be available both inside and outside of an EGM venue.

Real-time or live account summaries

In addition to on-demand and periodic summaries, information about money and time spent gambling should be provided regularly through pop-up alerts during an EGM session.

Additional features of a system

Ensuring an initial system is flexible and basic would reduce the potential for consumer confusion that could become a barrier to uptake and use of valuable pre-commitment features. However, additional features could provide more useful insights for EGM users. Therefore, it is important to consider introducing more advanced features into the system over time as consumers become more familiar with the basic system.

Additional features that should be developed over time to enhance the basic system include:

- development of data so EGM users can compare their spending with others in the gambling population, as well as to community norms, in order to support behaviour change (i.e., the use of social "nudges");

- tailored social marketing messages that compare spending with equivalent purchases in other areas of leisure or basic household expenditure (e.g., "Did you know you could save $50,000 from the cost of your mortgage if you reduced your EGM spend by 25% or $50 a week?");

- the use of a traffic light system to identify safe and unsafe patterns of expenditure; and

- development of quantified-self tracking methods to provide greater insight into gambling behaviour and opportunities for reflective learning (e.g., smartphone applications that track and graph expenditure data for EGM users and identify peaks or falls in spending over time).

4.2 Avenues for further research

The following are suggestions for research to determine and evaluate best practice conditions for and potential unintended consequences of the introduction of a transaction history statement feature as part of an EGM pre-commitment system.

- Other than summary expenditure, there is little evidence of the type of information that gamblers would like to receive on their statements and what information is most effective for behaviour change. Research is required to determine the level of detail people find useful and informative. For example, it is still unclear whether provision of additional information (e.g., the location of EGM use), in addition to very basic expenditure (day/session, month or quarter), is considered overly complicated by consumers, or whether they find it helpful for raising awareness or changing behaviour.

- It is clear that people need to receive regular information about gambling. However, it is still unclear how often this information should be sent in a periodic statement form. If statements are sent too often this may result in consumers becoming annoyed or disengaging with this feature. It would be useful for future research to determine whether a quarterly statement is sufficient to encourage behaviour change or whether statements should be transmitted to gamblers on a monthly basis.

- Gamblers should be prompted to view transaction statements via alerts or "push" mechanisms; however, the appropriate frequency of real-time pop-up messages/alerts during a session is not yet clear. A pop-up message at least every 30 minutes during a session may be appropriate to ensure that users are aware of the amount of money that they are spending. This condition could be tested against less frequent messages, such as every hour, to determine whether EGM users find less frequent messages to be as useful and less disruptive to their session.

- Furthermore, while pop-up messages should be displayed on the EGM terminal, it may also be useful to divert the attention of the gambler by sending a text message to their mobile phone. Research could be conducted to determine if the addition of messages via SMS provide any additional effectiveness compared to pop-up messages on EGMs alone.

- Delivery of accurate and complete expenditure data is potentially confronting to EGM users, particularly those who were previously unaware of the extent of their spending. Receipt of information through periodic statements or real-time pop-ups could trigger faulty cognitions (e.g., beliefs about the ability to recoup losses through further gambling) and/or negative thoughts or emotions (e.g., feelings of anxiety or depression). Research should be conducted to determine if and when this happens and how these unintended consequences can be minimised; for example, to clarify the most appropriate method and context to deliver account summary information to EGM users, and the best mix of materials and resources to support gamblers experiencing problems.

- Loyalty cards have been proposed in the review by some consultees as being a potentially useful vehicle to carry pre-commitment technology. However, these are also likely to send confusing messages to gamblers, and may have serious and severe consequences if they encourage spending that may lead to the development of gambling problems. If such a

system is proposed, research is needed to investigate the nature and extent of the effects of gambling loyalty programs on the development and maintenance of gambling problems.

4.3 Conclusions

Much of the research from Australian-based EGM pre-commitment systems has reviewed the technical feasibility of this technology without evaluating the behavioural effects of the systems. While the provision of expenditure information is undoubtedly an improvement on current levels of consumer protection, there is little concrete evidence available regarding the effect of this on modifying gambling behaviour. Further research may assist in identifying the appropriate parameters of account summary systems, and also in determining the degree to which unintended consequences may emerge through the more frequent sharing of expenditure information. The system should adapt to provide targeted support to gamblers identified as experiencing problems through these new features of pre-commitment. The most effective way of doing this may require additional research.

A key finding of this review is that it is necessary to provide meaningful and clearly presented information to gamblers. If consumers receive complex or overly detailed information, this could lead to disengagement with valuable features of the pre-commitment system, such as transaction history statements to inform appropriate setting of loss limits. While the provision of periodic transactions on their own are unlikely to generate significant reductions in harm, it may encourage problem gamblers to confront their spending and may then trigger decisions to change behaviour, stop gambling and/or seek help. This information may also assist gamblers at risk of developing a problem to gain insight into problematic patterns of gambling earlier than they may otherwise have received.

An accounting system capable of summarising expenditure is an essential component of the pre-commitment system, and key to informing consumer decisions around loss limits and self-exclusion. It also provides an opportunity to promote the use of these more active features of the pre-commitment system in order to support safe levels of EGM spending.

Given that gambling problems occur across a continuum, and that gamblers move into and out of risk categories over the course of a gambling career, it is anticipated that the transaction history statement system will be useful for all gamblers: those whose expenditure is currently conforming to expectations; those who have not recognised the difference between their perceived and actual spending; and those who are contemplating ways to control their spending, including limit setting or self-exclusion.

However, the transaction history statement system is a comparatively modest aspect of the pre-commitment system, in that it simply records expenditure and can be used to inform decisions around EGM use. By itself it would be unlikely to result in significant harm minimisation benefits for many gamblers. It would therefore be better used as an integral part of a broader pre-commitment system rather than as a standalone tool.

Transaction history statements and other data collected through pre-commitment systems could also be used to inform studies to evaluate gambling behaviour over time. However, care needs to be taken to ensure that the use of these data does not jeopardise the confidence of consumers in the security of their gambling expenditure information.

The pre-commitment system itself is only one part of a range of measures that could be employed to improve the safety of EGMs and provide better consumer protection. No harm minimisation measure will necessarily be capable of reaching all gamblers, and it is likely that some gamblers will find ways to circumvent measures designed to provide safe levels of gambling. Ways to potentially undermine the integrity of this system may include using multiple cards, swapping cards or sharing PIN details with other gamblers or, in a partial system, only using cards intermittently and/or ceasing card use when limits have been reached. However, there is likely to be a net benefit from the introduction of account summary information; it will lead to improved consumer protection and has the potential to minimise EGM harm if mechanisms are in place to minimise the likelihood of using several accounts.

A clear finding from consultations and the literature was that early pre-commitment systems and self-exclusion features were developed based on minimal evidence, with technological capability

often driving design rather than theory or any clear understanding of gambler behaviour. There were important lessons learned from these early implementations, and consultation data show that later designs were strongly influenced by the evidence and experiences of earlier trials and implementations. This review has provided a summary and critique of transaction history statements, including best practice options for their design. It has provided a resource that could be used by both state and federal governments to inform their design and implementation choices within pre-commitment systems.

Instruments and references

Legislation

Criminal Code RSC 1985, c C-46 (Canada)

Gambling Act 2003 (New Zealand)

Gambling Regulation Act 2003 (Victoria)

Gaming Control Act, SNS, 1994–95, C4 (Nova Scotia)

National Gambling Reform Act 2012 (Commonwealth)

Gambling (Harm Prevention and Minimisation) Regulations 2004 (New Zealand)

Gambling Regulation Amendment (Licensing) Act 2009 (Victoria)

Gambling Regulation (Pre-Commitment) Regulations 2012 (Victoria)

Gaming Machine Regulation 2004 (Australian Capital Territory)

Gaming Machines Regulation 2010 (New South Wales)

Statutes Amendment (Gambling Reform) Bill 2013 (South Australia)

Industry guidelines/codes of conduct

Card Based Gaming Minimum Technical Requirements (Queensland)

Responsible Gambling Mandatory Code of Practice for Tasmania

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Appendix A: Methodology

Rapid evidence assessment

Stage 1: Identify sources to be searched and pilot search terms

The research team searched 50 databases through EBSCOhost, which hosts academic, scientific and grey literature. These included:

- EconLit, the American Economic Association's electronic database, which covers virtually every area related to economics and is the world's foremost source of references to economic literature;

- PsycARTICLES, from the American Psychological Association, which is a definitive source of peer-reviewed, scholarly and scientific articles in psychology;

- Psychology and Behavioural Sciences Collection, the world's largest psychology database;

- PsycINFO, the largest resource devoted to peer-reviewed literature in behavioural science and mental health; and

- Hospitality and Tourism Complete, which includes industry publications and scholarly journals such as International Gambling Studies.

Eleven databases were searched through Informit, which primarily contains Australian content. These included:

- Attorney-General's Information Service, which covers all aspects of law;

- Health Collection, which includes evidence-based treatment practices for addiction; and

- Multicultural Australia and Immigration Studies, which covers a wide range of material on cross-cultural topics.

Ten Australian institutions with specialist gambling-related websites were identified and searched manually. These were:

- Gambling Research Australia;

- Victorian Responsible Gambling Foundation;

- Melbourne Monash Problem Gambling Research & Treatment Centre;

- Gambling Research Unit, University of Sydney;

- Centre for Gambling Education and Research, Southern Cross University;

- Centre for Gambling Research, Australian National University;

- South Australian Centre for Economic Studies, University of Adelaide;

- Offices, Departments or Commissions of Liquor, Racing and Gaming, VIC, NSW, QLD, SA, TAS, NT, WA;

- Australian Productivity Commission; and

- Parliament of Australia, Parliamentary Joint Select Committee on Gambling Reform.

Search terms were developed and piloted, with searches confined to post-2000 references. The search terms were:

■ electronic gaming machine* *and* transaction history

■ electronic gaming machine* *and* transaction history *and* limit setting

■ electronic gaming machine* *and* transaction statement

■ electronic gaming machine* *and* player statement

■ slot machine* *and* transaction history

■ slot machine* *and* transaction statement

■ slot machine* *and* player statement

■ video lottery machine* *and* transaction history

■ video lottery machine* *and* transaction statement

■ video lottery machine* *and* player statement

In addition to literature searches, the research team identified the relevant primary and subordinate legislation for the Commonwealth and each state and territory. This was done by manually searching relevant legislative databases (for Australia, New Zealand and Canada), and the respective databases for the parliament in each state and territory as well as for the Commonwealth. To supplement the legislation the research team also identified the regulatory body concerned with gambling in each state and territory and searched the regulator's website for details of non-legislative regulatory tools. These were noted along with the legislation. Finally the research team reviewed the responsible gambling policies of major venues/licensees in each state and territory.*

Stage 2: Initial search and creation of reference database

Search terms were entered into each of the identified databases. The research team maintained and shared notes as to how the search terms were entered into the databases. This ensured transparency and replication of approach.

The research team used Endnote, a reference management program, to keep a record of the references identified. Each relevant 'hit' was downloaded or entered manually into Endnote. The information retained for each reference was:

■ author;

■ year of publication;

■ title;

■ type of publication (e.g., book, journal article, fact sheet, grey literature);

■ publication details (e.g., volume and page numbers for journals, publisher name and city for books); and

■ electronic full text where available.

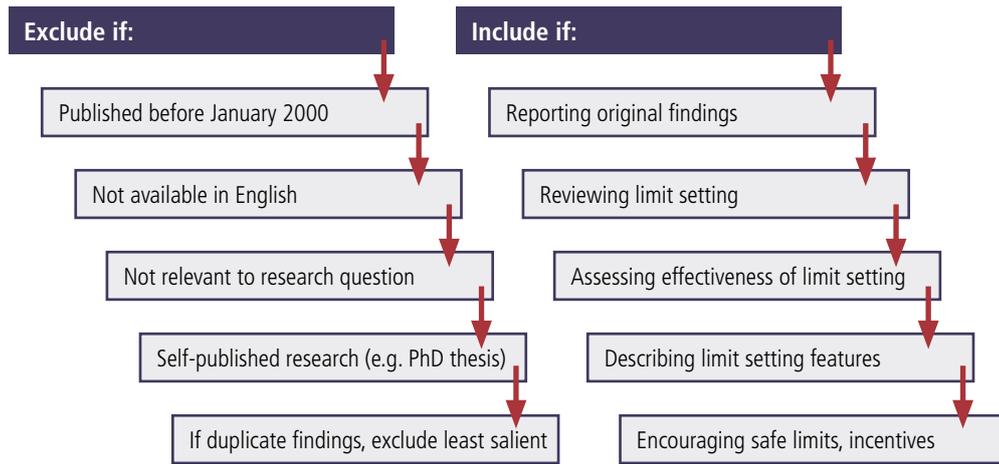## Stage 3: Removal of duplicates and application of inclusion/exclusion criteria

The "remove duplicates" function on Endnote was used to remove duplicates. Further duplicates that were not removed by this function were extracted by hand when encountered.

The research team read the title and abstract for all references recorded, and applied the initial inclusion/exclusion criteria shown in Figure A1 (on page 47).

The researchers collaborated to cross-check application of the criteria to the first 10 references and found unanimity in decisions to include or exclude.

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* No legislative documents were available in English for Norway and Sweden.

Exclude if:	Include if:
Published before January 2000	Reporting original findings
Not available in English	Reviewing limit setting
Not relevant to research question	Assessing effectiveness of limit setting
Self-published research (e.g. PhD thesis)	Describing limit setting features
If duplicate findings, exclude least salient	Encouraging safe limits, incentives

Figure A1:   Criteria for including or excluding reference sources

Stage 4: Categorising by research question and reviewing

After the initial exclusion criteria were applied, the hits were categorised according to the research questions to which they applied. The researchers identified those research questions that had a large or small number of hits through this process. The number of hits was judged to be of a manageable magnitude for each research question. No revision was made to the exclusion criteria.

Three members of the research team reviewed a pool of references that bordered inclusion/exclusion and made unanimous decisions as to their correct categorisation.

Stage 5: Reading and extracting data

Members of the research team read each reference that had been retained. References that were agreed to be especially relevant to the research questions were assigned for full data extraction. Additional literature was read and integrated as appropriate.

Information was extracted from each source using the categories shown in below. This template provided information for study descriptions and quality assessment.

- Citation information
- Publication type
- Study aims:
  - focus
  - purpose
- Sample characteristics:
  - population
  - sample
  - age
  - country
- Methodology:
  - study timing
  - data collection
  - sample selection method
  - recruitment method

- – incentives
- – data analysis methods
- – variable measurement
- – method used
- – drop-out rate
■ Transaction history intervention characteristics:
- – hypothesis/research question
- – year and duration of intervention
- – program logic/theory
■ Transaction history features:
- – transaction history content
- – presentation
- – access (push/pull, who, where/when)
■ Results

A similar approach was also applied in relation to reviewing the legislation in each state and territory and the Commonwealth. Having identified relevant Acts and Regulations the research team identified the specific provisions, and using a data extraction tool, noted the applicable items. Where the state or territory relied on a Code of Conduct or similar as the regulatory framework, this was also reviewed against the data extraction tool.

Stage 6: Manual search and follow-up of references and citations

The systematic database and specialist website search was followed up with a manual search of the bibliographies and references for highly cited references. This allowed the team to identify the following prominent researchers in the field:

■ Alex Blaszczynski, University of Sydney;

■ Paul Delfabbro, University of Adelaide;

■ Sally Gainsbury, Southern Cross University;

■ Mark Griffith, Nottingham Trent University;

■ Sarah Hare, Schottler Consulting;

■ Nerilee Hing, Southern Cross University;

■ Robert Ladouceur, Laval University;

■ Sharen Nisbet, Schottler Consulting; and

■ Lia Nower, Rutger University.

A manual search of the works of these researchers was performed to identify key ideas, concepts of relevance, or historical knowledge that may have been overlooked.

Stage 7: Quality assessment, reporting and synthesis

Data extracted from the studies identified were used to write the report. The researchers internally discussed the value and contributions of papers to the research questions. Strengths and limitations of the studies were considered in the weight given to their influence over the report. Behavioural studies, studies of implementations, and studies with large samples were given the greatest prominence.

Stakeholder consultations

Communication

Consultations were conducted primarily over the phone with a small number conducted face-to-face with Australian stakeholders. The discussions took place between July and August 2013. Consultations involved between one and three participants and took between approximately 35 and 100 minutes. With the participants' consent, consultations were recorded (but not transcribed) to ensure that the content of discussion was accurately documented and to allow a detailed review of the discussion to be undertaken. Extensive notes were taken and the recordings were destroyed once the accuracy of the notes was verified.

The information provided by these discussions was provided confidentially and any information that may have identified an individual or venue was removed.

Consultation schedule and extraction of data

The consultation schedule was structured to inform the topics shown in Table A1, which provided data for the research questions. These topics formed a data extraction template into which the information gathered from each consultation was partitioned and organised.

- Location
- How measures were developed
- Consultant type
- Influences on choices made
- Professional background
- Cash/ card/cashless
- Purpose of transaction history measures (in place, under consideration, trialled/trialling)
- Target groups
- Full or partial system
- Evidence supporting choice
- Mandatory or voluntary
- What should be implemented and why
- Opt-in or opt-out
- What research/evidence would help
- Single location or wider
- Amendments being considered
- Relation to social setting
- Unintended consequences
- Relation to legislation
- Technology

Data synthesis

Data extracted from the consultations were synthesised into responses to each of the research questions. Synthesised responses were further integrated into the report to inform the discussion of transaction history features.