



**ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURE
RESEARCH - FINAL REPORT**

October, 2002

<p>Summary Report of Key Findings</p>

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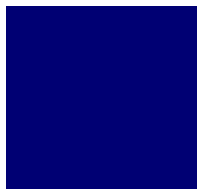
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Turning Information Into Insight

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NS VL Responsible Gaming Features Research

The results of the Nova Scotia Video Lottery Responsible Gaming Features Research provide compelling evidence of the potential of machine based interventions as part of an integrated responsible gaming strategy for video lottery gaming.

*- Section 1 -
Introduction and
Methodology*

“The responsible gaming features [on the new video lottery terminals] are a first in North America and are intended to help discourage excessive play. They are designed to provide important reality checks and interruptions alerting players to the amount of time [and money] being spent during a specific play session.”
*RFP Addendum,
May 17, 2001*

Introduction

In December 2000, the Nova Scotia Gaming Corporation (NSGC) announced that it would be replacing 3,200 video lottery terminals (VLTs) with new or modified machines. Responsible gaming features designed to discourage excessive play were integrated in the design of the terminals. The features were developed after research and consultation with problem gambling experts (Dr. Harold Wynne and Dr. Howard Schaffer), video lottery manufacturers and player focus groups. Nova Scotia was the first jurisdiction in North America to introduce this package of four responsible gaming features (RGFs) on VLTs.

In May 2001, NSGC, through the Atlantic Lottery Corporation (ALC), began introducing the new VLTs in various sites across Nova Scotia. This initiated the first of three phases comprising the VLT Replacement Plan scheduled to occur over a two-year period. The Introductory Phase took place from May 2001 to January 2002, during which time 1,000 new model terminals and approximately 400 upgraded older model terminals were rolled-out in specific retailer locations throughout the province.

The changes introduced to the machines included new games and improved graphics, the addition of a bill acceptor and four responsible gaming features intended to assist players in managing the amount of time and money spent while playing the games. The RGFs are comprised of:

- ♦ a permanent on-screen clock denoting time-of-day;
- ♦ a display of betting activity in cash amounts rather than credits;
- ♦ pop-up reminders of time spent playing after 60, 90 and 120 minutes of continuous play; and;

**SUMMARY OF KEY FINDINGS
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- ♦ a 5-minute cash out warning at 145 minutes of continuous play and mandatory cash out at 150 minutes.

These modifications include two constant features that all players would be exposed to during play on the new terminals, an on-screen clock and the display of betting activity in the form of cash rather than credits. The others are behaviour-triggered features comprised of pop-up messages and a mandatory cash out that are only activated if a player meets a certain threshold for continuous play (i.e., pop-up reminders at 60, 90 and 120 minutes, mandatory cash out warning at 145 minutes, cash out at 150 minutes.)

The responsible gaming features on the new and modified terminals in Nova Scotia are intended to assist players in managing time and money spent while they are taking part in the activity. These features were chosen based on two premises – creating breaks in play and providing important reality checks for the player. Specifically, the features are designed to target those individuals involved in excessive play (dollars and time spent beyond desired and/or affordable levels) while having a minimal impact for those players taking part at “responsible” or low risk levels.

Research Objectives:

An important component of the VLT Replacement Plan was an evaluation of the impact of the RGFs during the introductory period of the new terminals to:

- assess awareness of and exposure to the features;
- determine the effect of the RGFs on player behaviours, perceptions and attitudes;
- identify, what, if any, changes or improvements are recommended to enhance the effectiveness of the features in mediating excessive play.

Focal Research was awarded the project based on a comprehensive research plan to address the information requirements of this challenging and leading edge study.

Research Design:

The design for the study consisted of both qualitative and quantitative research.

Qualitative Research – Preliminary Product Response Phase

The Preliminary Product Response Phase was comprised of three components; observation of controlled play sessions, focus groups with Regular VL Players, and one-on-one interviews all conducted during May 2001. The qualitative phase of the research was considered an integral part of the overall process. There were many unknowns leading into the quantitative phase of the research about how players would

VL RGF
RESEARCH -
PURPOSE
▪ Assess awareness & exposure
▪ Determine effectiveness
▪ Identify potential improvements

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FINAL REPORT - OCTOBER 2002**

**SUMMARY OF KEY FINDINGS
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interact with the RGFs. Therefore, preliminary information obtained during the qualitative phase of the research was critical as input to the design of the quantitative stage of the research.

In total, four focus groups were undertaken, two with Non-Problem Regular VL Players and two with Resolved and Current Problem Players, comprising 22 participants overall. Over a two-hour period, participants were observed playing on six of the new terminals set-up on-site at Focal Research. Following play of the new machines all participants then took part in in-depth discussion groups surrounding: initial reactions to the new terminals, reactions to each RGF, influence on perceptions, attitudes and play behaviours, influence on excessive play. The information obtained was used to develop the questionnaire and refine research design in preparation for the pre-test and quantitative phase of the research.

The first draft outline of the questionnaire was tested in 12 one-on-one personal interviews. Versions 1 to 5 of the draft questionnaire were pre-tested and analyzed before the final survey was produced for data collection (n=63).

Quantitative Research – Pre /Post Return to Sample Design

To address the information objectives of the study a pre/post return to sample methodology was adopted. This approach consisted of obtaining a baseline measure of responses for comparison to post measures following the introduction of the new terminals.

In May 2001, VL players were intercepted on-site at 81 qualified VL locations in select communities throughout the province and recontacted by telephone to screen for eligibility. Participation was restricted to permanent residents of Nova Scotia, age 19 years or older, who played VL games at least once a month or more at eligible locations. The detailed play behaviours, attitudes and perceptions for 164 qualified regular VL players were benchmarked in June 2001 and tracked in three follow-up surveys at approximately two-month intervals during the course of the introductory period for the new terminals. The overall response rate for the study was 69.2% with a drop off rate of 30.8% over the four waves of the study. The data was examined for total players and by adoption of regular play on the new terminals (Adopters versus Non-Adopters) as well as risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk and Problem Play).

RESEARCH

PROCESS

QUALITATIVE (May 2001)

- ♦ Observed Play (22)
- ♦ Focus Groups (4)
- ♦ One-on-one interviews (12)

QUANTITATIVE

- ♦ Pre-test (May '01)
- ♦ On-site Intercepts (May '01)
- ♦ Pre Survey (June '01)
- ♦ Post 1 Survey (Sept '01)
- ♦ Post 2 Survey (Nov '01)
- ♦ Post 3 Survey (Feb '02)
- ♦ Analysis (March – Aug '02)

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GENERAL OVERVIEW

*- Section 2 -
 General Overview*

“The responsible gaming features [on the new and modified video lottery terminals] are a first in North America and are intended to help discourage excessive play, having been designed to provide important reality checks and interruptions alerting players to the amount of time [and money] being spent during a specific play session.”¹

The General Overview for the 2001/2002 NS Responsible Gaming Features Study provides descriptive contextual information for evaluating the impact of the RGFs on player behaviour, attitudes and game outcomes. This “big picture” view tracks changes in responses over the course of the introductory period for the new terminals, thereby contributing to a more comprehensive understanding of the potential effects of the modifications in influencing behaviour and outcomes.

Section 2 provides a descriptive overview of general player response toward the new terminals and responsible gaming features (RGFs) over the introductory phase of the new machines. The playing patterns, attitudes, perceptions and characteristics of participating Regular VL Players (n=164) are profiled and compared over the four waves of the study. The Pre Survey conducted during June 2001 established benchmark measures that were tracked at approximately two-month intervals until the final Post 3 Survey in February 2002. Results are examined by adoption of play on the new terminals (Adopters versus Non-Adopters) and by risk for problem gambling using the Canadian Problem Gambling Index (CPGI: No Risk, Low Risk, Moderate Risk, Problem Play).

Primary Segmentations

Play of New Terminals

Type of Player	Description	Sample Size	% of Players (n=164)
Adopter	By the final Post 3 Survey (Feb 2002) majority of times played in the last month were on the new terminals (75%+ of total times played)	75	46%
Non-Adopter	By final Post 3 Survey continued to play mainly on the older model terminals	89	54%

¹ Atlantic Lottery Corporation Schedule A – Project Proposal Addendum, May 17, 2001

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Risk For Problem Play

Player Status (based on CPGI classification)	CPGI Score	Sample Size	% of Players
No Risk	0	47	29%
Low Risk	1-2	48	29%
Moderate Risk	3-7	39	24%
Problem Player	8+	30	18%

Key Findings

Demographic Characteristics

- ♦ Overall, the profile of Regular VL Players participating in the study is consistent with other research conducted in Nova Scotia. Due to the use of on-site intercepts in generating the sample, a frequency bias of including those who are playing most often at the time of the intercept is evident.
- ♦ The new machines did not appear to attract any particular demographic group of Regular VL Players, with no differences observed in the demographic characteristics of Adopters or Non-Adopters.
- ♦ Although this is the first time the CPGI has been used to classify regular gamblers in Nova Scotia, the results are similar to previous research conducted within the province. For the most part, Problem Players tend to have similar profiles to Regular VL Players in general. While sample sizes among the four CPGI segments are too small to detect statistically significant differences, there is evidence to support previous findings that risk for problem gambling is more often associated with lower education levels and middle age adults (40-59 years). Again, Regular VL Players who are younger, those who are married or involved in a spousal relationship, and those with university education tend to exhibit lower risk levels for problem gambling. Regardless, in the current study, with the exception of rural area of residence, there are no significant demographic differences influencing the results.

Player Profiles (Pre-Survey Benchmarks)

- ♦ *Participating Regular VL Players:*
 - tend to play VL games at least once per week (77%), on average playing about 8 times per month;
 - have been playing on a regular monthly basis on average for approximately 5 years, with only 27% having taken up regular play in the last two years;
 - typically play for almost two hours each time they play (112 minutes);

The descriptive summary in Section 2 is of value in determining how the introduction of the modifications was perceived by the various player groups, whether any concomitant changes occurred in play behaviours and outcomes, and whether these changes were related to play of the new terminals and/or risk for problem gambling.

SUMMARY OF KEY FINDINGS
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- median amount spent per month playing VL games is \$240.00;
- usually set a time and/or money budget before starting to play (76%);
- are evenly divided between typically playing in locations with and without a visible clock;
- tend to wear watches (65%).

♦ ***By Adoption of the New Terminals (Adopters versus Non-Adopters):***

- **Those who adopted play on the new terminals were more likely to have been more involved in VL play before the new machines were introduced, playing more frequently each month (9 times versus 7 times), for longer periods (135 minutes versus 93 minutes) and, on average, spending twice as much money out-of-pocket each month on the games.**
- At the time of the Pre Survey, Adopters were also significantly more likely than Non-Adopters to report the following behaviours during play:
 - ♦ Losing track of time (46% versus 31% of times played)
 - ♦ Losing track of money (26% versus 17%)
 - ♦ Spending more time (49% versus 30%) and especially money (63% versus 35%) than wanted/intended
 - ♦ Chasing losses (44% versus 33%)
 - ♦ Cashing out and then continuing to play (60% versus 50%)

♦ ***By Risk for Problem Gambling (CPGI Classification):***

- With the exception of how long players have been involved in regular play, all other measures increased with risk for problem gambling, including frequency of play, average number of times played per month, length of play, amount of money spent per session and monthly expenditure.
- Problem Players typically reported playing twice as many times each month than lower risk players (11.7 times versus ≈6.5 times) with Moderate Risk Players falling midway between at about 8-9 times per month.
- On average, Problem Players spend about 3 hours each time they play (173 minutes), versus about 2 hours for Moderate Risk Players (129 minutes), 1½ hours for Low Risk (97 minutes) and 1¼ hours for No Risk Players (76 minutes). Thus, the **length of time spent per session by Problem Players is at least one-third higher than even Moderate Risk Players, and twice as high as those in the lower risk groups.**
- Given the combined effects of how often they play and the longer session lengths, **average monthly expenditures for Problem Players participating**

In general, the new terminals tended to attract VL players who were already playing at higher levels than those who continued to play on the older model VLTs. These players were also more likely than Non-Adopters to be spending beyond desired time and money limits, and more often losing track of time and money suggesting such players are a key target group for the RGFs.

**SUMMARY OF KEY FINDINGS
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in the study were twice as high as the amounts spent by Moderate Risk Players, and about three times that by those at lower risk.

As expected, almost all play behaviours related to frequency of play and time and money spent increase with risk for problem gambling. As a result, Problem Players participating in the study, on average, spend two to three times more money per month on VL gambling than those Regular VL Players in any other risk group.

- Not surprisingly, Problem Players are significantly less likely than the other players to set a budget for play (60% versus 77 to 81%). It appears that, given their tendency to spend beyond desired limits the vast majority of times played (89%), they are deriving little benefit from any self-directed efforts to moderate their spending.
- In terms of behaviours contributing to time and money spent, there were also concomitant associations with increased risk for problem play such that in the majority of play sessions, **Problem Players:**
 - ♦ Lose track of time (62%) and, to a lesser extent, money spent (51%);
 - ♦ Spend more time (82%) and money (89%) than was intended;
 - ♦ Are chasing losses (83%).
- In general, all higher risk players are more likely to cash out and continue playing during a single play session (≈64% versus 37% to 47%) with no differences observed among any of the player groups in the frequency of running credits down to zero at least once during play (≈60% of times played).

Changes In Key Indicators – Time and Money Spent (Wave 1 to Wave 4)

- ♦ The average **amount of time spent per play session** remained stable for total players, but a significant decline was observed for Adopters (Pre: 135 minutes per session versus Post 3: 116 minutes). Given the stability of session length for the other segments, the results suggest that **adoption of play on the new terminals is associated with reduced length of play.**
- ♦ **Despite a significant decline in session length for Adopters, average expenditure per session has remained stable on the new terminals.** Thus, there appears to be an increase in the rate of expenditure on the new terminals with those adopting regular play spending similar amounts of money as on the older model terminals, but doing so during shorter time periods.
- ♦ For all other players, the amount of time and money spent each time they played was stable over the course of the study.

Adopters (those who took up play on the new machines) are the only group for which a significant decline occurred in the length of time spent playing.

Typical Play Behaviours

While time and money spent are key indicators for game outcomes, there are a number of play behaviours that influence these outcomes:

- Losing track of time or money while playing
- Spending more time or money than intended or desired

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Over the course of the study, the frequency of the following play behaviours declined for participating VL players:

- ♦ less often lost track of time and/or money while playing
- ♦ less often spent more time and/or money playing the machines than they intended

There were no overall changes noted for the frequency of:

- ♦ cashing out and then continuing to play
- ♦ letting the credits run down to zero before putting in more money
- ♦ trying to win back money lost through gambling

- Chasing losses
- Cashing out and continuing to play
- Running credits down to zero before putting in more money

The frequency of engaging in some these behaviours impact the players' potential exposure to the RGFs, specifically the pop-up reminders and mandatory cash out feature (e.g., cashing out or running credits down to zero which resets the clock tracking continuous play).

- ♦ For all participating players, the frequency of losing track of time and/or money while playing (Post 3: 15% and 10% of the times playing VL games, respectively), and the frequency of spending more time and/or money than intended (Post 3: 28% and 40% of times played), declined over the course of the study. The drops primarily occurred at the Post 1 measure, **indicating that exposure to the RGFs (on-screen clock, cash amounts instead of credits) may have contributed to the improved manageability of time and money.** (A testing effect may also have influenced results to some degree such that participation in the study heightened players' awareness of the time and money they were spending.)
- ♦ **Play on the new terminals was associated with improvements in reported control over expenditure.** For Adopters only there was a significant decline over the course of the study in frequency of overspending (50% versus 63% of times played), although Adopters continue to spend beyond desired limits more frequently than Non-Adopters.
- ♦ There were no changes noted for the frequency of cashing out and continuing to play (51%), chasing losses (38%), and/or letting the credits run down to zero before putting in more money (61%). **This means that players tend to cash out during play or let the credits run out during the majority of times they play VLTs, and that these behaviours are fairly entrenched and stable over time.**
- ♦ The frequency of cashing out during a play session increases with the risk of developing problems, such that Problem Players tend to cash out at least once during the majority of times they play.
- ♦ **For most play sessions, these behaviours preclude exposure to pop-up reminders as they interrupt machine-recognizable periods of continuous play, particularly for Problem VL Players.** This greatly limits the effectiveness of the pop-up message RGFs, particularly those scheduled after longer periods of uninterrupted play (90, 120, 145 and 150 minutes).

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Awareness, Liking & Perceived Effectiveness Of The RGFs

- ♦ Nearly three-quarters of participating VL players (72%) had already heard about or seen the new or modified terminals at the Pre measure. **By the final wave, 98% were aware of the new machines, and 90% to 97% knew of the individual RGFs.** For most features, awareness was similar for Adopters and Non-Adopters and among the four risk groups, regardless of trial or monthly play on the new machines, reflecting the sharing of information on the new features by word-of-mouth or observation.

Adopters are more likely than Non-Adopters to like the on-screen clock, playing with cash amounts instead of credits, and availability of the bill acceptors. These players who play VL games mainly on the new or modified machines are comparatively less inclined to like the pop-up messages. This suggests that the pop-up messages and the 5-minute cash out warning message may become more annoying to players as the frequency of exposure to the messages increases. Given that the preferred features can all be positioned as facilitating play, it is not surprising that those RGFs which interrupt play are rated less favourably.

- ♦ **The most preferred features among all players were the on-screen clock (60% like it), playing with cash amounts instead of credits (58%) and the bill acceptors (52%), the latter of which was considered most appealing by the Problem Players (60% versus 49%).**
- ♦ For the most part, all of the above features can be seen to facilitate players' interaction with the machines providing easy access to time checks, minimizing issues associated with getting change or translating credits into dollar values.
- ♦ **In contrast, players were less enthusiastic about the pop-up messages and mandatory cash out, with liking ratings ranging from a low of 30% to a high of 37% for the 60-minute reminder.** As exposure to and/or direct experience with the RGFs increased, the average liking ratings significantly declined for all of the pop-up reminder messages.
- ♦ **Liking of the pop-up messages and mandatory cash out declined with risk for problem play and was lower among the Adopters versus Non-Adopters.** As both higher risk players and Adopters had greater exposure to the behaviour-triggered RGFs, the findings suggest that these features may become more annoying over time as players have greater exposure to the messages. Given that the preferred features tend to facilitate play, it is not surprising that those features that interrupt play are rated less favourably.
- ♦ Perceived effectiveness of the RGFs was more conservative than liking ratings, but remained steady throughout the study as opposed to declining. **Those RGFs to which all players were exposed (cash instead of credits, on-screen clock) were perceived as more effective than the pop-up reminders (behaviour-activated features).** Again, this is not surprising as the pop-up messages and cash out feature will only be relevant for some players under specific conditions.
- ♦ For the most part, effectiveness ratings are similar for players across all segments, including for No Risk and Problem Players. This suggests that the perceived effectiveness of the features may not be strongly related to players' actual experiences in losing track of time or money while playing VL games.

SUMMARY OF KEY FINDINGS
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- ♦ **The display of betting activity in cash amounts instead of credits received the highest rating in terms of assisting players to keep track of money (46%)** with no differences among any of the player groups.
- ♦ The on-screen clock received the second highest rating for effectiveness (39%) but was rated more favourably by those who adopted regular play on the new terminals (47% versus 33%). Given that the vast majority of Non-Adopters had experience playing the new terminals, **the results suggest that the increased familiarity with the new machines by Adopters may be leading them to make more effective use of the clock.**
- ♦ **It is noteworthy that players generally rate the bill acceptor as more effective (31%) in assisting them to manage time and money spent than the pop-up messages (18% to 26%) or mandatory cash out (19%).**
- ♦ The relatively high effectiveness rating for the bill acceptor may be unexpected, as this modification was not introduced as an RGF. However, it appears that for almost one-third of players the ability to insert “bills” rather than just “coins” appears to offer some value in keeping track of money spent. This may be especially true for those who set budgets for play. However, before interpreting this modification as an improvement, it is necessary to assess whether the benefits afforded some players are offset by the negative effects for others.

Overall, perceived effectiveness of the RGFs/new features has remained consistent over the three waves, and tends to be at lower levels than liking. Less than half of participating players in Wave 4 rate any RGF as effective, with the use of cash instead of credits achieving the highest rank (46%). Approximately one-third of players believe the on-screen clock will have an effect on keeping track of time while playing (39%), or that bill acceptors will help them keep track of expenditure during play (31%). About one-quarter or less describe any of the pop-up reminders/messages as affecting management of time or money expenditures.

Play Of The New Terminals

- ♦ Trial of the new machines reached 84% of participating players by the Post 3 measure. About 1 in 7 (14%) were aware of the new machines, but did not try playing them, primarily due to lack of interest and satisfaction with the old (preferred) games/machines.
- ♦ Continued adoption, i.e., the percentage of trial players who continued playing during the last month, is high for the new machines at 85% during the final Post 3 Survey.
- ♦ Over the course of the study, Problem Players have played on the new machines on average more frequently than lower risk players (55 times versus ≈10 to 20 times). However, the average number of times played in the last month is similar across all four risk groups (4 to 5 times). Moreover, with the exception of No Risk Players, the percentage having tried the new terminals (82% to 93%), or having played in the last month (74% to 77%) are similar in all player groups. **This suggests that, despite the skew towards attracting those players most involved in VL play, the new machines did not specifically attract players at the higher levels of risk for problem play. In fact, these players were equally likely to have come from the Low, Moderate and Problem Player groups.**

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Exposure To On-screen Clock During Play

- ♦ **Almost all players who tried the new machines recall seeing the on-screen clock (94%), yet only 22% refer to the clock on a frequent or continuous basis while playing, similar for players regardless of CPGI risk level.** Nearly one-third (31%) of all participating VL players report that they never referred to the on-screen clock while playing. However, 80% of this group usually wear a watch, compared to only 52% of those who at least sometimes referred to the clock.
- ♦ Players tend to refer to the clock with a similar frequency during play, regardless of how long their typical play session on the new machine lasts (i.e., similar in all four CPGI risk groups). **However, those who play most frequently on the new terminals refer to the on-screen clock more often while playing than those who primarily play on the old machines. This suggests that familiarity with the new machines and most likely the feature itself leads to increased use.**

Exposure to Pop up Messages and Mandatory Cash out

- ♦ **The majority of participating VL players (54%) have first hand experience with at least one of the pop-up reminder messages, representing nearly two-thirds (64%) of those who have tried the modified terminals.**
- ♦ Adopters are significantly more likely than Non-Adopters to have seen each of the pop-up messages. However, even without taking up regular play on the new terminals, nearly half of all Non-Adopters who tried the new machines saw the 60-minute message. Approximately 1 in 5 Adopters had played the new terminals at least once for 145 continuous minutes, and 17% were exposed to the mandatory cash out feature that is triggered at 150 minutes of continuous play.
- ♦ **Exposure for each of the pop-up messages increases with risk level for developing problems with VL play.** The majority of Problem Players who tried the modified terminals (51%, or 47% of all participating Problem Players) saw the 120-minute pop-up message on at least one occasion, versus 28% or less for the lower risk groups. Problem Players are also most likely to have seen the 5-minute mandatory cash out warning after 145 minutes of play, and were the only group for which some players (10%) acted on the warning and cashed out prior to experiencing the mandatory cash out feature.

Liking Of The New Terminals

- ♦ Those who have tried the new terminals are fairly evenly divided in their preference for one type of machine over the other. Not surprisingly, Adopters are most enthusiastic with 52% liking the new machines versus 20% indicating preference for the old. For Non-Adopters, the old terminals are preferred twice as often (48% versus 24%). Preference levels are similar for players in all four CPGI risk groups.

Overall, rates of trial and play in the last month for the new or modified machines are similar for participating players in each risk group. This suggests that the new terminals with RGFs neither targeted nor discouraged play for those players at any specific level of risk for developing problems with their VL gambling.

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- ♦ The overwhelmingly preferred feature of the new machines is the new and different/variety of games available (51% of all participants).
- ♦ More than one-quarter of participants (27%, or one-third of all trial players) report that there is nothing in particular they dislike about the new machines. The top three disliked aspects are each mentioned by only 10% of participants, including a dislike of the new games, the odds of winning, and/or the bill acceptors. When asked to specify any improvements to the new terminals, 31% of participants were unable to offer any suggestions. **However, one in five trial players would like to see one or more of the new features removed, and 8% specifically noted the pop-up reminders.**

The majority of players in every segment believe that the new machines with RGFs will have little to no effect on reducing either time or money spent playing video lottery games. Adopters are more likely to believe they will derive benefits from the new terminals in this regard (24%).

Perceived Effect Of The New Machines On Reducing Time/Money Spent Playing VL

- ♦ Overall, the majority of players in every segment believe that the new machines with RGFs will have little to no effect on reducing either the time or money spent playing video lottery games. **However, almost one in every 6 players who have ever tried the new machines, and one-quarter of those adopting regular play, believe the new machines will have at least some effect in mediating their play.**
- ♦ Compared to lower risk players (particularly those at Moderate Risk), Problem Players are more inclined to believe the new terminals will have some effect on reducing the time spent playing (30% versus 6% to 19%).

Summary and Discussion

In general, the new machines neither targeted nor discouraged trial or monthly play in any one risk group of players. However, those attracted to regular play of the new terminals tended to be playing at higher levels than Non-Adopters and took up play primarily in response to the new games offered. These players also more often reported difficulties in managing time and money spent, underscoring the potential value of including RGFs on new terminals/games. Players are very evenly divided among preference for the old or new terminals, suggesting that not all players will be happy to lose their “old” favoured machines. For all those who tried the new terminals, the most preferred feature is the variety of new games, which attracted players from all CPGI risk groups. Typical VL play patterns, including frequency of play, are fairly entrenched and appear to have remained stable whether players adopted play on the new machines or stayed with the old. The on-screen clock is used equally by players in all groups, and is referred to most often by those who do not wear a watch. Players like the clock but do not perceive it as particularly effective in assisting them to manage the time spent playing. Increased awareness and familiarity with the

**SUMMARY OF KEY FINDINGS
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clock was associated with greater utility of the feature, thus, improvements are expected to occur as player acclimate to the availability of an on-screen clock. Play of the new machines was associated with a significant reduction in length of play, however, expenditures have remained stable. This suggests that the speed or rate of expenditure on the new terminals is faster on the new machines than on the older models. Exposure to each on-screen message and mandatory cash out feature increases with the level of risk. However, play behaviours that reset the internal timing mechanism triggering the pop-up reminders occur during the majority of plays, particularly with Problem Players running the credits down to zero or cashing out and then continuing to play. The frequency of such behaviours has remained stable throughout the study and will be a major obstacle to repeated exposure and, thus, the potential effectiveness of the pop-up messages in influencing players' behaviours during a given session of play.

PLAY BEHAVIOURS AND GAME OUTCOMES - ON A PER SESSION BASIS

**- Section 3 -
Play Behaviours and
Game Outcomes on
a per Session Basis**

“In order to understand the likely impact of the proposed changes to the patterns of play amongst problem and recreational gamblers it is important to observe the usual patterns of patrons...”² and by extension patterns of play as they occur in response to play on the modified machines.

In Section 2, information on general play behaviours, perceptions and attitudes provided a macro or big picture view of the cumulative effects of video lottery play on a regular monthly basis. This is important in determining how the introduction of machine modification or interventions are perceived by various player groups, whether or not such changes have a measurable influence for player outcomes and the magnitude of the impact in achieving change.

The outcome of regular video lottery play is the sum of how players interact with the games each time they play.

Most consequences for video lottery gambling accrue over time, as a result of continuous or on-going involvement in the activity. However, general gambling outcomes are the sum of how players interact with the machines each time they play. While frequency of play indicates how quickly the consequences of play behaviours will accumulate, it is behaviours at an individual per session level that defines what those effects will be.

² Final Report: The Assessment of the Impact of the Reconfiguration on Electronic Gaming Machines as Harm Minimization Strategies For Problem Gambling; Alex Blaszczynski, Louise Sharpe, Michael Walker; University of Sydney Gambling Research Unit; November, 2001.

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The responsible gaming features on the new terminals introduced by ALC and NSGC are designed to assist players in managing the amount of time and money spent during play, in particular for those who are playing at “excessive levels”, while having a minimal impact for those engaged in non-problem or responsible play.

Therefore, to assess the role of the features in mediating player behaviours relative to the vast array of other features that can potentially influence players’ interactions and decisions, it was necessary to gather information that accurately reflects how players respond during a specific play session.

This information provides insight not only in evaluating response towards the new terminals with the RGFs, but also in informing on-going responsible gaming initiatives by understanding how players in general interact with the machines.

Section 3 profiles and compares specific play behaviours and game outcomes based on detailed information gathered for the last time played in each wave of the study (n=794), using a pseudo-diary approach. The data for the most recent sessions were combined and then segmented into those plays which occurred on the old terminals (n=497) versus those which occurred on the new terminals with the RGFs (n=297).

To assess any differences associated with recreational versus problem play, the total observations for each type of terminal were then segmented and compared based on risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk, Problem Players) to provide a descriptive overview of player responses.

Key Findings Related to Risk for Problem VL Play

- Higher risk players are more likely to be at the location to specifically play and, thus, video lottery is more often a planned rather than impulsive activity for these players. **As the decision to play is made well in advance of actual involvement in the games, there may be an opportunity to introduce budgeting and other play strategies for managing time and money as part of their “planning” process, prior to taking part in play and/or at the point of initiating play on the machine.**
- **The frequent involvement of friends or family members, typically on the same machines when playing the new terminals, suggests that this social aspect of play merits special consideration.** Approximately one third to one half of all plays involve others on the same (≈20% to 34%) or a nearby terminal (≈6% to 12%), regardless of risk for problem play. This means that in at least one out of every five plays, two individuals are playing together.

To assess the role of the RGFs in mediating player behaviours, it is necessary to understand how players respond to the machines, both in the absence and presence of such features. This is useful for informing on-going responsible gaming initiatives as it relates to player behaviours.

The higher the risk for problem gambling, the greater the likelihood the individual had specifically gone to the location to play the machines. There were no notable differences observed in impulse versus planned play between the old versus new terminals.

SUMMARY OF KEY FINDINGS
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- Amounts of money used to initiate play are similar among all players, however, the **number of times additional funds are inserted during play increases with risk for problem gambling.**
- **The amount first put in at the start of play was twice as high for plays on the new terminals** (about \$20.00 versus \$10.00). This is most likely to be related to the availability of the bill acceptors on the new terminals.
- **The average number of times continuous play during a session is interrupted also increases with risk**, ranging from a low of 3.5 times for No Risk Players to a high of 9.8 times for Problem Players. (For the purpose of the current study, continuous play refers to a single play period without any cash out or having credits run down to zero, thereby resetting the timing mechanism for the pop-up messages.)
- **Running the “bank” down to zero before putting in more funds is the primary behaviour interrupting continuous play and distinguishes non-problem from Problem Players**, especially on the new terminals (5 to 8 times per session versus 2 to 4 times).
- Whether on the old or new terminals, all players tend to play for approximately 25 to 30 minutes before the session is first interrupted, **although the longest period of continuous play for those at any level of risk for problem gambling tends to last on average for approximately 40 minutes. Only on the new terminals were Problem Players reporting longer periods of continuous play (≈60 minutes).**
- Although Problem Players are significantly more likely to be playing for continuous periods of 60 minutes or more during each session (57% versus 29% to 34%), there were no differences among those at any level of risk in the percentage reporting continuous play of 90 minutes or more (18% to 24%). **Thus, after the 60 minute mark, continuous play on a per session basis is not an effective discriminator for problem VL play.**
- **Not surprisingly, in half of all plays on the new terminals, Problem Players were exposed to the 60-minute message, twice as high an exposure rate as reported by non-problem players.**

The bill acceptor was used during the majority of times played by those in all player segments (76%+), especially Problem Players (98%).

Running “credits” down to zero is typical behaviour for all players. However, higher frequency of this practice in a given play session distinguishes Problem from non-problem players, especially on the new terminals.

On the old terminals, those at any level of risk for problem play (Low, Moderate and Problem) on average reported similar periods for longest continued play of ≈40 to 45 minutes.

SUMMARY OF KEY FINDINGS
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The longest period of play on the new terminals was significantly higher for Problem Players who, in over half of all sessions, played for 60 minutes or more without cashing out or running the credits down to zero.

Not surprisingly, in half of all play sessions on the new terminals, Problem Players reported having seen the 60-minute pop-up reminder. This rate of exposure was twice as high for Problem Players than for those in the non-problem segments, suggesting that the message was targeting those players at greater risk.

- For all of the other pop-up messages and the mandatory cash out feature, there were no differences in exposure among any of the player segments, with the exception of those at No Risk. **Therefore, aside from the 60-minute pop-up, the remaining features triggered after 90 minutes of continuous play are not necessarily preferentially reaching those at higher risk for problem gambling during each play session.**

Of course, due to greater frequency of play, those at higher risk will be exposed to the latter messages more often over time. The features were originally designed to exert influence at the time of intervention. The intention is to encourage the player to evaluate whether or not they wish to continue playing at a critical point when stopping would be expected to have a significant effect in reducing the consequences of excessive play. It could be that effects of repeated exposure will lead to long-term changes in behaviour, either in reducing play or in efforts to avoid seeing the message. Alternatively, players may simply become inured to the messages, responding by rote or habit particularly if other factors associated with continuous play are overriding the effect of seeing the message (e.g., chasing losses).

- Players in all groups typically play only one preferred game during each session on the old terminals. Traditionally in Nova Scotia, the most popular games are Swinging Bells, a three reel line-up game ($\approx 66\%$); Aces Fever ($\approx 21\%$ to 30%) and Joker Poker ($\approx 11\%$ to 20%), both of which are video poker games. **Only Problem Players report greater variety in the number of games played during each session (42% versus 17% to 30% playing two or more individual games per session on the old machines).**
- **On the new terminals, the majority of players in all segments reported playing more than one game during each session (54% to 61%).** Preferences are strongly shifted towards the new games rather than new versions of old favourites, especially Wild Arctic, a new reel line-up game (51% to 63%) and, to a lesser extent, Royal Spins ($\approx 30\%$), and Magic Merlin ($\approx 30\%$). **Given the strong skew towards the “new” offerings, it can be concluded that the availability and appeal of these new games is likely a key driver in motivating players to choose to play on the new machines.**

SUMMARY OF KEY FINDINGS
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For higher risk players, running out of time or money most often led to stopping play, with Problem Players citing lack of money as a mitigating factor significantly more often than any other player group.

Those players at higher risk for problem gambling, on average, reported losing track of time twice as often during plays on the old terminals (40% to 46%) than on the new terminals (22% to 24%) and for longer periods during the session (12% versus 30% of the session).

- Lower risk players were more likely to stop play when they had spent their budgeted amount of money, ran out of time, or experienced a “big” win. In contrast, running out of time or money was most likely to precipitate stopping by higher risk players. In particular, Problem Players were more than twice as likely to report stopping only when they had run out of money (≈40% versus 4% to 16%) whether they had played on the old or new terminals. **Again, this reflects the critical role of effective budgeting or the absence thereof for game outcomes.**
- Regardless of type of terminal, the length of play increased with risk for problem gambling, with sessions by Problem Players on average lasting twice as long as those of No Risk Players. Approximately half of all plays by those at Moderate Risk lasted for 90 minutes or more and this increased to up to 81% of sessions by Problem Players. **Thus, it is the overall length of the play session, as opposed to continuous play, that most strongly differentiates player risk.**
- On the new terminals, due to significantly longer sessions among the lower risk players, there were no longer any differences in average per session length between the three non-problem player segments. Session length was similar for higher risk players, whether plays occurred on the old or new terminals. **However, those at Moderate Risk were significantly more likely to believe the length of time played on the new machines was “shorter than intended” (40%).**
- Higher risk players were significantly less likely to be losing track of time on the new machines (≈24% of times played) than on the old terminals (≈40% of times played).

In Section 2, general improvements were observed in awareness for time and money spent over the course of the study and this occurred among all player groups. Thus, it was speculated that this response may be partially related to a testing effect such that taking part in the study heightened players’ sensitivity to the amount of time and money being spent during play. However, the results on a per session level suggest that some aspect of the new terminals is influencing players’ awareness of passing time since participating in the study did not lead to any improvements for plays that occurred on the old machines.

- On the old terminals, there were no differences in game outcomes among the three non-problem segments with just over half of all sessions ending in a loss position as compared to 84% of sessions by Problem Players.

**SUMMARY OF KEY FINDINGS
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Only those in the lower risk segments reported higher expenditure for plays on the new versus old terminals. Consequently, there were no differences in average amount spent on the new terminals among any of the non-problem player segments.

- Sessions by No Risk Players were more likely to end in a win on the new versus old terminals (51% versus 37%) whereas Moderate Risk Players were more likely to have lost (72% versus 55%). **In fact, the percentage of sessions ending in a loss on the new terminals was significantly lower among the lower risk players than for those at higher risk (≈44% versus ≈75%).**
- Moderate Risk Players not only thought they were playing for shorter time periods on the new terminals, but also ended up in a loss position more often, at rates similar to those noted for Problem Players (≈72%).
- On the old terminals, the amount spent increased with risk for problem play. **However, on the new terminals higher per session expenditures by those in the lower risk groups meant that there were no differences in the average amount spent per time among any of the non-problem segments. Problem Players continued to spend at rates two to three times higher (\$125.82 versus ≈\$36.00 to \$47.00).**
- Regardless of which terminal was played, in half of all sessions Problem Players report spending more money playing than intended, as compared to spending more time than desired in only about a third of all plays. **Thus, in terms of player perceptions, spending beyond desired money limits is more common and appears to have greater significance for players than exceeding time intentions.**
- There were no appreciable differences in players' perception of their expenditure between plays on either the old or new terminals. Unlike expectations for time, spending less money than intended was a rare occurrence in all player groups with the likelihood of exceeding desired spending limits increasing with risk for problem gambling.

Summary and Discussion

Clearly, there were distinctive differences in how players in the various groups responded to the VL games each time they played. These differences have implications not only in terms of “what behaviours” contribute to risk for problem play but also as to “what modifications/interventions” at a machine level are most likely to be of value in mitigating these behaviours. Moreover, insight is gained regarding input for supplemental interventions or support materials that are relevant and, thus, most likely to be of benefit in assisting players to manage their play, such as player responsible gaming guidelines or budgeting strategies.

**SUMMARY OF KEY FINDINGS
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The findings based on player behaviours and outcomes on a per session level suggest that there were some differences related to the new terminals and that these differences varied among the player groups. For the most part, improvements in keeping track of time did not appear (as yet) to translate into improved game outcomes (i.e., time and money) for those at highest risk for problem gambling. In fact, the effect of play on the new terminals appears to have been negligible for Problem Players with no discernible positive or negative impact for game outcomes at a per session level. Comparatively, lower risk players on the new terminals reported longer session lengths, higher expenditures, greater variety in games played and experienced more wins. Thus, it appears that those in the lower risk segments are making a more significant contribution in terms of time and money spent each time they played on the new terminals as compared to plays on the old terminals. For Moderate Risk Players, results are more mixed. Reductions in some play behaviours, such as the number of times more money was put into the machine and running the credits down to zero, were offset by perceptions of shorter play for the amount spent and a higher proportion of sessions ending in a loss position.

Regardless, exposure to the RGFs that are contingent upon continuous play of 90 minutes or more has little value in preferentially reaching those at higher risk during a specific play session. Beyond the 60-minute mark, it is total time spent playing rather than continuous play that differentiates non-problem and problem play. Moreover, the play behaviours that are interfering with exposure to the majority of the current RGFs are typical and entrenched. Thus, if machine interventions are to have any significant effect in influencing excessive play, the features must be designed or modified with these behaviours in mind.

IMPACT OF RGFs ON SESSION LENGTH & EXPENDITURE

*- Section 4 -
Impact Analysis of
RGFs on Session
Length and
Expenditure*

Excessive VL gambling, from a practical perspective, occurs as a function of spending time and/or money on the activity beyond desired and/or affordable levels. Thus, interventions that effectively assist players in managing these two critical aspects of play should contribute to reducing involvement in excessive VL gambling.

**ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURES RESEARCH
FINAL REPORT - OCTOBER 2002**

**SUMMARY OF KEY FINDINGS
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.**

In Section 2 - General Overview, the findings were examined by adoption of play on the new terminals. Adopters (n=75) were defined as those players who at the end of the study (Post 3 Survey - February 2002) were playing mainly on the new terminals (75%+ of times played in the last month). Non-Adopters (n=89) were comprised of those who at the end of the study continued to play mainly on the old terminals.

This analysis was used to track and compare differences between those who adopted play on the new terminals versus those who did not, while minimizing the influence of a “novelty effect” for the new games or machines. All participating players had been exposed to the new or modified machines for at least six to eight months by the end of the trial period. The vast majority (84%) had tried the new games at some point and, by the Post 3 Survey, Adopters, on average, had played approximately 50 times on the new terminals (median=25 times). Therefore, by the final survey, play on the new terminals was expected to have settled into more typical play patterns thereby allowing for more meaningful comparisons of any differences between Adopters and Non-Adopters. Findings presented in Section 2 - General Overview are based on aggregate level (total responses) comparisons between these two groups of players.

However, in order to specifically assess the impact of the RGFs on changes in behaviour, a different approach is required. Such analysis must be sensitive to changes in individual rather than group responses. This means that measures are compared over time (Time 1 versus Time 2) on a per player basis. Ideally, a baseline or “Pre” measure benchmark is obtained (Time 1), an “intervention/change” is then introduced, and then a “Post” measure (Time 2) is conducted. By comparing the results between the Time 1 and Time 2 measures, based on exposure to the modifications/intervention, it is possible to model and isolate the impacts of the intervention in influencing player responses (behaviour or outcomes).

The player segment of interest is referred to as the **Switchers** in this analysis and is comprised of those regular VL gamblers who switched play from the old to the new machines over the period of the study. Specifically, Switchers are characterized as those players who initially reported playing on the old machines 75% or more of the time during the month prior to the Pre survey, and then reported playing on the new machines 75% or more of the time the month prior to the last survey (Post 3 – February 2002). There are 55 participating players who qualified as Switchers on the sample and are considered the test group for the analysis.

There were another 109 respondents in the sample who did not change the majority of their play sessions to the new machines during the study. These

**SUMMARY OF KEY FINDINGS
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individuals were classified as Non-Switchers. The Non-Switcher group is essentially the control group for comparison with the Switcher “test” group.

Analysis of this data was conducted using the Repeated Measures ANOVA with covariates using the General Linear Model (GLM) module of SPSS 10.0.5. The dependent variables in the models were length of session and session expenditure, from the Pre survey and Post 3 survey. The independent variables (factors) in each model were exposure to the RGF (one model per RGF) and risk for problem play (low versus high risk players based on CPGI classification. See Section 2).

Key Findings – Impact Analysis (for those who switched to play of the new terminals n=55):

Change in amount spent per minute on the new terminals had the greatest impact for change in session length and, to a lesser extent, expenditure.

- *Changes in time and money spent*

Session Length Analysis

Session length in Pre Survey - Sample mean = 135.85 minutes

Session length in Post 3 Survey - Sample mean = 113.67 minutes

Session Expenditure Analysis

Session Expenditure in Pre Survey - Sample mean = \$61.58

Session Expenditure in Post 3 Survey - Sample mean = \$60.00

Amount spent per minute in Pre Survey – Sample mean = \$0.45/minute

Amount spent per minute in Post 3 Survey – Sample mean = \$0.53/minute

Increase in amount spent per minute = 16.4%

At a total, aggregate level the expenditure rate per minute for those who switched over to playing the new terminals increased by 16.4%.

- *Exposure to the 60-minute pop-up reminder was associated with a small yet significant reduction in session length and a decrease in expenditure among higher risk players*

The 60-minute pop-up reminder was the only RGF to have had significant positive impact on session length or expenditure. If a player saw the 60-minute pop-up, regardless of risk for problem gambling, there was a decline in session length ($p=.081$; $\eta^2=6.9\%$). The effect was weak and only explained approximately 6.9% of the relative variance for the change in session length but nonetheless the feature had a positive influence on player behaviour, suggesting there is further potential for enhancing the effects of behaviour-triggered interventions.

SUMMARY OF KEY FINDINGS
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**IMPACT OF
RGFS ON KEY
MEASURES**

- Exposure to 60-minute pop-up related to decline in session length and reductions in expenditures by high risk players
 - Lack of exposure to 60-minute pop-up related to an increase in expenditure by higher risk players
 - Frequency of referring to on-screen clock related to improvements in keeping track of time and playing within desired time limits
-

In terms of expenditure, there was a significant interaction effect observed for the 60-minute pop-up and risk for problem gambling ($p=.057$; $\eta^2=7.5\%$). Those high risk players who saw the 60-minute reminder were more likely to reduce expenditure, however, for high risk players who did not see the 60-minute reminder during play, expenditure on the new terminals went up.

- *Use of the on-screen clock was associated with improvements in keeping track of time and playing within desired time limits, although (as yet) it had no effect on session length or expenditure*

There were both significant main effects ($p=.002$; $\eta^2=5.8\%$) and an interactional effect with risk for problem gambling ($p=.018$; $\eta^2=3.5\%$) associated with the use of the on-screen clock and improvements in control over time spent playing the machines. In general, players who referred to the clock most often during play were more likely to have reported improvements in keeping track of time.

To a lesser extent, high risk players who report making frequent use of the on-screen clock while playing reduced their frequency of spending beyond desired time limits. There was no change in behaviour for those high risk players who did not refer to the clock as frequently during play, nor for low risk players in general.

- *There are other play behaviours and machine characteristics that had a significant effect for changes in session length and expenditure on the new terminals and, in some, cases influence the effectiveness of the RGFs*

In order to identify opportunities to enhance the effectiveness of the RGFs, it is important to understand and address the role of other behaviours or characteristics in affecting the influence of the RGFs.

The table that follows presents a summary of behaviours and characteristics, other than the RGFs, that had a significant effect in explaining changes in the amount of time or money spent on the new machines.

SUMMARY OF KEY FINDINGS
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Table 5.1 – Other Significant Characteristics/Behaviours Associated with Changes in Time or Money Spent on the New Terminals

CHARACTERISTIC	SESSION LENGTH	EXPENDITURE
Increase in rate of expenditure	***	***
Frequency of cashing out and continuing to play	***	---
Frequency of losing track of time	*	**
Frequency of losing track of money	---	***
Keeping a budget for play	**	**
Frequency of spending more time playing than desired	---	***
Frequency of play on the new terminals	*	---
Liking of bill acceptors	---	*
Use of bill acceptors	*	---
Frequency of running credits down to zero	*	---
Area of residence	**	---
Age	*	---
Education Level	---	*

--- = p>0.10; * = p<0.10; ** = p<0.05; *** = p<0.01

Factors for decrease in session length:

- ♦ Increase in rate of expenditure (spending money faster)
- ♦ Cashing out and continuing to play
- ♦ Keeping a budget
- ♦ Use of bill acceptor
- ♦ Rural players
- ♦ Younger adults

Factors for increase in session length:

- ♦ Not setting a budget
- ♦ Losing track of time
- ♦ Playing new machines more often
- ♦ Running credit down to zero
- ♦ Older adults

Factors for increase in expenditure:

- ♦ Losing track of money spent
- ♦ Increase in rate of expenditure (spending money faster)
- ♦ Losing track of time
- ♦ Not setting a budget for play
- ♦ Dislike of bill acceptor

Summary and Discussion

Overall, the results suggest that only the 60-minute pop-up message had an effect in terms of mitigating both session length and expenditure on the new terminals. Although the effects are not strong, exposure to this reminder did have a measurable and significant impact on player behaviours. For the most part, the effects were in the expected direction and appear to offset, to some extent, the influence of other characteristics of the new machines.

Those who saw the 60-minute pop-up message were more likely to have reduced their session length and, in the case of high risk players, to have had a slight effect on lowering expenditure. In contrast, those who were not exposed to the 60-minute pop-up reminder had increases in the length of time played and, for high risk players, a strong increase in expenditure was observed.

It should be considered that many factors affect length of play. Thus, it is reasonable to expect that the feature will only have an effect for those gamblers who are interested in reducing their VL gambling and played in such a manner that they would be

**ATLANTIC LOTTERY CORPORATION
VIDEO LOTTERY RESPONSIBLE GAMING FEATURES RESEARCH
FINAL REPORT - OCTOBER 2002**

**SUMMARY OF KEY FINDINGS
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.**

exposed to the 60-minute RGF. For some players, such as those who do not set a budget or more frequently lose track of time, seeing the 60-minute message had a positive effect on reducing play, whereas lack of exposure to the RGF led to increases in time and in some cases expenditure.

The responsible gaming features are primarily intended to influence play on a per session basis by alerting players to the amount of time (e.g., on-screen clock, pop-up screen messages at 60, 90, 120 minutes, 5-minute warning and mandatory cash out at 150 minutes) and/or money (e.g., display amounts in cash rather than credits) being spent each time an individual plays. Thus, the primary indicator in evaluating the effectiveness of the RGFs is the impact of the features on the length of time and amount of money spent playing the games.

For the later RGF messages at 90 minutes of continuous play and beyond, the results are more mixed. First, there were no significant main effects for the later messages or mandatory cash out in terms of reducing time or money spent playing. In the case of expenditure, exposure to any RGFs other than the 60-minute pop-up had no effect on the amounts spent by high risk players. Many of these players are already spending at maximum or upper limits and thus cannot spend at any higher levels.

For those at lower risk for problem gambling, an increase in expenditure was associated with seeing the 90-minute pop-up, the 120-minute pop-up or the 5-minute warning at 145 minutes. This should not be interpreted as exposure to the message leading to increased expenditure. Rather, it is the contingency of continuous play triggering these messages that is likely diminishing the effectiveness of the later pop-up message in influencing player behaviours. Those most likely to derive benefit from the intervention are not seeing it at a point where it can be expected to impact decisions to stop. Instead, players are exposed at a time when other, more compelling, factors or situations (e.g., chasing wins or losses) are motivating play and, thus, under these conditions, the message is simply insufficient to motivate stopping.

There was no significant impact on time or money spent detected for use of the on-screen clock or liking of amounts displayed in cash instead of credits. Both of these RGFs did not necessarily exert a direct influence on these play outcomes. Players tended to like the features, and neither feature engendered high negativity or antagonism. Additional analysis exploring the impact of the RGF on other behaviours showed that use of the on-screen clock was associated with small improvements in keeping track of time and playing within desired limits.³ Over time, as players gain greater familiarity with the new terminals and various features, players may become more adept at using these RGFs to keep track of time and money during play.

While the RGFs had marginal influence on the amount of time and money spent, there were other aspects of the new terminals that did have significant implications for not only the effectiveness of the RGFs, but play behaviour in general. Obviously, the presence of new games, bill acceptors and graphic and technology improvements contribute to both appeal and player interaction with the games. Moreover, the increased rate of expenditure on the new terminals had a significant impact reducing session length, four times that noted for the 60-minute pop-up RGF.

³ Refer to Section 5 in the Final Report for a discussion of results of the impact analysis regarding use of the on-screen clock and other changes in related measures.

**SUMMARY OF KEY FINDINGS
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To a lesser extent, the increased rate of expenditure also had implications for increases in the amount of money spent, especially among those who, due to their tendency to cash out or run credits down to zero, would be unlikely to be exposed to the majority of the RGFs.

In conclusion, there are other play behaviours and machine characteristics that had a significant effect for changes in session length and expenditure on the new terminals and, in some cases, influence or override the effectiveness of the RGFs. In order to identify opportunities to enhance the effectiveness of the RGFs it is important to understand and address the role of these other behaviours or characteristics in affecting the influence of the RGFs.

It should be kept in mind that the findings noted above are based on a specific sample of players who met the criteria for inclusion in the impact analysis (Switchers). These players represented approximately 34% of the study participants who voluntarily “switched play” from the old to new terminals with RGFs over the course of the introductory period. Results may differ to some extent for those who continued to play on the older model machines, especially when the “old” terminals are no longer available for play. Regardless, the results provide compelling evidence that the use of machine interventions can have a positive impact in influencing game outcomes. Moreover, insight is gained as to opportunities to enhance the potential efficacy of machine interventions as part of an integrated responsible gaming program.

**- Section 5 -
Recommendations
and Conclusions**

Recommendations and Conclusions

Evaluation of the RGFs:

To assist NSGC and ALC in on-going planning for the responsible gaming features the following recommendations emerging from the research are presented for consideration. A summary of key study findings related to each of the four RGFs evaluated in the Nova Scotia VL Responsible Gaming Research are presented in Section 5 – Conclusions and Recommendations. The summary includes a discussion of the implications of study results for each feature. The information can also be used to identify other potential options for consideration in association with responsible gaming initiatives.

**ON-SCREEN CLOCK
RECOMMENDATIONS**

- Ensure a permanent location
 - Make feature more prominent/distinctive
 - Consider option to make feature interactive
-

SUMMARY OF KEY FINDINGS
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On-Screen Permanent Clock

- ♦ Ensure permanent on-screen clock has a permanent on-screen location.
- ♦ Make the on-screen clock more prominent/distinctive to alert players to passing time.
- ♦ Consider using the time-of-day clock option as a vehicle for players to actively set time limits (self-directed prompts or reminders).

Cash Display

- ♦ Retain the cash display.
- ♦ Facilitate the switch from a credit based to a cash based betting system by providing supplementary educational information about how the switch could impact play behaviours.
- ♦ Explore options to use the cash display in conjunction with machine based budgeting options.

Pop-up Reminders

- ♦ Retain the current pop-up messages until such time as improved technology, player feedback, or other modifications warrant changes to design.
- ♦ Have messages remain on the screen until the player responds rather than only appearing for a fixed time period; ensure player still has visual access to information relevant to the decision process when the pop-up message screen is engaged such as amounts spent, on-screen clock (time-of-day).
- ♦ Have the messages “freeze” on the screen for a fixed period of time (15 seconds) so players cannot speed up the process; Vary the content and appearance of messages to avoid development and use of habitual responses.
- ♦ Consider the option of having the pop-up messages appear every 20 to 30 minutes during play regardless of session length or continuous play; or alternatively introduce complementary features to target those behaviours that are currently reducing or precluding player exposure to the continuous play pop-up messages.

CASH DISPLAY

RECOMMENDATIONS

- Retain feature
 - Facilitate switch from credit based to cash based system
 - Consider options to link cash display to budgeting
-

POP-UP REMINDERS

RECOMMENDATIONS

- Retain pop-up messages for continuous play with revised schedule
 - Have messages stay fixed on-screen until players respond
 - Have message “freeze” on-screen for minimum time period regardless of player response
 - Introduce complementary RGFs/message to target non-continuous play
 - Consider linking message to time-of-day clock
-

**SUMMARY OF KEY FINDINGS
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Mandatory Cash Out Requirement

- ♦ Similar to results for the pop-up message, the ideal scenario would be to link the warning and mandatory cash out to total time spent playing, rather than continuous play.
- ♦ Consider moving up the timing for the cash out warning to give players more opportunity to prepare for the mandatory cash out.
- ♦ Consider options for associating the mandatory cash out with wins

CASH OUT

RECOMMENDATIONS

- Link activation to total time spent playing not continuous play
- Move up the warning message to provide players with more time to prepare for cash out
- Consider linking cash outs to occurrence of moderate wins

Conclusions

The Nova Scotia VL Responsible Gaming Features Research provides NSGC and ALC with valuable information for use in on-going planning for the VL responsible gaming program.

While readers are cautioned as to the limitations of the current research study in generalizing results to all players, the findings are promising in assessing the potential for machine based interventions in mitigating excessive play and minimizing any negative consequences associated with involvement in problem VL play.

The new terminals with RGFs are an important first step in addressing this area of responsible gaming and the research has made a significant contribution in identifying opportunities for further development in machine based intervention.

The findings presented in this summary are detailed in the Final Report, Nova Scotia VL Responsible Gaming Features Research, September 2002. Readers are referred to this report for information regarding the research design, analysis and results. The report is organized into five sections that can be distributed as independent reports or in its entirety as a comprehensive documentation of the study.

Section 1 provides detailed information regarding the research design, rationale, methodology, analysis and results including a glossary of terms.

Section 2 provides a descriptive summary of general player response toward the new terminals and responsible gaming features (RGFs) over the introductory phase of the new machines. The playing patterns, attitudes, perceptions and characteristics of participating regular VL Players (n=164) are profiled and compared over the four waves of the study. The Pre Survey conducted during June 2001 established benchmark measures that were tracked at approximately two-month intervals until the

**- Section 1 -
Research Design
and Methodology**

**- Section 2 -
General Overview**

**SUMMARY OF KEY FINDINGS
PREPARED BY FOCAL RESEARCH CONSULTANTS LTD.**

Final Post 3 Survey in February 2002. Results are examined by adoption of play on the new terminals (Adopters versus Non-Adopters) and by risk for problem gambling using the Canadian Problem Gambling Index (CPGI: No Risk, Low Risk, Moderate Risk, Problem Play).

**- Section 3 -
Play Behaviours and
Game Outcomes on
a per Session Basis**

Section 3 profiles and compares specific play behaviours and game outcomes based on detailed information gathered for the last time played in each wave of the study (n=794) using a pseudo diary approach. The data for the most recent session was combined and then segmented into those plays which occurred on the old terminals (n=497) and those which occurred on the new terminals with the RGFs (n=297). To assess any differences associated with recreational versus problem play, the total observations for each type of terminal were then segmented and compared based on risk for problem gambling (CPGI: No Risk, Low Risk, Moderate Risk, Problem Players).

**- Section 4 -
Impact Analysis of
RGFs on Session
Length and
Expenditure**

Section 4 examines the impact of the responsible gaming features (RGFs) and other machine characteristics (e.g., bill acceptors) on length of play (session length) and per session expenditures. Specifically, the analysis addresses the effectiveness of the RGFs in association with risk for problem gambling in reducing the amount of time and money spent per session for those regular VL players who, over the course of the study, switched their play to the new machines. General Linear Modeling for Repeated Measures, with covariates was used to isolate the effects of the RGFs in contributing to changes in session length or expenditure. The role of other behaviours or characteristics in influencing the effects of the RGFs or changes in time and money spent are also examined.

**- Section 5 -
Conclusions and
Recommendations**

Section 5 summarizes the key findings emerging from the research process including insights gained during the qualitative phase of the study (player observation and focus group testing) and from Sections 1 through 4 of the quantitative report. The information is used to assess the relative performance of the four RGFs and other player and machine characteristics in influencing player behaviours. Recommendations are submitted for potential changes, modifications and/or product enhancements to improve the effectiveness of the features in mitigating excessive VL play and in assisting players in managing time and money spent on the new terminals.