

PHASE II – FINAL REPORT

EVALUATING VLT RESPONSIBLE GAMING FEATURES IN ALBERTA



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1. BACKGROUND

In early 2003, the Alberta Gaming and Liquor Commission (AGLC) made a decision to replace the existing video lottery terminals (VLTs) in bars and lounges throughout the province with new machines. As well as presenting new games to players, these new VLTs also included four “responsible gaming features” (RGFs) designed to help patrons who were experiencing difficulty in controlling the amount of time and money they spend playing the VLTs. AGLC selected these new features based on early research findings and practices in other provinces and countries. These RGFs included:

- Cash display that shows the amount of dollars, not credits, the player has in the VLT at any given time.
- Clock that reminds the player of the time-of-day.
- Pop-up screen reminders that (a) show the player has been gambling for 30, 60 or 90 minutes, and (b) ask if the player wishes to continue.
- Banner ads that scroll the 1-800 problem gambling helpline number across the opening screen.

Prior to the province-wide rollout of the new VLTs, in May 2003 the AGLC selected 47 “test sites” (bars/lounges) wherein the new machines were installed and monitored. Simultaneously, AGLC identified 50 “control sites,” which were bars/lounges that would not receive the new VLTs over the test period, but were monitored nonetheless. The purpose for selecting test and control sites was to compare the entertainment appeal and revenue-generating capacity of the new VLTs that had RGFs installed with the older machines that did not have the RGFs. AGLC endeavored to match the communities on the basis of population size and demographics; type of bar/lounge and number of VLTs located therein; and geographic location (i.e., test and control sites were located in both urban/rural and northern/southern Alberta communities).

In May 2003, Dr. Harold Wynne was commissioned by AGLC to conduct a two-phase study over a 5-year time frame to measure the effectiveness of these RGFs in helping players control the amount of time and money they spent gambling on the VLTs. In phase one, the research design utilized AGLC’s selection of test and control sites for a quasi-experimental pre-post study of the effects of the RGFs on player behaviour. During the pre-test phase from May to June 2003, face-to-face interviews were conducted with VLT patrons at both the test sites (N=152) and control sites (N=150). Six months later, follow-up interviews were conducted by telephone with the same respondents from the test sites (N=90) and control sites (75). Responses at pre- and post-test were compared within each of the test and control groups, respectively, and between the test and control groups at the post-test time period.

The analysis of data and results from phase one of this research project are presented in the final report for this phase (Wynne and Stinchfield, 2004). The main conclusions from phase one are as follows:

1. The majority of VLT players were aware of the four new RGFs.
2. The majority of VLT players did not use the four new RGFs to limit the amount of time or money they spent playing.
3. The majority of VLT players found the clock and cash display to be at least somewhat effective and the pop-up reminders not to be effective in helping them keep track of time and money.
4. A majority of players used information from the cash display to monitor the amount of money they were spending; however, the majority of VLT players did not cease playing because of prompts from the clock and pop-up time reminders.
5. Although frequency and duration decreased from pre- to post-test, it could not be concluded that the new RGFs caused this reduction because both the test and control groups experienced a similar decrease.
6. There were no differences between pre- and post-test for the amount of money VLT players spent during a typical session or for the most dollars they lost in a single day.
7. There were no differences amongst the four gambler subtypes (i.e., non-problem, low-risk, moderate-risk, problem gamblers) for either cognition (i.e., awareness, knowledge gained, attitude) or behavioural change (i.e., decreases in time/money spent or cashing out and stopping play altogether) associated with the RGFs.

Phase two is designed as a two-year longitudinal study intended to further examine the effects of the RGFs on players' thought processes (cognitions) and playing behaviour over time. Whereas the phase one research provides a preliminary assessment of RGFs based on a pre-post design, phase two examines whether players are more likely to adopt at least some of the RGFs in a strategy to control their play as they became more familiar with these features. This final report presents the results and conclusions from phase two of this study of the effectiveness of the RGFs in helping VLT players in Alberta control their gambling.

2. PURPOSE AND OBJECTIVES

The purpose of this research project is to conduct an evaluation of the effectiveness of machine-based interventions aimed at helping adult Albertans control their play on video lottery terminals (VLTs) located in bars and lounges throughout the province. The Alberta Gaming and Liquor Commission (AGLC) installed these “responsible gaming features” (RGFs) on the VLTs in 2003 and the features include (a) a cash display showing the amount of money that is currently in play in the VLT; (b) a time clock which shows the time-of-day; (c) pop-up reminders of the time the player has spent at play (30, 60, and 90 minutes); and (d) a scrolling banner that displays the 1-800 helpline number players may call if they are experiencing a gambling problem.

This research has been conducted in two phases over an approximately 5½ year time period from May 2003 to December 2008. Phase I was completed in April 2004, and this first phase involved conducting a controlled, field-based quasi-experimental study during the first eight months of the five-year evaluation timeframe (refer to the phase one final report, Wynne and Stinchfield, 2004). In Phase II, the performance of VLT responsible gaming features was evaluated over a 2½ year time period from May 2006 to December 2008.

The three objectives for Phase II of this evaluation are as follows:

1. To evaluate the effectiveness of responsible gaming features (RGFs) that have been installed on video lottery terminals (VLTs) to help players control their play and subsequently mitigate problem gambling (i.e., cash display, time clock, pop-up time reminders, 1-800 helpline number).
2. To monitor problem gambling prevalence rates in the VLT player population in Alberta.
3. To advise the AGLC on additions, deletions or modifications to RGFs aimed at mitigating VLT-related problem gambling, and to evaluate the effectiveness of such modifications once they are installed.

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

An evaluation research design was used in Phase II to achieve the above objectives. As a mode of observation, evaluation research refers to a research purpose rather than a specific research method (Babbie, 1989, p.326). Many methods—surveys, experiments, field observations, and other approaches—can be used in evaluation research (Tashakkori and Teddlie, 2003). Whatever methods are ultimately employed, the main focus of evaluation research is on measuring outcomes. Thus, the key evaluation question is, “What desired outcomes are expected from these VLT responsible gaming features?” This key question underscores the need to very carefully specify the desired outcomes that are expected to result from the VLT responsible gaming features. Moreover, these outcomes must be measurable so that their effectiveness may be assessed. The evaluation framework that guided this research is presented in Table 1.

Table 1
Evaluation Framework

Domain	Desired Outcome	Indicator	Data
Awareness, Knowledge, and Attitudes	<ul style="list-style-type: none"> An increase in player awareness of VLT responsible gaming features. An increase in players’ knowledge about the amount of time and money they spend playing VLTs. An increase in players’ attitudes that the RGFs are valuable. 	<ul style="list-style-type: none"> % of players who can identify VLT RGFs. % of players who know how much time/money they spend as a result of clock, pop-up reminders, cash display. % of players who believe the RGFs have value. 	<ul style="list-style-type: none"> Player responses to survey questions.
Behavioral Change	<ul style="list-style-type: none"> Increase in # players who are successful at controlling their VLT gambling. Increase in # players who are motivated to seek help for a gambling problem. 	<ul style="list-style-type: none"> % of players who reduce VLT frequency/duration of play and amount wagered. % of players who quit VLT play during a session. % of players who sought help for a gambling problem 	<ul style="list-style-type: none"> Player responses to survey questions.

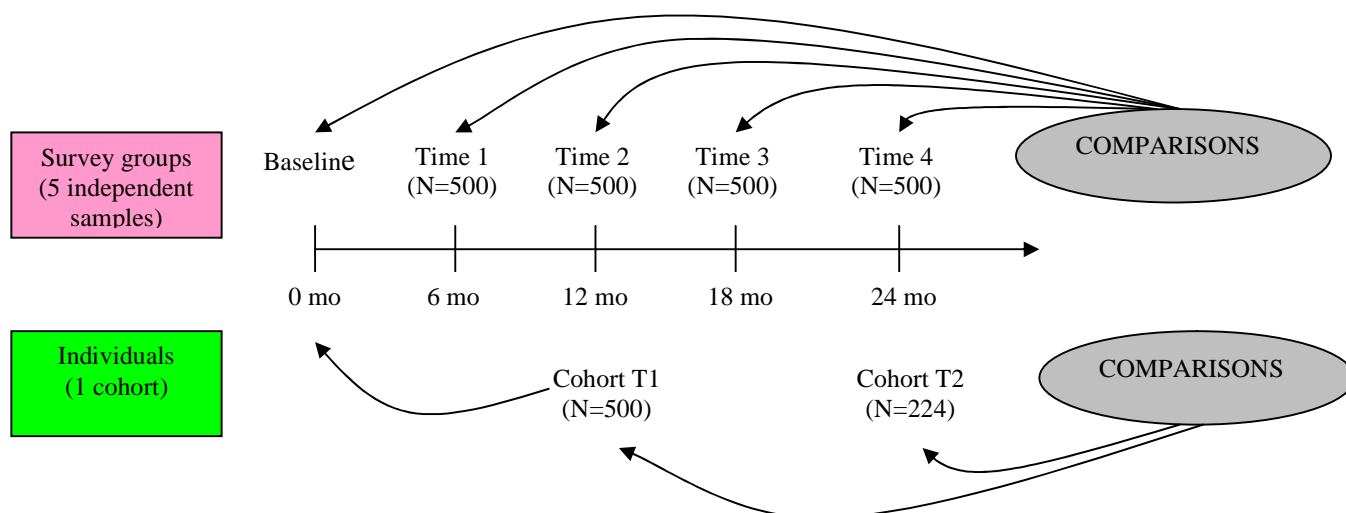
During Phase I, the researcher confirmed with AGLC officials that these RGFs are collectively expected to have two main effects on VLT players; namely to (a) give players prompts that cause them to think about their playing behavior and, (b) based on this reflection, help players control their gambling behavior by limiting time and money spent gambling and/or call the helpline if they are concerned about their gambling. To evaluate these effects, the framework includes both cognitive and behavioural domains. The cognitive domain focuses on players’ thought processes relative to the RGFs. Are players aware of the RGFs? Does this

awareness translate into knowledge gains about their playing behavior (i.e., do they know how much time and money they are actually spending)? Do players have a positive attitude that the RGFs may be useful in helping them control their gambling? The behavioural domain is focused on determining whether the RGFs have actually caused the VLT player to take action and limit the time and money spent gambling; discontinue playing during a session; and/or seek help for a perceived gambling problem. Finally, within these two domains, the evaluation framework specifies desired outcomes that are expected to result from the RGFs. Furthermore, specific measurable indicators are posited for each outcome along with the data needed to determine the extent to which the outcome has been achieved.

The framework shows that data required to evaluate outcomes were perceptual and based on self-reports from VLT players. In a typical gambling prevalence study, players are asked to report on their gambling activities and to answer a number of other related questions, including those from the 9-item PGSI scale (Ferris and Wynne, 2001) that are scored to determine gambler subtypes. These prevalence surveys are cross-sectional and offer a snapshot-in-time of respondents' gambling activity and problems experienced over a set period of time (e.g., the past 12 months). From this type of design, there is no way of knowing whether the player is gambling differently than in the past or if he or she will gamble differently in the future. To measure changes in gambling behavior over time, a longitudinal design must be used and this was the approach taken in this evaluation.

The longitudinal design utilized in this evaluation research integrates two main approaches: (a) a time-series approach, and (b) a cohort approach. In the time-series approach, a survey of 1000 VLT players was conducted at baseline and this was followed by four surveys conducted every six months with independent samples of VLT players (N=500 players in each survey). In the cohort approach, some respondents surveyed at baseline agreed to be surveyed again at 12 and 24 months and these individuals constituted a "cohort." Figure 1 shows that the analytical strategy was to (a) compare responses from independent samples surveyed every six months to determine if there were any gambling behavioural changes at the group level, and (b) compare responses for the same cohort respondent at one and two-year intervals to determine if there were any changes at the individual level. An analysis of data from both the time-series and cohort survey strengthens the evaluation design as (a) it allows for the tracking of general trends regarding the use of RGFs at the group level, and (b) nominal group level trends can be triangulated through a comparison with behavioural changes at the individual VLT player level.

Figure 1 – Analytical Strategy



3.2 Methodology

The evaluation framework identifies the data required to assess the effectiveness of the RGFs on changing VLT player cognitions and behavior. In addition, the analytical strategy shows that these data were gathered through (a) a series of five independent telephone surveys conducted approximately every six months over a 2½ year time frame, and (b) a telephone survey of specific individuals from the baseline survey who agreed to be re-interviewed at 12- and 24-months. Table 2 indicates the sample sizes and dates during which these field surveys were conducted.

Table 2
Survey Fielding Dates

Independent Sample Surveys	Sample Size	Fielding Data	Cohort Sample Surveys	Sample Size	Fielding Date
Baseline	1000	May & August 2006			
Time 1	500	January-February 2007			
Time 2	500	June-July 2007	Cohort 1	500	July 2007
Time 3	500	October-November 2007			
Time 4	500	June-July 2008	Cohort 2	224	July 2008

3.2.1 Data Collection and Sampling

Banister Research, an Edmonton-based survey research firm, was contracted to conduct the seven telephone surveys in this evaluation. Each survey took from four to six weeks to complete and survey responses were recorded directly in a computer-assisted telephone interviewing (CATI) system, with data files being produced for analysis using the computer program SPSS v.14.

Five independent samples of Alberta VLT players 18 years-of-age and older were randomly selected at baseline and four consecutive 6-month time intervals. The baseline sample included 1,000 VLT players and each of the four time samples was comprised of 500 different VLT players who were subsequently interviewed by telephone. Each sample was stratified according to provincial gender, age, and geography (urban/rural). The randomization process included (a) using a random number generator to select telephone numbers within a geographic area, (b) selecting only those respondents who played the VLTs in the past three months, and (c) selecting the person with the next closest birthday and who fits the stratification criteria.

For the cohort surveys, VLT players interviewed at baseline and Time 1 were asked if they would be willing to be interviewed again at 12- and 24-month time intervals. For the Cohort 1 survey (12 months after baseline), 500 VLT players were interviewed once again by telephone. At the end of the interview, these players were asked once more if they would be prepared to be interviewed again in twelve months, with the result being that 224 were successfully interviewed in the Cohort 2 survey (24 months after baseline).

3.3.2 Instrumentation

In Phase II, two separate questionnaires were designed to guide the telephone interviews with (a) respondents in the 5 independent survey samples (N=3,000), and (b) the cohort respondents (N=724). The questionnaires have essentially the same underlying structure, which includes specific domains, variables, measurable indicators, and items (questions) designed to gather the information needed to evaluate study outcomes identified in Table 1 (refer to Appendices 1 and 2 for questionnaire structure and content).

Both instruments have embedded within them the 9-item (question) Problem Gambling Severity Index (PGSI), which is part of the 33-item Canadian Problem Gambling Index (CPGI). Through a collaborative provincial research project, the CPGI was developed to describe gambling proclivities and measure problem gambling prevalence in populations (Ferris and Wynne, 2001). By scoring the PGSI, it is possible to identify whether respondents are non-problem, low risk, moderate risk or problem gamblers. By analysing and monitoring PGSI scores in both the independent and cohort samples, it is possible to track changes in problem gambling prevalence rates over the 2½ year study period, which is the second objective of the research.

3.2.3 Data Analysis

To facilitate statistical analysis, data from the five independent samples (i.e., baseline and Times 1 to 4) were merged into one large data set with 3,000 cases (respondents). In addition, responses for the same individuals who participated in the baseline, Cohort 1 and Cohort 2 surveys were merged into a separate data set (N=224 individuals with scores at all three survey times). The statistical data analysis relied on both between-group and within-group comparisons as follows:

1. The distribution characteristics of the data in each survey sample and in the combined samples were explored by visually examining the data and assessing skewness and kurtosis. Based on these distributions, the appropriate parametric and non-parametric tests were selected to analyse the data.
2. Comparisons were made *between* each of the 5 independent survey samples for VLT player responses for each of the study variables. First, crosstabs for survey group and each dependent variable were run to populate frequency distribution tables. This was followed with one-way analysis-of-variance (ANOVA) to evaluate differences in means among the dependent variables for the five survey times. Where ANOVAs were positive, follow-up analysis (Dunnett's *C* test) was then conducted to evaluate pair-wise differences among the dependent variable means for the five survey time periods.
3. Comparisons were made *within* the cohort sample for VLT player responses for each of the study variables. One-way repeated-measures analysis-of-variance (ANOVA) was conducted to compare differences in responses for dependent variables between the baseline, 12-month and 24-month follow-up surveys. Where ANOVAs were positive, follow-up paired-samples *t*-tests were conducted to evaluate differences in means among the dependent variables for the three survey times. In addition to these parametric tests, non-parametric alternative tests were also conducted to confirm findings from the former. These non-parametric tests included the Friedman test to evaluate differences in medians among the dependent variables for the three survey times. Where the Friedman test was positive, follow-up pair-wise comparisons were conducted using the Wilcoxon test.

Changes in group responses between each of the 5 independent survey time intervals provide evidence as to whether the RGFs are having the desired general effect. Beyond this, examining changes in cohort responses explores whether the RGFs are having a specific effect on individual VLT players over time. This evidence from both the independent and cohort surveys is reported in the results section.

4. RESULTS

In this section of the report, findings from the five independent and two cohort surveys analysis are presented in two main sections that correspond to the first two evaluation objectives; namely (a) evidence as to the effectiveness of RGFs in changing VLT players' cognitions and behaviours over time; and (b) changes in problem gambling prevalence rates at the group and individual levels.

4.1 Effectiveness of the Responsible Gaming Features

The main objective of the evaluation is to determine whether, and to what extent, the responsible gaming features (RGFs) have influenced VLT players' thought processes and playing behavior and ultimately helped them control their gambling. The evaluation framework in Table 1 shows that VLT players' cognition is the first domain examined; that is, VLT players were asked (a) if they were aware of the RGFs that were installed on the VLTs; (b) if they used the RGFs to gain knowledge of the time and money they spent per gambling session; and (c) if they had the attitude that the RGFs may be valuable in helping them control their play. The second domain in the evaluation framework focuses on whether these cognitions actually led to behavioural changes during a VLT session; specifically, players were asked if these RGFs caused them to (a) reduce the frequency/duration of play and the amount of money they spent; (b) cash out and quit VLT play altogether during a session; and (c) call the helpline because they felt they may have a gambling problem. In this section, results are presented and discussed within these two domains according to the desired outcomes within each as identified in the evaluation framework (Table 1).

4.1.1 Cognitive Domain

Awareness

The first cognitive outcome measured is *awareness* of the four responsible gaming features; namely (a) the display showing the amount of money that is currently in play in the VLT; (b) the time clock which shows the time-of-day; (c) pop-up reminders of the time the player has spent at play; and (d) the scrolling banner that displays the 1-800 helpline number players may call if they are experiencing a gambling problem. Respondents in both the independent sample and cohort surveys were asked if they were aware of each of these four RGFs and Tables 2 and 3 show results for each of these respective survey groups over time.

Table 3
Awareness of RGFs
(Independent Samples)

RGF	Baseline % (N)	Time 1 % (N)	Time 2 % (N)	Time 3 % (N)	Time 4 % (N)	Total % (N)
Cash display ¹	81.4% (804)	75.7% (373)	70.8% (352)	73.2% (358)	77.7% (384)	76.7% (2271)
Time Clock ²	75.9% (754)	73.2% (364)	70.9% (354)	71.1% (351)	75.7% (377)	73.8% (2200)
Pop-Ups						
30 minute ³	71.3% (706)	61.5% (305)	62.7% (312)	62.3% (306)	66.6% (329)	65.9% (1957)
60 minute ⁴	67.8% (671)	58.0% (286)	58.0% (287)	60.2% (293)	61.3% (300)	62.2% (1837)
90 minute ⁵	65.2% (645)	56.2% (277)	55.7% (275)	59.2% (287)	60.2% (294)	60.3% (1778)
Helpline # ⁶	87.2% (862)	88.8% (435)	85.4% (422)	87.3% (433)	89.1% (441)	87.5% (2593)

¹ Differences significant ($p \leq 0.01$) (baseline>time2; baseline>time3)

² Differences significant ($p \leq 0.05$) (baseline>time3)

³ Differences significant ($p \leq 0.01$) (baseline>time1; baseline>time 2; baseline>time 3)

⁴ Differences significant ($p \leq 0.01$) (baseline>time 1; baseline>time 2; baseline>time 3; baseline>time4)

⁵ Differences significant ($p \leq 0.01$) (baseline>time1; baseline>time2; baseline>time 3)

⁶ Differences not significant

Table 4
Awareness of RGFs
(Cohort Sample)

RGF	Baseline % (N)	12-month % (N)	24-month % (N)
Cash display ¹	84.1% (175)	75% (156)	81.2% (169)
Time Clock ²	82.2% (175)	63.8% (136)	77.0% (164)
Pop-Ups			
30 minute ³	72.9% (153)	53.3% (112)	66.2% (139)
60 minute ⁴	68.3% (142)	47.6% (99)	55.3% (115)
90 minute ⁵	65.6% (137)	46.4% (97)	49.3% (103)
Helpline # ⁶	93.5% (203)	93.5% (203)	91.7% (199)

¹ Differences significant ($p \leq 0.05$) (baseline>12-month)

² Differences significant ($p \leq 0.01$) (baseline>12-month; 12-month<24-month)

³ Differences significant ($p \leq 0.01$) (baseline>12-month; 12-month<24-month)

⁴ Differences significant ($p \leq 0.01$) (baseline>12-month; baseline>24-month)

⁵ Differences significant ($p \leq 0.01$) (baseline>12-month; baseline>24-month)

⁶ Differences not significant

Data in Table 3 show that between 60% and 88% of the 3,000 VLT players surveyed at baseline through Time 4 are aware of the RGFs. Awareness is highest (87.5%) for the helpline # that appears on the opening screen and lowest (60.3%) for the 90-minute pop-up time reminder. In general, awareness of the cash display and time clock features is higher than for the 30-, 60-, and 90-minute pop-up reminders. Awareness of the helpline number does not increase over time, as there are no significant differences amongst the baseline and 5 subsequent survey times. In contrast, there are significant differences between some survey time periods for awareness of the cash display, time clock, and pop-up reminders as follows:

- *Cash display.* The baseline awareness rate is greater at baseline than in any other subsequent survey times, with significant differences noted between baseline (81.4%) and Times 2 (70.8%) and 3 (73.2%).
- *Time clock.* Awareness of the time clock feature remains fairly consistent over the survey periods, with the only significant difference noted between baseline (75.9%) and Time 3 (71.1%).
- *Pop-up time reminders.* About two-thirds of VLT players are aware of the pop-up time reminders, with awareness being highest for the 30-minute reminder vs. the 60-minute and 90-minute reminders. Awareness of each of the time reminders is higher at baseline than at any other survey time period. For the 30-minute pop-up reminder, there is a significant difference between baseline (71.3%) and Time 1 (61.5%); baseline and Time 2 (62.7%); and baseline and Time 3 (62.3%). For the 60-minute reminder, there is a significant difference in awareness between baseline (67.8%) and Time 1 (58%), Time 2 (58%), Time 3 (60.2%) and Time 4 (61.3%). Finally, for the 90-minute pop-up time reminder, there is a significant difference in awareness between baseline (65.2%) and Time 1 (56.2%), Time 2 (55.7%) and Time 3 (59.2%).

The data presented in Table 4 show the awareness levels for the same individuals in the cohort sample over 12- and 24-month time periods. Awareness within the cohort group at baseline was relatively high for all the RGFs, ranging from 93.5% for the helpline number to 65.6% for the 90-minute pop-up time reminder, which is similar to the finding for the independent sample. In general, awareness in the cohort group of the cash display and time clock was greater than for awareness of the pop-up time reminders, which is again similar to the finding for the independent sample. Awareness of the helpline number does not change significantly for the cohort group over the 12- and 24-month survey periods, which was also the finding for the independent survey samples. Finally, as with the independent survey samples, awareness of each RGF at baseline was greater than at either the 12- or 24-month survey periods. Significant findings for the cohort group from baseline to the 12- and 24-month survey periods are as follows:

- *Cash display.* The awareness of the cash display feature is greater at baseline than either the 12- or 24-month survey follow-up, with significant differences noted between baseline (84.1%) and 12-month follow-up (75%)
- *Time clock.* Awareness of the time clock was greatest at baseline, with significant differences noted between baseline (82.2%) and 12-month (63.8%) follow-up and 12-month (63.8%) and 24-month (77%) follow-up.
- *Pop-up time reminders.* As with the independent survey samples, about two-thirds of the cohort group claim to be aware of the pop-up reminders, with awareness being highest for the 30-minute reminder (72.9%). Similarly, awareness at baseline is higher than for either the 12- or 24-month follow-up surveys. For the 30-minute pop-up reminder, there are significant differences in awareness between baseline (72.9%) and 12-month follow-up (53.3%) and 12-month (53.3%) and 24-month (66.2%) follow-up. For the 60-minute pop-up, awareness differs significantly between baseline (68.3%) and 12-month follow-up (47.6%) and 24-month follow-up (53.3%), respectively. Similarly, for the 90-minute pop-up time reminder, awareness again differs significantly between baseline (65.6%) and the 12-month (46.4%) and 24-month (49.3%) follow-up surveys.

VLT players in the cohort group were also asked three questions regarding awareness at 12- and 24-month follow-up; namely, (a) Are you more or less likely to notice the RGFs than you were one year ago? (b) Which specific RGFs do you notice most now? (c) Which specific RGFs do you notice least now? The results for these questions are presented in Table 5.

Table 5
Awareness of RGFs Compared With
One Year Ago
(Cohort Sample)

RGF	12-month % (N)	24-month % (N)
More/Less Likely to Notice RGFs ¹		
More likely	41.2% (73)	38.4% (68)
Less Likely	11.9% (21)	11.9% (21)
About the same	46.9% (83)	49.7% (88)
Which RGFs do you notice the most now? ²		
Cash display	16.6% (31)	30.5% (57)
Time clock	11.8% (22)	10.7% (20)
30-minute pop-up	13.9% (26)	16.6% (31)
60-minute pop-up	2.7% (5)	1.1% (2)
90-minute pop-up	1.6% (3)	0% (0)
Helpline #	23.0% (43)	18.7% (35)
Don't notice any	30.5% (57)	22.5% (42)
Which RGFs do you notice the least now? ³		
Cash display	5.9% (6)	5.9% (6)
Time clock	30.4% (31)	24.5% (25)
30-minute pop-up	15.7% (16)	27.5% (28)
60-minute pop-up	3.9% (4)	2.0% (2)
90-minute pop-up	12.7% (13)	10.8% (11)
Helpline #	17.6% (18)	21.6% (22)
Don't notice any	13.7% (14)	7.8% (8)

¹ Differences not significant

² Differences significant ($p \leq 0.05$)

³ Differences not significant

The results presented in Table 5 indicate that most respondents report being “more likely” and “about the same” for their awareness of the four RGFs. There are no significant differences in these findings at 12- and 24-month follow-up. As for awareness of specific RGFs, a substantial percentage of players claim they do not notice any of these features (30.5% at 12-month and 22.5% at 24-month follow-up, respectively). However, it appears that 24-months after baseline, VLT players are somewhat more likely to notice at least one of the RGFs.

Awareness seems to be highest for the cash display and helpline number, with players becoming more aware of the cash display between 12-month (16.6%) and 24-month (30.5%) follow-up and somewhat less aware of the helpline number between these two survey time periods (23% vs. 18.7%). Awareness of the time clock is relatively low and does not change over time. Similarly, awareness of the pop-up reminders is quite low, with awareness being

highest for the 30-minute versus 60- or 90-minute reminders. The differences between the cohort group at 12- and 24-month follow-up are statistically significant.

Finally, cohort respondents report they are least likely to notice the time clock, 30-minute pop-up reminder, and helpline number RGFs; however, there are no statistically significant differences between 12- and 24-month follow-up.

Knowledge

After awareness, the second cognitive outcome measured is gains in VLT players' *knowledge* of the amount of time and money they spend during a playing session. In each of the five independent surveys and in the two follow-up cohort surveys, VLT players were asked if they ever used information from each of the RGFs in the past three months to "control the amount of time and money (they) spent playing the VLTs." Results for player responses to this question for those who are aware of the RGFs are presented in Tables 6 and 7.

Table 6
Use of RGF Information
(Independent Samples) ¹

RGF	Baseline % (N)	Time 1 % (N)	Time 2 % (N)	Time 3 % (N)	Time 4 % (N)	Total % (N)
Cash display	33.2% (267)	32.2% (120)	32.7% (115)	29.3% (105)	32.0% (123)	32.1% (730)
Time Clock	15.4% (116)	16.5% (60)	18.4% (65)	18.5% (65)	14.9% (56)	16.5% (362)
Pop-Ups						
30 minute	7.6% (54)	6.9% (21)	7.4% (23)	8.8% (27)	8.5% (28)	7.8% (153)
60 minute	5.7% (38)	6.6% (19)	5.9% (17)	6.1% (18)	5.7% (17)	5.9% (109)
90 minute	2.9% (19)	4.0% (11)	4.4% (12)	5.6% (16)	4.1% (12)	3.9% (70)

¹ Response options "sometimes, most of the time, almost always" have been combined.
Differences not significant

Table 7
Use of RGF Information
(Cohort Sample) ¹

RGF	Baseline % (N)	12-month % (N)	24-month % (N)
Cash display	37.6% (47)	38.4% (48)	37.6% (47)
Time Clock	23.4% (26)	25.2% (28)	24.3% (27)
Pop-Ups			
30 minute	11.1% (9)	12.3% (10)	8.6% (7)
60 minute	7.0% (4)	7.0% (4)	5.3% (3)
90 minute	6.4% (3)	8.5% (4)	4.3% (2)

¹ Response options "sometimes, most of the time, almost always" have been combined.
Differences not significant

The general finding from the five independent survey samples (Table 6) is that between 4% and 32% of the 3000 VLT players surveyed utilize the information available to them from

the cash display, time clock, and pop-up time reminders. Players are about two times more likely to use the cash display than the time clock, and about four times more likely to use the cash display than the pop-up time reminders. There are no statistically significant differences amongst the five independent survey samples for changes in RGF utilization rates over time.

Table 7 displays the findings for the cohort sample at baseline, 12- and 24-month follow-up. Baseline rates for VLT player utilization of the cash display, time clock, and pop-up time reminders range from a high of 38% for the cash display to a low of about 4% for the 90-minute pop-up reminder. There are no statistically significant differences in these rates at the 12- and 24-month follow-up survey times. Utilization rates for the cohort sample for each of the RGFs are fairly similar to those for the independent survey sample group, with the former being somewhat more likely to use the cash display and time clock.

As with changes in awareness, VLT players in the cohort sample were asked at 12- and 24-month follow-up if they were more likely than they were one year ago to use knowledge gained from the RGFs to help them limit the amount of time and money spent gambling. Table 8 presents the results from these questions.

Table 8
Use of RGFs Compared With
One Year Ago
(Cohort Sample)

RGF	12-month % (N)	24-month % (N)
More/Less Likely to Use the RGFs ¹		
More likely	21.9% (41)	23.0% (43)
Less Likely	25.7% (48)	15.5% (29)
About the same	52.4% (98)	61.5% (115)
Which RGFs are you most likely to use? ²		
Cash display	30.1% (59)	51.0% (100)
Time clock	12.2% (24)	13.8% (27)
30-minute pop-up	4.6% (9)	6.6% (13)
60-minute pop-up	1.0% (2)	1.0% (2)
90-minute pop-up	2.0% (4)	0% (0)
Helpline #	3.1% (6)	2.6% (5)
Don't use any	46.9% (92)	25.0% (49)
Which RGFs are you least likely to use? ³		
Cash display	9.3% (8)	3.5% (3)
Time clock	18.6% (16)	23.3% (20)
30-minute pop-up	22.1% (19)	17.4% (15)
60-minute pop-up	1.2% (1)	2.3% (2)
90-minute pop-up	9.3% (8)	11.6% (10)
Helpline #	36.0% (31)	39.5% (34)
Don't use any	3.5% (3)	2.3% (2)

¹ Differences not significant

² Differences significant (p≤0.01)

³ Differences not significant

Findings presented in Table 8 show that more than half of the VLT players in the cohort group report being “about the same” at 12- and 24-month follow-up for likelihood of using at least one of the RGFs. At 24-month follow-up, it appears that fewer players are “less likely” to use the RGFs; however, there is no significant difference between 12- and 24-month follow-up for RGF utilization.

It is evident that a significantly greater number of cohort respondents report using the cash display feature at 24- versus 12-month follow-up (51% vs. 30.1%). The other significant finding is that fewer VLT players report at 24-month follow-up that they “don’t use any” of the RGFs. Utilization of the time clock, pop-up reminders and helpline number is fairly low and remains stable over time. Differences between the 12- and 24-month follow-up time periods are statistically significant.

Finally, cohort respondents report they are least likely to use the helpline number, time clock and 30-minute pop-up reminder; however, there are no significant differences in RGF usage between the 12- and 24-month survey time periods.

Attitude

The final cognitive outcome measured is VLT player *attitude* towards the responsible gaming features; specifically, players were asked: (a) if they believed the RGF was effective in helping them control the amount of time or money they spent playing the VLTs; and (b) if the RGF interfered with their enjoyment while they were playing. Results regarding RGF effectiveness and interference with enjoyment are presented in Tables 9 and 10.

Table 9
Attitude Toward RGF Effectiveness and
Interference with Enjoyment
(Independent Samples)

RGF	Baseline % (N)	Time 1 % (N)	Time 2 % (N)	Time 3 % (N)	Time 4 % (N)	Total % (N)
Effectiveness¹						
Cash display	50.2% (374)	47.5% (169)	49.6% (169)	40.2% (135)	50.7% (184)	48.2% (1031)
Time Clock	22.7% (162)	24.4% (82)	30.5% (104)	25.9% (86)	25.5% (91)	25.2% (525)
Pop-Ups						
30 minute	14.5% (97)	15.6% (45)	18.9% (57)	15.3% (44)	14.2% (45)	15.5% (288)
60 minute	11.4% (730)	12.7% (35)	16.5% (47)	12.7% (35)	10.0% (29)	12.4% (219)
90 minute	10.0% (62)	11.3% (30)	15.5% (43)	11.4% (31)	8.1% (23)	11.0% (189)
Helpline # ²	41.5% (280)	43.9% (156)	43.2% (143)	39.0% (129)	42.8% (137)	42.0% (845)
Enjoyment³						
Cash display	12.5% (99)	10.4% (38)	8.3% (29)	10.3% (36)	13.2% (50)	11.3% (252)
Time Clock	9.9% (73)	9.4% (33)	5.1% (18)	8.7% (30)	8.9% (33)	8.7% (187)
Pop-Ups	19.0% (131)	23.3% (70)	15.6% (48)	19.3% (58)	18.8% (61)	19.1% (368)

¹ Response options “somewhat effective, effective, very effective” have been combined.

² “Yes” response to options (“yes” vs. “no”).

³ Response options “sometimes, most of the time, almost always” have been combined.
Differences not significant

Table 10
Attitude Toward RGF Effectiveness and
Interference with Enjoyment
(Cohort Sample)

RGF	Baseline % (N)	12-month % (N)	24-month % (N)
Effectiveness¹			
Cash display	53.1% (60)	55.8% (63)	54.0% (61)
Time Clock	32.4% (34)	33.3% (35)	39.0% (41)
Pop-Ups			
30 minute	18.5% (15)	19.8% (16)	14.8% (12)
60 minute	14.8% (9)	11.5% (7)	16.4% (10)
90 minute	13.1% (8)	9.8% (6)	13.1% (8)
Helpline # ²	41.3% (43)	48.1% (50)	42.3% (44)
Enjoyment³			
Cash display	10.9% (13)	9.2% (11)	13.4% (16)
Time Clock	7.3% (8)	6.4% (7)	5.5% (6)
Pop-Ups	24.1% (20)	22.9% (19)	25.3% (21)

¹ Response options “somewhat effective, effective, very effective” have been combined.

² “Yes” response to options (“yes” vs. “no”).

³ Response options “sometimes, most of the time, almost always” have been combined.

Differences not significant

The first main component of VLT player attitude is whether the individual thinks the RGFs are effective or not in helping them control their play. The findings displayed in Table 9 show that, for the total independent survey sample (N=3,000), the attitudes towards RGF effectiveness range from a low of 11.0% for the 90-minute pop-up time reminder to a high of 48.2% for the cash display. In general, the respondents in the independent samples view the RGFs as not being effective, with the pop-up reminders being least effective (11%-15.5%), followed by the time clock (25.2%), helpline number (42%), and cash display (48.2%). There are no statistically significant differences in perceptions of effectiveness for any of the RGFs over the five independent survey time periods.

Table 10 presents the results for the cohort sample at baseline, 12- and 24-month follow-up. The majority of cohort respondents feel that the cash display is effective and this rating is slightly higher than that given by the respondents in the independent surveys. About one-third of the cohort respondents consider the time clock feature to be effective and this rating is higher than for the independent survey sample group. Just over 40% of the cohort group feels the helpline number on the display screen is effective, which is similar to the rating of the independent survey sample groups. The pop-up time reminders have the lowest effectiveness rating of any RGF for the cohort group, with ratings being similar to those of the independent survey respondents. There are no statistically significant differences for cohort group perception of RGF effectiveness at either 12- or 24-month follow-up.

The second main component of VLT player attitude derives from whether the player feels the RGFs interfere with their enjoyment while playing the games available. Table 9 shows the

findings for this interference for the respondents in the five independent survey samples. The first observation is that most players do not feel that the cash display, time clock or pop-up time reminders interfere with their enjoyment of playing the game. For the total independent sample (N=3,000), the pop-up reminders (19.1%) appear more likely than the time clock (8.7%) or cash display (11.3%) to interfere with playing enjoyment and there are no significant differences over the five survey time periods for this effect.

Table 10 presents the findings for RGF interference with enjoyment for the cohort group and, as with the independent survey samples, the main perception is that none of the RGFs interfere substantially with playing enjoyment. The pop-up reminders are the RGFs most likely to interfere with enjoyment and about one-quarter of VLT players in the cohort group perceive this to be the case. As with the independent survey sample, there is no statistically significant difference for interference with enjoyment for the cohort group from baseline to 12- and 24-month follow-up.

Cohort respondents were also asked questions pertaining to their possible change in attitude towards the RGFs; specifically, (a) whether their opinion has changed over the past year about the effectiveness of the RGFs; (b) how they would rate RGF effectiveness now; (c) which RGFs they feel are most effective in helping them control their play; and (d) which RGFs are the least effective. Results from VLT players' responses at 12- and 24-month follow-up are presented in Table 11.

Table 11
Perceptions of RGF Effectiveness Compared With
One Year Ago
(Cohort Sample)

RGF	12-month % (N)	24-month % (N)
Compared with one year ago, has your opinion changed about the effectiveness of the RGFs? ¹		
Yes	10.9% (20)	11.5% (21)
No	89.1% (163)	88.5% (162)
How would you rate the effectiveness of RGFs now? ²		
Not effective	41.2% (73)	35.6% (63)
Somewhat effective	41.8% (74)	48.6% (86)
Effective	14.1% (25)	14.1% (25)
Very effective	2.8% (5)	1.7% (3)
Which RGFs are the most effective? ³		
Cash display	28.7% (50)	42.5% (74)
Time clock	12.6% (22)	8.6% (15)
30-minute pop-up	9.8% (17)	8.0% (14)
60-minute pop-up	1.7% (3)	1.1% (2)
90-minute pop-up	1.1% (2)	0% (0)
Helpline #	2.3% (4)	5.7% (10)
None are effective	43.7% (76)	33.9% (59)
Which RGFs are the least effective? ⁴		
Cash display	7.0% (5)	1.4% (1)
Time clock	29.6% (21)	32.4% (23)

30-minute pop-up	19.7% (14)	23.9% (17)
60-minute pop-up	1.4% (1)	1.4% (1)
90-minute pop-up	9.9% (7)	11.3% (8)
Helpline #	28.2% (20)	28.2% (20)
None are effective	4.2% (3)	1.4% (1)

¹ Differences not significant

² Differences not significant

³ Differences significant ($p \leq 0.01$)

⁴ Differences not significant

The results in Table 11 show that about 89% of VLT players in the cohort group offer that their attitude towards the effectiveness of RGFs has not changed over the past year. Furthermore, almost two-thirds of the cohort respondents report that the RGFs are at least somewhat effective, effective, or very effective. There are no statistically significant differences between 12- and 24-month follow-up for either opinions or ratings of effectiveness.

Cohort group respondents report that the most effective RGF is the cash display and ratings of effectiveness for this RGF have increased significantly between 12-month (28.7%) and 24-month (42.5%) follow-up survey times. Effectiveness ratings for all other RGFs are significantly lower than for the cash display. Differences for these ratings are statistically significant between the 12- and 24-month follow-up surveys.

Finally, about one-third of VLT players report that the least effective RGF is the time clock. A similar proportion of players consider that the helpline number and 30-minute pop-up time reminder are also the least effective RGFs. There is no statistically significant difference for ratings of least effectiveness between the 12- and 24-month follow-up survey time periods.

4.1.2 Behavioural Domain

The results presented to this point show the extent to which VLT players' cognitions (i.e., awareness, knowledge, and attitude) relative to the RGFs are apparent and have changed over time. The second main domain in the evaluation involves an examination of actual VLT player behavioural changes resulting from the RGFs. The evaluation framework in Table 1 shows that the specific behavioural changes examined include (a) reduction in the frequency/duration of play and amount of money spent; (b) quitting play altogether as a result of knowledge gained from an RGF(s); and (c) calling the 1-800 helpline number to seek help for a perceived gambling problem. In this section, results from the five independent survey samples and the cohort sample for these behavioural change variables are presented.

Frequency and Duration of Play

The first behavioural variables examined are changes in the **frequency** of VLT play and the amount of time (**duration**) respondents spent playing the machines per session. Tables 12 and 13 present data for frequency of VLT play for the independent survey samples and cohort group, respectively.

Table 12
Frequency of VLT Play
(Independent Samples)

Frequency	Baseline (N=978)	Time 1 (N=480)	Time 2 (N=497)	Time 3 (N=499)	Time 4 (N=499)	Total (N=2953)
Daily	1.1%	.8%	.2%	.8%	1.2%	.9%
2 to 6 times/week	9.3%	8.8%	6.0%	5.6%	5.2%	7.3%
About once/week	6.7%	9.2%	6.2%	5.8%	7.0%	6.9%
2-3 times/month	16.9%	13.1%	12.1%	15.4%	13.6%	14.7%
About once/month	14.5%	13.3%	20.1%	20.2%	20.4%	17.2%
Once/twice in 3 months	51.4%	54.8%	55.3%	52.1%	52.5%	52.9%

Differences significant ($p \leq 0.01$) [baseline ($\bar{x}=4.9$) < time2 ($\bar{x}=5.1$)]

Table 13
Frequency of VLT Play
(Cohort Sample)

Frequency	Baseline % (177)	12-month % (177)	24-month % (177)
Daily	.6%	1.7%	.6%
2 to 6 times/week	12.4%	6.2%	9.0%
About once/week	10.2%	9.0%	4.5%
2-3 times/month	17.5%	11.9%	16.4%
About once/month	18.6%	23.7%	24.3%
Once/twice in 3 months	40.7%	47.5%	45.2%

Differences significant ($p \leq 0.01$) [baseline ($\bar{x}=4.6$) < 12-month ($\bar{x}=4.9$); baseline ($\bar{x}=4.6$) < 24-month ($\bar{x}=4.9$)]

The data presented in Table 12 show that more than half the VLT players in each of the independent survey samples play the VLTs with the least frequency (i.e., once or twice in the past 3 months). In contrast, less than 20% of the respondents in any of the independent survey samples report playing VLTs with the highest frequency (i.e., weekly, 2 to 6 times/week or daily). The only statistically significant difference for time effect is between the baseline and Time 2 survey respondents, with the former being somewhat more likely to play the VLTs with a higher frequency (i.e., once/month or more frequently).

Data in Table 13 for the cohort group show that 59.3% of respondents at baseline play the VLTs about once a month or less frequently and this percentage increased to 71.2% at 12-month follow-up and 69.5% at 24-month follow-up. This increase represents a corresponding decrease in playing frequency between baseline and 12-month and 24-month follow-up respectively and these changes are statistically significant.

The next behavioural variable measured was the amount of time a gambler spent playing the VLTs at a typical session. Tables 14 and 15 present the duration of time spent playing for the independent survey samples and cohort group.

Table 14
Duration of VLT Play per Session
(Independent Samples)

Duration	Baseline (N=986)	Time 1 (N=497)	Time 2 (N=494)	Time 3 (N=496)	Time 4 (N=495)	Total (N=2968)
Less than 1 hour	56.6%	56.5%	56.9%	58.7%	57.4%	57.1%
1 to 2 hours	36.4%	33.4%	33.4%	32.3%	33.9%	34.3%
2 to 3 hours	2.8%	5.6%	4.7%	3.8%	4.6%	4.1%
3 to 4 hours	2.1%	2.4%	2.2%	2.8%	1.6%	2.2%
4 to 8 hours	1.8%	1.6%	2.4%	2.0%	2.4%	2.0%
8 to 10 hours	.1%	.4%	.2%	.0%	.0%	.1%
More than 10 hours	.1%	.0%	.2%	.4%	.0%	.1%

Differences not significant

Table 15
Duration of VLT Play per Session
(Cohort Sample)

Duration	Baseline % (200)	12-month % (200)	24-month % (200)
Less than 1 hour	51.0%	53.5%	44.5%
1 to 2 hours	40.5%	40.0%	43.0%
2 to 3 hours	4.5%	3.5%	6.5%
3 to 4 hours	2.0%	1.0%	3.0%
4 to 8 hours	1.5%	2.0%	2.5%
8 to 10 hours	.5%	0	.5%

Differences significant ($p \leq 0.05$) [baseline ($\bar{x}=1.6$) < 24-month ($\bar{x}=1.8$); 12-month ($\bar{x}=1.6$) < 24-month ($\bar{x}=1.8$)]

Results presented in Table 14 show that more than half the players surveyed at each time period spent less than one hour playing the VLTs per session, with more than 90% spending less than 2 hours gambling each time they play. There are no significant differences between survey time periods for the amount of time respondents spent playing the VLTs.

Results in Table 15 show that 91.5% of the cohort respondents at baseline claim to gamble for less than 2 hours per session; however, this rate decreases at 24-month follow-up to 87.5%. These relatively small increases in duration of play between baseline/24-month and 12-month/24-month follow-up are statistically significant.

Expenditure Per Session

Respondents in each of the independent surveys were asked (a) how much money they spent each time they played the VLTs and (b) how much they spent in total each month. Tables 16 and 17 present the results for this variable for the independent and cohort samples, respectively.

Table 16
Expenditure per Session
(Independent Samples)

Expenditure	Baseline (N=988)	Time 1 (N=493)	Time 2 (N=494)	Time 3 (487)	Time 4 (491)	Total (N=2953)
Amount \$ spent/session						
\$1 to \$25	39.8%	37.9%	39.9%	36.3%	35.8%	38.3%
\$26 to \$50	24.5%	27.2%	25.9%	23.2%	22.4%	24.6%
\$51 to \$100	19.8%	19.9%	20.0%	25.7%	24.2%	21.6%
\$101 to \$200	8.5%	9.7%	8.3%	8.4%	9.4%	8.8%
\$201 to \$500	5.2%	4.3%	4.9%	5.1%	6.3%	5.1%
\$501 to \$1000	1.4%	1.0%	.6%	1.0%	1.8%	1.2%
\$1001 or more	.8%	.0%	.4%	.2%	.0%	.4%
Amount \$ spent/month						
\$1 to \$25	27.9%	24.1%	25.4%	27.7%	22.7%	26.1%
\$26 to \$50	16.7%	17.5%	20.2%	18.7%	18.8%	18.0%
\$51 to \$100	21.4%	21.5%	23.0%	23.4%	16.5%	21.3%
\$101 to \$200	12.7%	12.4%	13.1%	10.4%	16.9%	13.0%
\$201 to \$500	10.6%	13.9%	11.9%	11.9%	10.8%	11.5%
\$501 to \$1000	6.3%	6.2%	4.4%	3.6%	9.6%	6.1%
\$1001 or more	4.4%	4.4%	2.0%	4.3%	4.6%	4.1%

Differences not significant

Table 17
Expenditure per Session
(Cohort Sample)

Expenditure	Baseline % (206)	12-month % (206)	24-month % (206)
Amount \$ spent/session			
\$1 to \$25	34.0%	33.0%	31.6%
\$26 to \$50	28.2%	21.8%	26.2%
\$51 to \$100	21.4%	29.1%	20.4%
\$101 to \$200	9.7%	10.2%	13.6%
\$201 to \$500	5.3%	2.9%	4.4%
\$501 to \$1000	1.5%	2.9%	2.9%
\$1001 or more	0	0	1.0%
Amount \$ spent/month			
\$1 to \$25	17.2%	19.0%	8.6%
\$26 to \$50	12.1%	5.2%	13.8%
\$51 to \$100	22.4%	22.4%	19.0%
\$101 to \$200	15.5%	17.2%	20.7%
\$201 to \$500	12.1%	15.5%	22.4%
\$501 to \$1000	12.1%	15.5%	8.6%
\$1001 or more	8.6%	5.2%	6.9%

Differences not significant

Findings displayed in Table 16 show that slightly more than one-third of VLT players surveyed at baseline and the subsequent Times 1 through 4 spent \$25 or less each time they play the VLTs and that about two-thirds spent \$50 or less per session. There are no significant

differences between survey times for expenditure per session. Table 16 data also show that about two-thirds of VLT players spend \$100 or less per month on the VLTs and differences between survey time periods are not statistically significant.

In Table 17, data from the cohort sample show that about one-third of VLT players spend \$25 or less each time they play with almost two-thirds spending \$50 or less. This finding is very similar to the per session expenditure amounts for players in the independent survey samples. About two-thirds of the cohort respondents report spending \$200 or less per month and this is a somewhat greater monthly expenditure than reported for the independent survey sample. Differences between baseline, 12-month and 24-month follow-up surveys for per session and monthly expenditures for the cohort group are not statistically significant.

Quitting VLT Play Altogether

VLT players in each time period were also asked if any RGFs resulted in them cashing out and quitting play altogether during a gambling session. Tables 18 and 19 display results from the independent and cohort surveys for players who cash out and stop their play due to a specific RGF.

Table 18
RGF Caused Cashing Out and Quitting Play
(Independent Samples) ¹

RGF	Baseline % (N)	Time 1 % (N)	Time 2 % (N)	Time 3 % (N)	Time 4 % (N)	Total % (N)
Cash display	65.8% (517)	61.3% (223)	61.5% (216)	61.1% (214)	68.1% (258)	64.0% (1427)
Time Clock	17.8% (132)	20.2% (71)	19.8% (70)	21.3% (73)	19.4% (72)	19.4% (419)
Pop-Ups						
30 minute	7.0% (48)	7.7% (23)	9.2% (28)	7.0% (21)	6.2% (20)	7.3% (139)
60 minute	5.7% (38)	7.7% (22)	8.0% (23)	7.8% (23)	3.3% (10)	6.3% (116)
90 minute	4.9% (32)	5.0% (14)	6.0% (17)	6.5% (19)	2.3% (7)	4.9% (88)

¹ Response options “sometimes, most of the time, almost always” have been combined.
Differences not significant

Table 19
RGF Caused Cashing Out and Quitting Play
(Cohort Sample) ¹

RGF	Baseline % (N)	12-month % (N)	24-month % (N)
Cash display	62.2% (74)	64.7% (77)	63.9% (76)
Time Clock	25.7% (28)	22.9% (25)	22.0% (24)
Pop-Ups			
30 minute	4.6% (5)	6.4% (7)	2.8% (3)
60 minute	3.0% (2)	6.0% (4)	7.5% (5)
90 minute	0%	4.9% (3)	8.2% (5)

¹ Response options “sometimes, most of the time, almost always” have been combined.

Differences not significant

The results displayed in Table 18 show that only the cash display has a substantial influence on VLT players, as about two-thirds of respondents in each independent survey sample report that this RGF has caused them to cash out and stop playing at least some of the time. The next most influential RGF is the time clock, which has caused about 20% of the players to cash out and stop playing. None of the pop-up time reminders appear to have much influence in causing players to cash out and stop playing and there are only slight differences between 30-, 60- and 90-minute reminders for this effect. There are no statistically significant differences between survey times for this behavioural outcome.

The results for the cohort sample displayed in Table 19 are similar to those for the independent survey samples. For instance, the cohort group (>60%) is most likely to say that, of all the RGFs, the cash display is most likely to cause them to cash out and quit playing. The time clock is less likely to cause them to cash out and quit and the pop-up time reminders are least likely to cause this behaviour. There are no statistically significant differences for the cohort group responses between baseline and 12-month or 24-month follow-up.

Calling the Helpline Number

The final behavioural outcome measured is whether the presentation of the 1-800 helpline number on the opening display screen has caused VLT players to subsequently call the helpline if they are experiencing a problem while playing. Tables 20 and 21 show percentage response rates for the independent and cohort samples for players reporting that the helpline number has caused them to call for assistance for a perceived gambling problem.

Table 20
RGF Caused Phoning the Helpline Number
(Independent Samples)

	Baseline (N=862)	Time 1 (N=435)	Time 2 (N=422)	Time 3 (N=433)	Time 4 (N=441)	Total (N=2593)
During or after playing the VLTs, have you ever called the helpline number?						
Yes	2.8% (24)	2.8% (12)	2.8% (12)	.9% (4)	2.3% (10)	2.4% (62)
No	97.2% (838)	97.2% (423)	97.2% (410)	99.1% (420)	97.7% (431)	97.6% (2531)

Differences not significant

Table 21
RGF Caused Phoning the Helpline Number
(Cohort Sample)

	Baseline % (190)	12-month % (190)	24-month % (190)
During or after playing the VLTs, have you ever called the helpline number?			
Yes	2.1% (4)	2.6% (5)	2.6% (5)
No	97.9% (186)	97.4% (185)	97.4% (186)

Differences not significant

It is apparent from the data presented in Table 20 that a very small percentage of VLT players from the baseline or any subsequent time period survey have ever called the helpline number presented on the VLT opening screen. There is no significant difference between the survey time periods for calling the helpline.

The data in Table 21 show that very few VLT players in the cohort sample have ever called the helpline number. Four people at baseline reported having called the helpline and one additional VLT player in the cohort group reported calling the helpline between baseline and 12-month follow-up.

4.2 Changes in Problem Gambling Prevalence Rates

The second objective of this research is to monitor problem gambling prevalence rates in the VLT player population in Alberta. To this end, the 9-item Problem Gambling Severity Index (PGSI) from the Canadian Problem Gambling Index (CPGI) was embedded in each of the independent survey sample and cohort group questionnaires. The nine PGSI items include the following (refer to Appendices 1 and 2 for the entire independent survey and cohort questionnaires):

Problem Gambling Behaviour

1. How often did you bet more than you could really afford to lose on VLTs?
2. How often did you need to gamble with larger amounts of money on VLTs to get the same feeling of excitement?
3. How often did you go back another day to try to win back the money you lost on VLTs?
4. How often did you borrow money or sell anything to get money to gamble on VLTs?

Adverse Consequences

5. How often have people criticized your betting on VLTs or told you that you had a gambling problem, regardless of whether or not you thought it was true?
6. How often have you felt guilty about the way you gamble or what happens when you gamble on VLTs?
7. How often has VLT gambling caused you any health problems, including stress or anxiety?
8. How often has your VLT gambling caused any financial problems for you or your household?
9. How often have you felt that you might have a problem with gambling on the VLTs?

The PGSI is an instrument that has been widely validated for use in survey research to screen populations for cases of at-risk and problem gamblers according to the PGSI scores, gambler sub-types and descriptions presented in Table 22. The results of PGSI scores in Tables 23 and 24 show the prevalence rates for problem gambling.

Table 22
Gambler Subtypes According to PGSI Scores

PGSI Score	Gambler Subtype	Description
0	Non gambler	Respondents in this group have not gambled at all in the past 12 months.
0	Non-problem gambler	Respondents in this group will have scored 0 on the PGSI. Non-problem gamblers generally spend the least amount of time and money gambling. This group generally will not have experienced any adverse consequences from gambling.
1-2	Low-risk gambler	Respondents in this group will have scored 1-2 on the PGSI. Low-risk gamblers are more likely than non-problem gamblers to spend more time and money gambling. This group is also more likely to have experienced adverse

		consequences from gambling.
3-7	Moderate-risk gambler	Respondents in this group will have scored 3-7 on the PGSI. Moderate-risk gamblers are more likely than non-problem and low-risk gamblers to spend more time and money gambling.. This group is also more likely to have experienced adverse consequences from gambling.
8 and over	Problem gambler	Respondents in this group will have scored 8 or more on the PGSI. Problem gamblers are the most likely of any subtype to spend more time and money gambling. This group is also most likely to have experienced adverse consequences from gambling.

Score 1 for each response of “sometimes,” 2 for each “most of the time,” and 3 for each “almost always.” A score of between 0 and 27 points is possible by scoring each of the 9 PGSI items.

Table 23
Problem Gambling Prevalence Rates
(Independent Samples)

Gambler Status	Baseline % (976)	Time 1 % (488)	Time 2 % (490)	Time 3 % (482)	Time 4 % (489)	Total % (2925)
Non-problem	53.6% (523)	53.3% (260)	56.9% (279)	56.0% (270)	52.1% (255)	54.3% (1587)
Low risk	21.2% (207)	19.7% (96)	21.6% (106)	22.4% (108)	22.3% (109)	21.4% (626)
Moderate risk	15.3% (149)	17.8% (87)	14.5% (71)	13.9% (67)	15.7% (77)	15.4% (451)
Problem	9.9% (97)	9.2% (45)	6.9% (34)	7.7% (37)	9.8% (48)	8.9% (261)

Differences not significant

Table 24
Problem Gambling Prevalence Rates
(Cohort Sample)

	Baseline % (210)	12-month % (210)	24-month % (210)
Non-problem	53.8% (113)	55.2% (116)	53.3% (112)
Low risk	18.6% (39)	22.9% (48)	21.4% (45)
Moderate risk	18.1% (38)	10.5% (22)	13.8% (29)
Problem	9.5% (20)	11.4% (24)	11.4% (24)

Differences not significant

Data from the five independent survey samples presented in Table 23 show that more than one-half of the VLT players in each survey score as non-problem gamblers. In contrast, the prevalence rate for problem gamblers across all surveys is about 9%. About 37% of VLT players are at low- or moderate-risk for developing a gambling problem. There are no statistically significant differences between survey time periods for these rates.

The prevalence rates presented in Table 24 for the cohort group are very similar to those for the independent survey sample respondents. Just over 50% of the cohort group score on the PGSI as being non-problem gamblers. About 11% of VLT players in the cohort group score as problem gamblers, with about one-third scoring as low- or moderate-risk for developing a gambling problem. There are no statistically significant differences between baseline and 12- or 24-month follow-up for prevalence rates for the cohort group.

5. CONCLUSIONS

The purpose of this research is to conduct an evaluation of the effectiveness of the four responsible gambling features (RGFs) the Alberta Gaming and Liquor Commission installed on all VLTs in the province in 2003. This study has been conducted in two phases over a 5½ year time period and the results of phase one are included in a separate report (Wynne and Stinchfield, 2004). Results from the second phase of the study are presented in this report and these lead to a number of conclusions that are presented in this section.

5.1 Effectiveness of Responsible Gambling Features

This evaluation research assesses the impact of the four RGFs on VLT players' cognitions and behaviour related to their play on the machines. There is an important sequencing between these cognitive and behavioural domains that has implications for assessing the effectiveness of the RGFs. That is, without prior awareness, knowledge and a positive attitude towards the RGFs, it is unlikely that a VLT player will use these features to make the desired behavioural changes of limiting time or expenditure. However, even if the RGFs result in cognitive awareness of playing patterns, there is no guarantee that the VLT player will use this knowledge to change his or her behaviour during a gambling session or seek help for a gambling problem when the session has ended. In this vein, it is conceivable that RGFs may effectively influence VLT players' cognitions about their gambling behaviour without having the desired effect of causing them to modify their playing time and expenditure.

The framework presented in Table 1 shows how the evaluation is structured. The first domain includes three cognitive variables that are measured, namely (a) *awareness* of the RGFs, (b) utilization of *knowledge* about playing time/expenditure gained from the RGFs, and (c) *attitudes* towards the perceived effectiveness of the RGFs. The second domain measures whether the VLT player used the RGFs to (a) monitor their time and expenditure levels (b) prompt them to cash out and stop playing altogether, and (c) call the helpline if they were experiencing a gambling problem. Following are conclusions relative to the effectiveness of the RGFs in accomplishing these objectives.

5.1.1 Cognitive Domain

Awareness. It may be concluded that there is a relatively high level awareness of the RGFs amongst VLT players in the study samples. Awareness is highest for the helpline number and cash display and lowest for the pop-up time reminders, notably the 90-minute reminder. However, awareness of the RGFs does not appear to be increasing over time. Rather, there is some evidence—notably from the cohort group—that awareness of some RGFs may be decreasing somewhat over time. These RGFs include the time clock and pop-up time reminders. In contrast, awareness of the cash display and helpline number seems to be at the same relatively high level over time. This decrease in awareness for the time clock and pop-up reminders is not a strong trend and may be a statistical artifact. However, it is also possible that VLT players become oblivious to the time clock and pop-up reminders the longer they play.

It may also be concluded that awareness of the cash display is increasing over time. Evidence shows that the cohort group is almost two times more likely to notice the cash display than they were one year previously.

Knowledge. Although the great majority of VLT players in the study samples are aware of the four RGFs, it must be concluded that most VLT players do not use these features to inform them about the amount of time and money they spend. Only about one-third of the players at most use these features to give them knowledge about time and money spent. Usage is highest for the cash display and lowest for the pop-up time reminders. This suggests that VLT players are more interested in monitoring the amount of money they spend at play versus their time.

Consistent with the conclusion that VLT player awareness of the cash display increases over time, it may be concluded that player usage of the cash display also increases over time. There is evidence that the cohort group shows a significant increase in their usage of the cash display over the previous year, to a point where over half now claim to use this feature to control expenditure.

Attitude. It may be concluded that the majority of VLT players in the study samples feel that none of the RGFs are especially effective in helping them control the amount of time and money they spend playing. The one exception is for the cash display, as more than half the cohort group feels this RGF is at least somewhat effective. Moreover, there is evidence from the cohort group that attitude towards the effectiveness of the cash display increases over time. However, there is a generally low threshold of endorsement for effectiveness for even the cash display, as only about 2% of the cohort group considers this feature to be “very effective.”

VLT players were also asked to comment on whether these RGFs interfered with their enjoyment while playing the games. It may be concluded that the vast majority of VLT players do not feel the RGFs interfere with their enjoyment and the RGF that interferes most appears to be the pop-up reminders.

5.1.2 Behavioural Domain

Frequency and duration of play. One of the main goals of the RGFs is to help VLT players control the frequency and duration of their play. First, it may be concluded that both frequency and duration of VLT play remains relatively low for most players; that is, 2 to 3 times/month or less frequent for visits to bars/lounges to play the VLTs and spending less than 2 hours playing during each visit.

Evidence from the cohort group in the study indicates (a) there is a relatively small but significant decrease over time in the frequency with which the same VLT players gamble on the machines, and (b) the duration of gambling per session is increasing slightly over time. However, these findings are relatively weak and may be statistical artifacts.

Expenditure per session. It may be concluded that most VLT players wager relatively small amounts of money each time they play and on a monthly basis. About two-thirds of VLT players in the study sample spend \$50 or less each time they play and \$200 or less each month.

Furthermore, it may be concluded that expenditure levels remain constant, as there is no evidence of changes over time for increases or decreases in expenditures on VLT play.

Quitting VLT play altogether. It may be concluded that at least sometimes, about two-thirds of VLT players have used the cash display to prompt them to cash out and quit playing altogether; however, there is no evidence that this RGF-prompted behaviour is increasing over time. In contrast, the time clock and pop-up reminders do not cause a significant number of VLT players to cash out and stop playing.

Calling the helpline number. It may be concluded that very few VLT players have called the helpline number that appears on the display screen to seek help for a gambling problem. For instance, of 2,593 respondents in the baseline and four independent survey samples, only 62 VLT players claim to have called the 1-800 helpline number over the 2½ year study period. Similarly, of 190 respondents in the cohort sample, only 5 players claim to have called the helpline number, with only one person doing so between the baseline and 12-month follow-up survey.

5.1.3 Conclusions Regarding the Effectiveness of Specific RGFs

The evaluation framework in Table 1 shows the relationship between the cognitive domains, desired outcomes and indicators that are measured to assess RGF effectiveness. In the cognitive domain, the outcomes that are measured include (a) player awareness of VLT responsible gaming features; (b) players knowledge gained from RGFs about the time and money they spend playing VLTs; and (c) players attitudes that the RGFs have value. For each cognitive outcome, effectiveness may be judged as a function of (a) levels of awareness, knowledge gains, and positive attitudes measured at baseline, along with (b) increases in awareness, knowledge and attitude over time. In the behavioural domain, measured outcomes include (a) reductions in the amount of time and money VLT players spend gambling; (b) increases in the number of VLT players who cash out and quit play due to the RGFs; and (c) increases in the number of VLT players who call the helpline number displayed on the screen. Based on these criteria in the cognitive and behavioural domains, the following conclusions are offered regarding the relative effectiveness of each of the four RGFs.

Cash Display

Most VLT players are very aware of the cash display, although most claim not to use information from this RGF to monitor the amount of money they spend. However somewhat paradoxically, two-thirds of VLT players report that the cash display sometimes causes them to cash out and quit playing altogether. This suggests that, while the cash display may not be incorporated into a VLT player's strategy to monitor expenditures, dollar amounts displayed may sometimes trigger the player to cash out and quit playing.

There is some evidence from the cohort group that awareness and usage of the cash display to monitor expenditures is increasing over time. However, there is no corresponding increase over time for VLT players in the cohort group actually cashing out and quitting playing altogether based on the cash display.

Although awareness of the cash display is high and this RGF may trigger VLT players to sometimes cash out and stop playing, this study found no evidence of decreases over time in the actual amount of money players spend per session or month. Most VLT players spend relatively small amounts of money per session (<\$50) and per month (<\$200) and the cash display appears to have no significant effect on these levels of expenditure.

VLT player attitudes towards the cash display are relatively positive, as about half the respondents in both the independent and cohort samples feel the cash display is at least somewhat effective in helping players control their expenditures. Furthermore, most also do not feel the cash display interferes with their enjoyment while playing the games.

These findings lead to the conclusion that the cash display is only somewhat effective in achieving the desired outcome of helping the majority of players limit the amount of money they spend gambling on the VLTs.

Time Clock

As with the cash display, there is a generally high level of awareness of the time-of-day clock that appears on every VLT screen. However, a relatively small percentage of VLT players use information from this clock to limit their play time or prompt them to cash out and stop playing. Furthermore, there is no evidence to suggest that awareness and usage of the clock increases over time.

Player attitudes towards the time clock are not especially positive, as about two-thirds of the players do not consider this RGF to be effective in helping players control their playing time. However, the clock is viewed as being relatively innocuous as over 90% of the VLT players do not feel this RGF interferes with their playing enjoyment.

From this evidence, it may be concluded that the time clock is not effective in helping the majority of VLT players control the amount of time they spend gambling on the VLTs.

Pop-Up Time Reminders

Time reminders pop-up on the display screen every 30, 60 and 90 minutes while the player is engaged in gambling on a particular VLT. Most players are aware of this RGF, although levels of awareness are somewhat less than for the cash display and time clock features, respectively. Furthermore, players are more likely to be aware of the 30-minute than the 60- or 90-minute pop-ups, which is consistent with the finding that most players play for 2 hours or less per session and, most likely, on different machines during this time. Even fewer VLT players use the pop-up reminders than the time clock to monitor their time and fewer still claim that the pop-up reminders sometimes causes them to cash out and quit playing. There is no evidence of increased awareness or utilization of the pop-up reminders over time.

Similar to the time clock, VLT players' attitude towards the pop-up time reminders is not very positive, as over 85% of all respondents do not consider this RGF to be effective. However, three-quarters of the players do not feel this feature interferes with their playing enjoyment,

although this rate of interference is highest for the pop-up time reminder RGF as compared with the three other features.

These findings lead to the conclusion that the pop-up reminders are not effective in helping the majority of VLT players monitor their time or in prompting them to cash out and stop playing altogether.

Helpline Number

The final RGF examined is the helpline number that scrolls across the opening screen of each VLT before the player engages in play. The highest level of awareness for any RGF is for the helpline number, as about 90% of the VLT players surveyed claim they recall seeing this number. Moreover, VLT players appear to have a more positive attitude towards the helpline number than for all other RGFs except for the cash display, as about 40% of respondents consider the presence of the helpline number to be at least somewhat effective. However, despite this awareness and more positive attitude, only a handful of VLT respondents report ever having phoned the helpline number due to this screen prompt.

From this evidence, it may be concluded that the helpline number that appears on the opening screen of every VLT in Alberta is not effective in prompting the majority of players who may be experiencing a problem to call the helpline for assistance.

5.2 Problem Gambling Prevalence Rates

The main objective of phase two of this study is to evaluate the effectiveness of the four RGFs in helping players control the amount of time and money they spend gambling on VLTs. In addition, a second objective is to monitor the problem gambling prevalence rate in the VLT player population in Alberta over the 2½ year study period.

It may be concluded that the prevalence rate for at-risk and problem gamblers combined is relatively high at about 46% of the VLT player population. Problem gambling prevalence rates are also relatively high at about 10% of the player population, which is substantially higher than problem gambling rates for any other type of gambling. There are no significant changes in non-problem, at-risk or problem gambling prevalence rates in the VLT player population over the 2½ study time period.

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Appendix 1
Questionnaire Structure
(Baseline and Times 1 to 4 Surveys)

**Questionnaire Structure
(Baseline and Times 1 to 4 Surveys)**

DOMAIN	VARIABLES	INDICATORS	ITEMS AND QUESTION NUMBERS	
Gambling Activity	Frequency	Frequency of play	1. In the past 3 months, how often did you play the VLTs?	
	Duration	Time at play	2. On average, how long did you spend playing the VLTs each time you played?	
	Expenditure	Amount wagered		3a. During a typical session, how much did you usually spend (“spend” means how much you won/lost or are ahead/behind overall)?
				3b. In the past month, how much did you spend in total on VLTs (“spend” means how much you won/lost or are ahead/behind overall)?
		Wins/losses	4. What is the most you won and lost (i.e., after leaving the bar/lounge) on VLTs in a single day?	
		Coins and bill acceptor usage	5. Did you normally use the bill acceptor only, coins only, or did you use both when playing the VLTs?	
		Sources of money	6. During a typical session, how often did you use the change machines/staff or ATMs to get money to play the VLTs?	
VLT Gambling Strategy	Control money	Set money budget	7. In the past 3 months, did you ever set a dollar limit when playing the VLTs?	
		Strategy for money budget	8. Did you have a strategy for sticking to your dollar limit? (describe)	
		Exceed money budget	9. How often did you spend more than your dollar limit on VLTs?	
	Control time	Set time budget	10. Did you ever set a specific amount of time for playing VLTs at a typical session?	
		Strategy for time budget	11. Did you have a strategy for sticking to your time limit? (describe)	
		Exceed time budget	12. How often did you spend more time than you planned for a VLT session?	
Responsible Gaming Features	Opening screen	Helpline message	13. Did you recall seeing the problem gambling helpline number on the VLT screen?	
		Use helpline number	14. During or after playing the VLTs, have you ever called the helpline number that appears on either of these VLT screens?	
		Effectiveness	15. Do you think the helpline number is effective in helping problem gamblers?	
	Cash display	Limit money spent	16. In the past 3 months, did you use the VLT cash display to help you limit the money you spent playing VLT games?	
		Effectiveness	17. How effective was the cash display in helping you control the amount of money you spent playing the VLTs?	
		Stop play	18. Has the amount of money shown on the VLT cash display ever caused you to cash out and stop playing the VLTs?	
		Reduce enjoyment	19. Did the cash display interfere with your enjoyment when playing the VLTs?	
	On –screen clock	Limit time spent	20. In the past 3 months, did you use the on-screen clock to help you limit the time you spent playing VLT games?	
		Effectiveness	21. How effective was the on-screen clock in helping you control the amount of time you spent playing the VLTs?	
		Stop play	22. Has the time displayed on the on-screen clock ever caused you to cash out and stop playing the VLTs?	
		Reduce enjoyment	23. Did the on-screen clock interfere with your enjoyment when playing the VLTs?	
	Pop-up time reminders	Limit time	24. In the past 3 months, did you use the pop-up time reminders (30, 60, 90 minutes) to help you limit the time you spent playing the VLTs?	

DOMAIN	VARIABLES	INDICATORS	ITEMS AND QUESTION NUMBERS
		Effectiveness	25. How effective were these pop-up reminders (30, 60, 90 minute) in helping you control the amount of time you spent playing the VLTs?
		Stop play	26. Did these pop-up reminders (30, 60, 90 minute) ever cause you to cash-out and stop playing the VLTs?
		Reduce enjoyment	27. Did these pop-up time reminders interfere with your enjoyment when playing the VLTs?
Problem Gambling Behaviour	Loss of control	Feelings of control	28. When you played the VLTs, how often did you feel you were in control of your gambling behaviour?
		Lost track of money	29. How often did you lose track of how much money you were spending while you were playing?
		Lost track of time	30. How often did you lose track of how much time you were spending while you were playing?
	Bet more than could afford	31. How often did you bet more than you could really afford to lose on VLTs?	
	Motivation	Increase wagers	32. How often did you need to gamble with larger amounts of money on VLTs to get the same feeling of excitement?
	Chasing	Returning to win back losses	33. How often did you go back another day to try to win back the money you lost on VLTs?
Borrowing	Borrow money or sold anything	34. How often did you borrow money or sell anything to get money to gamble on VLTs?	
Adverse Consequences of PG Behaviour	Personal Consequences	Criticism	35. How often have people criticized your betting on VLTs or told you that you had a gambling problem, regardless of whether or not you thought it was true?
		Feelings of guilt	36. How often have you felt guilty about the way you gamble or what happens when you gamble on VLTs?
		Negative health effects	37. How often has VLT gambling caused you any health problems, including stress or anxiety?
	Financial problems	38. How often has your VLT gambling caused any financial problems for you or your household?	
	Problem recognition	Felt problem	39. How often have you felt that you might have a problem with gambling on the VLTs?
		Wanted to stop	40. How often have you felt like you would like to stop gambling on VLTs but you didn't think you could?
Help seeking		41. Have you ever sought help for a gambling problem? (identify source)?	
Demographics	Residence	Postal code	42. What is your postal code?
	Age	DOB	43. In what year were you born?
	Sex	Male/female	44. Gender
	Marital status	Current Status	45. What is your current marital status?
	Education	Highest level	46. What is the highest level of education you completed?
	Employment	Status	47. Which of the following best describes your current employment status?
	Occupation	Type of work	48. What is your current occupation (i.e., the type of work you do)?
	Income	Annual household	49. Which of the following broad income categories best describes your total annual household income (i.e., everyone combined before taxes)?
Final Comment	Improvements	RGFs	51. Do you have any suggestions for improving or adding features to the VLTs to help problem gamblers? (Describe)
	Helping problem gamblers	Other suggestions	52. Do you have any other suggestions for helping VLT players who are experiencing a problem?

Appendix 2
Questionnaire Structure
(Cohort 1 and 2 Surveys)

Questionnaire Structure (Cohort 1 and 2 Surveys)

DOMAIN	VARIABLES	INDICATORS	ITEMS AND QUESTION NUMBERS	
Gambling Activity	Frequency	Frequency of play	1. In the past 12 months, how often did you play the VLTs?	
	Duration	Time at play	2. On average, how long did you spend playing the VLTs each time you played?	
	Expenditure	Amount wagered		3a. During a typical session, how much did you usually spend (“spend” means how much you won/lost or are ahead/behind overall)?
				3b. In the past month, how much did you spend in total on VLTs (“spend” means how much you won/lost or are ahead/behind overall)?
		Wins/losses	4. What is the most you won and lost (i.e., after leaving the bar/lounge) on VLTs in a single day?	
		Coins and bill acceptor usage	5. Did you normally use the bill acceptor only, coins only, or did you use both when playing the VLTs?	
		Sources of money	6. During a typical session, how often did you use the change machines/staff or ATMs to get money to play the VLTs?	
VLT Gambling Strategy	Control money	Set money budget	7. In the past 12 months, did you ever set a dollar limit when playing the VLTs?	
		Strategy for money budget	8. Did you have a strategy for sticking to your dollar limit? (describe)	
		Exceed money budget	9. How often did you spend more than your dollar limit on VLTs?	
	Control time	Set time budget	10. Did you ever set a specific amount of time for playing VLTs at a typical session?	
		Strategy for time budget	11. Did you have a strategy for sticking to your time limit? (describe)	
		Exceed time budget	12. How often did you spend more time than you planned for a VLT session?	
Responsible Gaming Features	Opening screen	Helpline message	13. Did you recall seeing the problem gambling helpline number on the VLT screen?	
		Use helpline number	14. During or after playing the VLTs, have you ever called the helpline number that appears on either of these VLT screens?	
		Effectiveness	15. Do you think the helpline number is effective in helping problem gamblers?	
	Cash display	Limit money spent	16. In the past 12 months, did you use the VLT cash display to help you limit the money you spent playing VLT games?	
		Effectiveness	17. How effective was the cash display in helping you control the amount of money you spent playing the VLTs?	
		Stop play	18. Has the amount of money shown on the VLT cash display ever caused you to cash out and stop playing the VLTs?	
		Reduce enjoyment	19. Did the cash display interfere with your enjoyment when playing the VLTs?	
	On –screen clock	Limit time spent	20. In the past 12 months, did you use the on-screen clock to help you limit the time you spent playing VLT games?	
		Effectiveness	21. How effective was the on-screen clock in helping you control the amount of time you spent playing the VLTs?	
		Stop play	22. Has the time displayed on the on-screen clock ever caused you to cash out and stop playing the VLTs?	
		Reduce enjoyment	23. Did the on-screen clock interfere with your enjoyment when playing the VLTs?	
Pop-up time reminders	Limit time	24. In the past 12 months, did you use the pop-up time reminders (30, 60, 90 minutes) to help you limit the time you spent playing the VLTs?		

DOMAIN	VARIABLES	INDICATORS	ITEMS AND QUESTION NUMBERS
		Effectiveness	25. How effective were these pop-up reminders (30, 60, 90 minute) in helping you control the amount of time you spent playing the VLTs?
		Stop play	26. Did these pop-up reminders (30, 60, 90 minute) ever cause you to cash-out and stop playing the VLTs?
		Reduce enjoyment	27. Did these pop-up time reminders interfere with your enjoyment when playing the VLTs?
Problem Gambling Behaviour	Loss of control	Feelings of control	28. When you played the VLTs, how often did you feel you were in control of your gambling behaviour?
		Lost track of money	29. How often did you lose track of how much money you were spending while you were playing?
		Lost track of time	30. How often did you lose track of how much time you were spending while you were playing?
		Bet more than could afford	31. How often did you bet more than you could really afford to lose on VLTs?
	Motivation	Increase wagers	32. How often did you need to gamble with larger amounts of money on VLTs to get the same feeling of excitement?
	Chasing	Returning to win back losses	33. How often did you go back another day to try to win back the money you lost on VLTs?
	Borrowing	Borrow money or sold anything	34. How often did you borrow money or sell anything to get money to gamble on VLTs?
Adverse Consequences of PG Behaviour	Personal Consequences	Criticism	35. How often have people criticized your betting on VLTs or told you that you had a gambling problem, regardless of whether or not you thought it was true?
		Feelings of guilt	36. How often have you felt guilty about the way you gamble or what happens when you gamble on VLTs?
		Negative health effects	37. How often has VLT gambling caused you any health problems, including stress or anxiety?
		Financial problems	38. How often has your VLT gambling caused any financial problems for you or your household?
	Problem recognition	Felt problem	39. How often have you felt that you might have a problem with gambling on the VLTs?
		Wanted to stop	40. How often have you felt like you would like to stop gambling on VLTs but you didn't think you could?
		Help seeking	41. Have you ever sought help for a gambling problem? (identify source)?
Cohort Changes	Awareness	Notice RGFs generally	42. When you play the VLTs now, are you more or less likely to notice the RGFs than you were one year ago?
		Notice specific RGFs most	43. Which specific RGFs do you notice the most now (specify)?
		Notice specific RGFs least	44. Which specific RGFs do you notice the least now (specify)?
	Knowledge	Use RGFs generally	45. Compared with one year ago, are you now more/less likely to use the RGFs to help you limit the amount of time/money you spend playing VLTs?
		Use specific RGFs most	46. Which specific RGFs are you now most likely to use (specify)?
		Use specific RGFs least	47. Which specific RGFs are you now least likely to use (specify)?
	Attitude	RGF opinion change	48. Compared with one year ago, has your opinion changed about the effectiveness of the RGFs?
		RGF general effectiveness	49. How would you rate the effectiveness of the RGFs now?
		RGFs most effective	50. Which RGFs do you think are most effective in helping you control your VLT play (specify)?
		RGFs least effective	51. Which RGFs do you think are the least effective in helping you control your play (specify)?

DOMAIN	VARIABLES	INDICATORS	ITEMS AND QUESTION NUMBERS
	Gambling behaviour	Changes in time	52. Compared with one year ago, do you now spend more/less time playing the VLTs?
		Changes in spending	53. Compared with one year ago, do you now spend more/less money playing the VLTs?
	PG behaviour	Concerned about increased time	54. Are you concerned that you may be spending too much time playing the VLTs now?
		Concerned about increased spending	55. Are you concerned that you may be spending too much money playing the VLTs now?
	PG consequences	Experienced negative consequences	56. In the past year, have you ever experienced any negative or bad consequences because of your VLT play?
		Specific negative consequences	57. What were these negative consequences (specify)?
Demographics	Residence	Postal code	58. What is your postal code?
	Age	DOB	59. In what year were you born?
	Sex	Male/female	60. Gender
	Marital status	Current Status	61. What is your current marital status?
	Education	Highest level	62. What is the highest level of education you completed?
	Employment	Status	63. Which of the following best describes your current employment status?
	Occupation	Type of work	64. What is your current occupation (i.e., the type of work you do)?
	Income	Annual household	65. Which of the following broad income categories best describes your total annual household income (i.e., everyone combined before taxes)?
Ethnicity	Ethnic group	66. In addition to being Canadian, to what other ethnic or cultural group do you belong?	
Final Comment	Improvements	RGFs	67. Do you have any suggestions for improving or adding features to the VLTs to help problem gamblers? (Describe)
	Helping problem gamblers	Other suggestions	68. Do you have any other suggestions for helping VLT players who are experiencing a problem?