MAGIC **MASSACHUSETTS GAMBLING IMPACT COHORT STUDY**

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

Executive Summary

MA GAMBLING IMPACT COHORT (MAGIC): Transitions across Four Waves

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Authorship

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EXECUTIVE SUMMARY

The Massachusetts Gambling Impact Cohort (MAGIC) is a prospective study of gambling and problem gambling conducted in Massachusetts from 2013 to 2019. A group of 3,139 adults, 18 and older, was recruited via address-based sampling, with the sample over selected for factors that put them at higher risk of future problem gambling. Otherwise, the sample was roughly representative of the demographic profile of the Massachusetts population. The cohort had five assessment periods, with inter-assessment intervals ranging from 11.5 to 24 months. The vast majority of assessments were self-administered with most completed online and a minority completed on paper. The assessment collected comprehensive information on gambling-related behavior, attitudes, motivations, context, fallacies; problem gambling; physical health; mental health; substance use and abuse; social functioning; personality; and demographics. A retention rate of 81.1% was achieved in Wave 4 and 69.9% of participants completed all four waves.

MAGIC has three primary research goals. The first is to understand the stability and course of problem, at-risk, and recreational gambling. The second is to develop an etiological model of problem gambling. The third is to use the findings from the above research to optimize the treatment and prevention of problem gambling in Massachusetts. The present report is a **descriptive account of the stability and transitions of problem, at-risk, and recreational gambling over four Waves.** It follows the basic format of the two prior reports in this series, the Wave 1 to 2 report (Volberg, Williams, Stanek, Zorn & Mazar, 2017), and the Wave 1 to 3 report (Mazar et al., 2019). A comprehensive Final Report on the MAGIC study within the next 6 months will provide an interpretive account of the stability and transitions *over the full five* waves as well as present an etiological model of problem gambling and the relevant policy implications. The present report is primarily a methodological report of interest to researchers. That said, the present findings provide some preliminary data pertaining to a) the potential impact of casino introduction into Massachusetts on gambling and problem gambling (that will be explored in greater detail in future SEIGMA reports); and b) the inherent instability and relapse rates of problem gambling that is of relevance to public health interventions.

When restricting the analysis to individuals who completed all four waves, a significant difference across waves was observed in the past year self-reported participation in most individual types of gambling with the exception of horse/dog race betting and sports betting. In most cases this reflects self-reported increases in Wave 3 or 4 participation rates relative to either Wave 1 or 2 or both. However, there was a decrease in reported out-of-state casino patronization beginning in Wave 3. Statistically significant differences are commonly obtained with large sample sizes (over 2,000 in the present case) and do not necessarily denote meaningful differences. That said, the increases in participation rates for traditional lottery, instant tickets, and raffles parallel actual revenue increases in these formats during those time periods (likely driven by the unusually high Powerball jackpot in 2016). Changes in how the question was asked may have been responsible for the reported increases in daily lottery games, bingo, and online gambling participation.

When restricting the analysis to individuals who completed all four waves, there was also significant variation over time in the relative prevalence of the four gambling categories (Non-Gambling, Recreational Gambling, At-Risk Gambling, Problem Gambling). This reflected higher rates of Recreational Gambling in Waves 3 and 4 relative to Waves 1 and 2, along with a corresponding decrease in Non-Gambling in Waves 3 and 4 relative to Waves 1 and 2. At-Risk Gambling also decreased in Wave 4

relative to Wave 2. However, this was offset by an increase in problem gambling in Wave 4 relative to Wave 1. Here again, large sample sizes facilitate statistically significant differences and do not always indicate meaningful differences.

The *individual stability* of gambling categories varied as a function of category. Non-Gambling was a fairly stable classification, with the majority of Non-Gamblers in one wave continuing to be Non-Gamblers at the next wave. That said, only a minority of Non-Gamblers (38.2%) were Non-Gamblers throughout all four waves. Rather, the majority (61.4%) transitioned to Recreational Gambling in either Wave 2, 3, or 4, with a minority of those transitioning back to Non-Gambling in the following wave.

Recreational Gamblers, who constitute the majority of the sample, had the most stable behavioral pattern, with the large majority of Recreational Gamblers continuing to be Recreational Gamblers in the next wave, and 64.7% continuing to be Recreational Gamblers throughout all four waves. A small percentage eventually transitioned into Non-Gambling (13.5%) or At-Risk Gambling (19.4%), and an even smaller percentage (2.3%) became Problem Gamblers at some point in the subsequent three waves.

In contrast, people with sub-clinical levels of problem gambling symptomatology ('At-Risk Gamblers') had an unstable trajectory, with only a minority continuing to be in this category in the next wave and only 10.4% continuing in this category for four consecutive waves. Although a significant percentage of At-Risk Gamblers subsequently become Problem Gamblers (16.4%), a much more common route was transitioning back to Recreational Gambling.

Problem gambling was somewhat more stable than At-Risk Gambling, but still fairly unstable, with the majority of Problem Gamblers transitioning to At-Risk or Recreational Gambling in the next wave. Indeed, one wave was the modal duration of Problem Gambling, occurring in 57.0% of problem gamblers. A longer duration did occur for a significant minority, with 23.2% being in this category in all four waves and many others being in this category for either two or three consecutive waves. Risk of chronic problem gambling tended to increase with each consecutive year of problem gambling status. The relatively short episode duration for most problem gamblers also meant that recovery rates tended to be high. However, of those that recovered by Wave 2, 25.3% had relapsed in either Wave 3 or Wave 4. The longer-term relapse rate beyond this time frame is unknown, but is expected to be significantly higher.