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Report

Alcohol-related mishaps on weekends in Reykjavík

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Introduction

In Iceland rules and regulations regarding bars and restaurants were changed 1999–2008. In 1999, round-the-clock opening was introduced. However, the regulations on the serving of alcohol were somewhat restricted again in 2001. In 2007 a smoking ban was implemented by law in all restaurants and bars.

The aim of this paper is to draw findings together from two studies, conducted in 2000 and 2008, on harmful incidents in Reykjavík´s City Center: Which effects did the changed regulations have? The hypothesis is that longer serving hours increased harmful incidents whereas the smoking ban decreased them.

Since the boost in the number of bars and restaurants serving alcohol in the last decade of the 20th century, the city center in Reykjavík has been the center for young people's night time entertainment in Iceland (Ólafsdóttir & Bergsveinsdóttir 2008). The city center's entertainment area covers just over one square kilometre of space, and the restaurants and bars fall densely within comfortable walking distance. This is the spot where young people in their twenties and thirties meet with their friends, drink alcohol and seek adventures in the small hours of the night, sometimes until early morning. Until 1999 serving hours in Reykjavík were restricted to 2 a.m. on weekends and 11.30 p.m. on weekdays. In 1999 the Reykjavík City Council decided to experiment with unrestricted alcohol serving hours in bars and restaurants (see Ragnarsdóttir et al. 2002). The experiment, initially intended to last for three months from July to October 1999, was prolonged to one year, through July 2000, and then yet another year until July 2001. The intention was to see if problems arising around the closing hours, resulting in peak workload for service professionals, would diminish. Towards the end of the experimental period, the city council approved new rules, where licenses were classified according to the neighbourhood of the premises, see Table 1 (Elmland et al. 2008; Reykjavík 2004; 1998). According to these new rules the serving hours in the city center and around the port and certain worksites end at 5:30 a.m. on weekends, 2 a.m. on Thursdays and 1 a.m. on other days, and premises must close one hour later (Table 1). The change was made in response to a request by the Reykjavík Police Department and the City Center Steering group due to reports of growing problems related to nightlife in the city center.

Table 1. Classification of entertainment areas and types of liquor licenses in Reykjavík.

Classification of entertainment areas and types of liquor licenses in Reykjavík according to rules approved by the City Council in 2001			
Type of license	**Neighbourhood**	**Serving hours**	**Closing hours**
Type 1	Residential	Weekdays 11.30 p.m. Weekends 1 a.m.	Weekdays 00.30 a.m. Weekends 2 a.m.
Type 2	Work / industrial	Weekdays 1 a.m. Weekends 3 a.m.	Weekdays 2 a.m. Weekends 4 a.m.
Type 3	City center, port and certain worksites	Mon.–Wed. 1 a.m. Thursday 2 a.m. Weekends 5.30 a.m.	Mon.–Wed. 2 a.m. Thursday 3 a.m. Weekends 6.30 a.m.

Changes in laws and regulations

When the Icelandic Alcohol Act was amended in 1998 (Althingi 1998), municipal councils were made responsible for the liquor licensing of restaurants and bars (Althingi 1998). In 2007 the laws were revised again (Althingi 2007a), and the district magistrates were made responsible for the licensing except in Reykjavík, where the Commissioner of the Police issues licenses on behalf of the district magistrate.[1] The number of liquor licenses in Reykjavík rose steadily from 79 in 1990 to 227 in 2005. Since 2007, new definitions and categorization of the premises have made comparison with the former counts invalid. Table 2 shows the number of type 2 and type 3 liquor licenses in Reykjavík in November 2009. Type 1 places do not serve alcohol and are therefore not included in the table (see Table 1).

A law prohibiting smoking in restaurants and bars took effect in June 2007 (Althingi 2007b). The main rational for the smoking ban in bars and restaurants was the health hazard caused by second hand smoke. It was argued that everyone, both smokers and non-smokers, would benefit from the improved quality of air (Althingi 2007b). Similar bans have been introduced in many countries. Most studies on the impact of smoking bans on public health and economics find that smoking bans leave restaurants and bars economically unaffected (Eriksen & Chaloupka 2007). Some studies report health benefits such as reduced hospital admissions due to heart attack (Dobson 2008).

Table 2. Number of liquor licenses in Reykjavík.

Number of liquor licenses in Reykjavík in November 2009*			
	City Center	Other sites	All
Type 2	54	17	71
Type 3	87	57	144
	141	74	215

*Information from the Reykjavík Metropolitan Police, inspector of restaurants and bars.

Hadfield, Lister and Traynor (2009) studied policing and regulatory responses to the night-time economy in England and Wales. Their findings suggest that the changed character of urban sites, with increased numbers and condensation of bars and restaurants in city centres, has been answered with stricter regulations and licensing by the government and local authorities and changed police activity. They conclude that these efforts, which were intended to increase urban security, have led to a complex balancing act between the market, consumer freedoms and civil lib-

erties, on one hand, and surveillance, securitization and repression, on the other.

Hours for serving alcohol and the smoking ban

According to the availability theory, increased availability of alcohol will lead to increased consumption and consequently more harm (Edwards et al. 1994). It has been argued that by restricting the availability of alcohol, the total alcohol consumption, and in turn the related harm, will diminish. Many studies indicate that policy measures, such as price regulation, restrictions on purchasing age, advertising restrictions, density and operating hours of outlets and serving hours of bars and restaurants are effective in preventing alcohol-related harm (Allen Consulting Group 2009; Mäkelä et al. 2002).

Chikritzhs and Stockwell (2002) examined the impact of later trading hours for licensed hotels in Perth, Western Australia, on the levels of violent assault on or near these premises. Their findings indicated an increase in assault offences, and that these incidents are more likely to occur during the extended hours of sale after midnight.

Greater restrictions have been associated with less drinking and drinking problems such as assault levels and traffic accidents (Allen Consulting Group 2009; Anderson 2008; Grube & Nygaard 2001; WHO, 2007). A review of 49 studies made by Stockwell and Chikritzhs (2009, 153) to evaluate the public health and safety impacts of changes in liquor trading hours concluded that "the balance of reliable evidence from the available international literature suggests extended late-night trading hours lead to increased consumption and harm." The studies reviewed differ in methodology and quality, and the authors state that to further confirm this conclusion well-controlled studies are needed.

The WHO Collaborative Study on Alcohol and Injuries (WHO 2007) was initiated and implemented to document the association between alcohol intake and injuries in a probability sample of emergency room patients in 12 countries from different continents. Data were collected from over 5400 cases from 2000 to 2002. The results revealed a clear relationship between alcohol consumption and the risk of injury in most of the participating countries.

According to national statistics in Iceland the alcohol consumption rose between 1999 and 2008, both measured by annual sales of pure alcohol per inhabitant aged 15 years and over (Statistics Iceland 2010a) and by household consumption expenditure volume indices (Statistics Iceland 2010b) as shown in table 3.

Ólafsdóttir (2007) collected data on al-

Table 3. Alcohol consumption in Iceland 1999–2008.

Alcohol consumption in Iceland 1999–2008										
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Household final consumption expenditure: Volume indices (2000 = 100)	98,0	100,0	101,7	103,0	100,4	102,1	105,5	109,7	115,1*	117,8*
Annual sales of alcohol in Iceland; liters pure alcohol per inhabitant > 15 years	5,91	6,14	6,32	6,53	6,52	6,71	7,05	7,20	7,53	NA

*Preliminary data.

cohol-related harm in Iceland from public statistics, directorates and surveys from 1990 to 2004. The findings indicated a significant rise in alcohol sales over time but a downward trend in violent offences, drunken driving, injuries from drunken driving and public intoxication, with the exception of 2000 when violent offences, drunken driving and public intoxication all peaked. The conclusion drawn from this is that the peak in 2000 was very likely caused by the licensing policy changes and a trial period with unrestricted opening hours of pubs and bars in Reykjavík.

Data and method

The data collected in the two studies include reports from the police, data from the emergency ward of the Landspitalinn-University Hospital, and interviews with residents of the City Center, employees at bars and restaurants and other stakeholders involved.

Both qualitative and quantitative data was gathered. Data were collected from: 1) statistics obtained from police reports and the emergency ward of Landspitalinn-University Hospital; 2) a telephone survey of employees of licensed bars and restaurants; 3) interviews with representatives of the residents and other stakeholders in the city center. The data from the police and the emergency ward are from reports on all relevant incidents in Reykjavík on the weekend nights chosen for data collection. Data were obtained from the abovementioned sources during eight weekend nights in March and April during each year under study, in all 32 nights. In the first study data was collected during eight nights in 1999 before the experiment with unrestricted opening hours started and during eight nights in 2000 after the implementation of the experiment. In the latter study data was collected during eight nights in 2007 before the implementation of the smoking ban and during eight nights in 2008 after the ban was implemented. Weekend nights were defined as Saturday and Sunday nights (the nights leading to Saturday and Sunday) between midnight and 7 a.m. The chosen nights were compared between years in terms of weather conditions, holidays and special events or activities in order to control for possible disturbing effects in the results. The fact that the population in Reykjavík rose from 108.484 in 1999 to 118.827 in 2008 (9%) cannot be ignored when interpreting the results (Statistics Iceland 2010c). The growth in economy in the first decade of the twenty first century must also be taken into account. The real wages index, annual average, rose from 98.9 in 1999 to a peak of 119.6 in 2007 but dropped again to 115.2 in 2008 (Statistics Iceland 2010d). The merger of the Reykjavík Police District with adjacent districts, leading to the formation of the Reykjavík Metropolitan Police, took effect January 1 2007 (Reykjavík Metropolitan Police 2007). Because of these organizational and administrative changes, some of the information gathered from police reports in the first study was not available in the latter, as recording methods were changed. The data from the emergency ward in the two studies were collected using the same electronic patient record. Although some organizational changes occurred in the meantime, the recording should be similar.

Results

As shown in Figure 1, in the first study

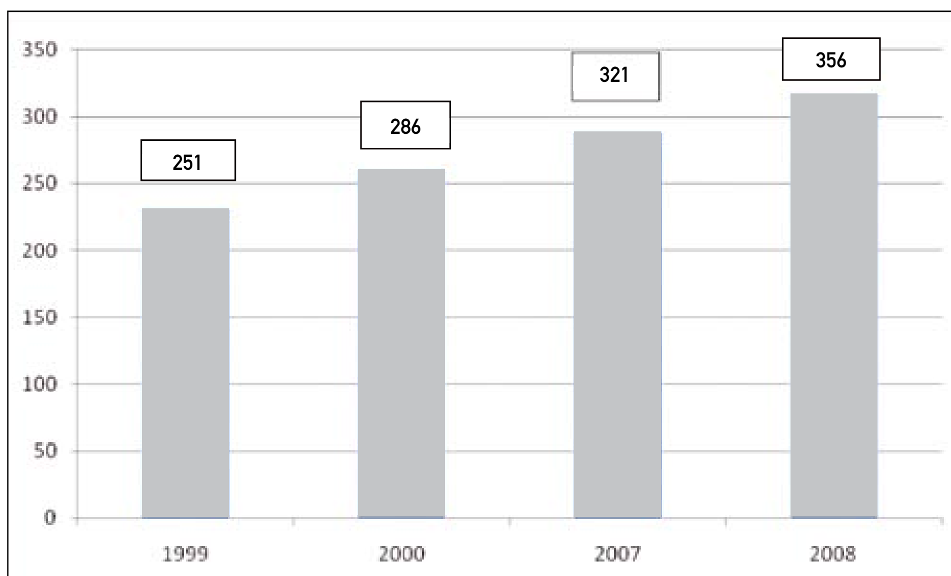

Figure 1. Number of police work-tasks in Reykjavík city center on evaluation nights in March and April 1999, 2000, 2007 and 2008 per 100.000 inhabitants of Reykjavík

the number of calls or work-tasks for the police in the city center rose from 251 to 286 per 100.000 inhabitants. In the latter study the number of work-tasks shows a further rise from 321 to 356 per 100.000 inhabitants. As mentioned earlier the experiment with round-the-clock opening of restaurants and bars was introduced in the summer of 1999. The opening hours were somewhat restricted again in 2001 but not nearly to what they had been before the experiment.

Unfortunately the data drawn from the police reports in the two studies cannot be compared any further because of changes in recording methods. The reports in the latter study divide the data into criminal code offences, non-code criminal offences[2] and traffic infractions, including suspected drunken driving[3]. These categories account for 59% of all reported tasks in 2007 and 54% in 2008. Most of the remaining work is listed under tasks and regular duties.

Landspitalinn-University Hospital was established in the spring of 2000 with the merger of the two largest hospitals in Iceland. Before the merger the two hospitals cooperated on acute admissions. During the time span of the two evaluation studies, the location of the emergency ward was unchanged, and the recording of admissions was similar, albeit incrementally improved. This means that the data from the emergency ward in the two studies should be comparable.

According to the reports from the emergency ward at Landspitalinn-University Hospital, the number of admissions on the weekend nights per 100.000 inhabitants in Reykjavík increased from 89 in 1999 to 116 in 2000 (30%) and again to 159 in 2007 (37%). In the latter study the number of admissions per 100.000 inhabitants dimin-

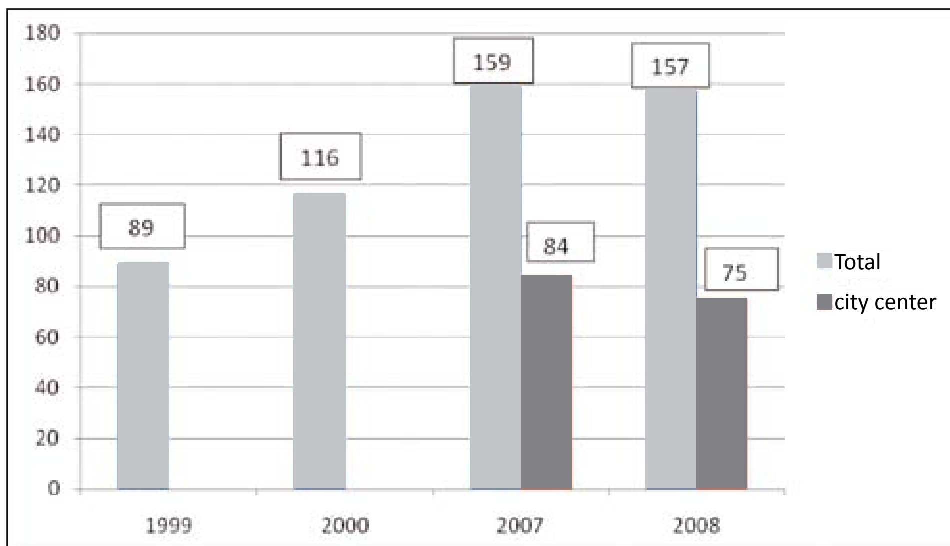

Figure 2. Number of admissions to the emergency ward of Landspítalinn-University Hospital on the evaluation nights in March and April 1999, 2000, 2007 and 2008 per 100.000 inhabitants in Reykjavík

ished a little between years to 157, leaving a 43% rise between 1999 and 2008 (Figure 3). In the first study, data on the origin of the cases in terms of city districts were not available. In the latter study, it was possible to separate cases coming from the city center from the total number of cases. The cases coming from the city center increased in number from 23 in 2007 to 28 in 2008 (23%). According to the figures from the latter study in Figure 2, about half of the admissions to the emergency ward came from the city center. The reasons recorded for the admissions were violent assault 48%, falling 13%, wound on the head or limbs 10%, fisticuffs 3% and unconsciousness 3%. Since the reasons for admissions are recorded as exclusive variables, the above-mentioned reasons account for 77% of cases coming from the city center. If "falling" and "wound to the head or limbs" are left out, "violent assault" and "fisticuffs", incidents often associated with alcohol, account for 51% of the admissions.

Figure 3 shows the distribution of the sum of admissions to the emergency ward at Landspitalinn-University Hospital on the evaluation nights. In the latter study the number of admissions is higher than in the first study at almost all hours, indicating a greater workload throughout the night.

Figure 4 shows the admissions to the emergency ward by gender. In the first study, all evaluation nights included, 224 people were admitted to the ward. Of them 160 (71%) were men and 64 (29%) women. In the latter study 372 were admitted, and of them 227 (61%) were men and 145 (39%) women. Of those coming from the city center in the latter study, 132 (70%) were men and 57 (30%) women. It is apparent that on the evaluation nights in both studies, more men than women were admitted to the emergency ward, and

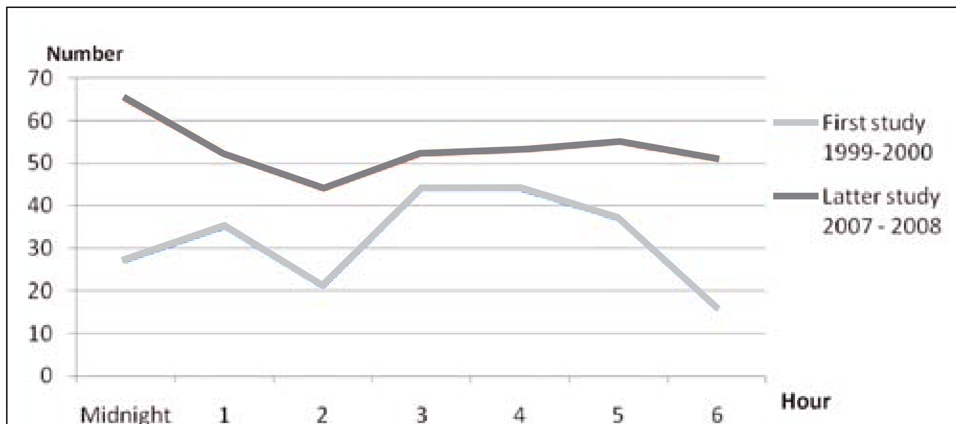

Figure 3. Distribution by hour of the sum of admissions to the emergency ward in Reykjavík on evaluation nights in the two studies respectively

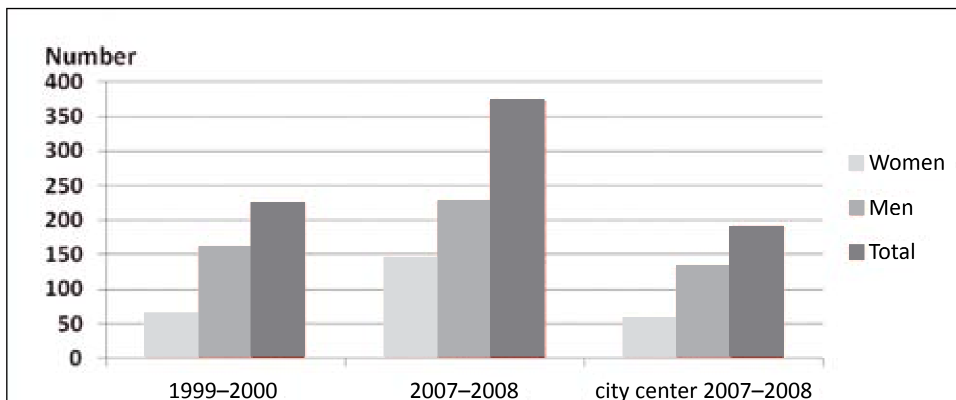

Figure 4. Number of admissions to the emergency ward in Reykjavík on evaluation nights in March and April 1999-2000 and 2007–2008, by gender

a higher percentage of men than of women came from the city center in the latter study.

The average age of all those admitted to the emergency ward was 30 in the first study but 33 in the latter study. In the latter study the average age of those coming from the city center was 29. Figure 5 shows the average age of admissions by time of night and origin. In the later hours of the night the average age of those coming from residential areas rises in relation to those coming from the city center.

As a rule, the emergency ward does not test for or record whether admissions are alcohol- or drug-related unless it is the actual reason for the admission. This means that, in addition to the reported cases, there can be other cases involving alcohol or drugs but not recorded as such. In the first study information about alcohol and drug use of those admitted was not obtained. In the latter study it was possible to include this information, thanks to the interest and cooperation of the chief physician of the ward, who studied all the patient journals

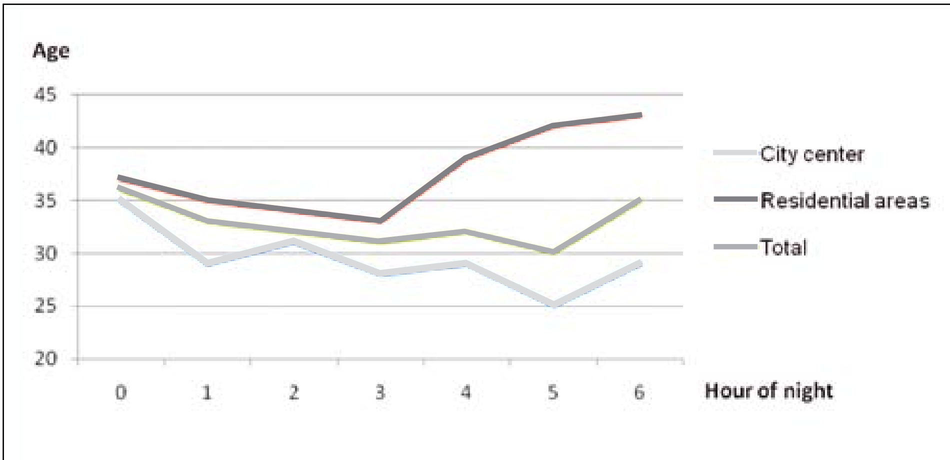

Figure 5. Average age of admissions to the emergency ward in Reykjavík on evaluation nights in 2007 and 2008 by time of night and origin

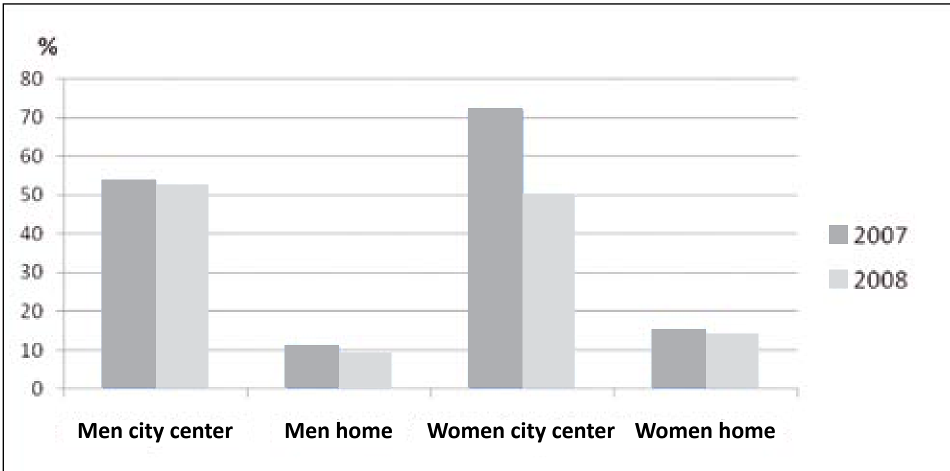

Figure 6. Percentage of men and women admitted to the emergency ward on evaluation nights 2007 and 2008 and confirmed drunk

from the sample nights. Of all admissions from the city center during the evaluation nights in the latter study, 57% were confirmed to be alcohol-related.

Figure 6 shows that more than half of the men and women admitted to the emergency ward from the city center had consumed alcohol. The percentage of those who confirmed positive for alcohol was much lower among those admitted from residential areas. Interestingly a higher percentage of admitted women than men was recorded as positive for alcohol intake in 2007. This difference disappears in the 2008 data. Some possible reasons are that women have less tolerance of alcohol than men, or that they seek help for lesser reasons. It is also possible that the smoking ban as of July 2007 may have improved the environment of bars and restaurants

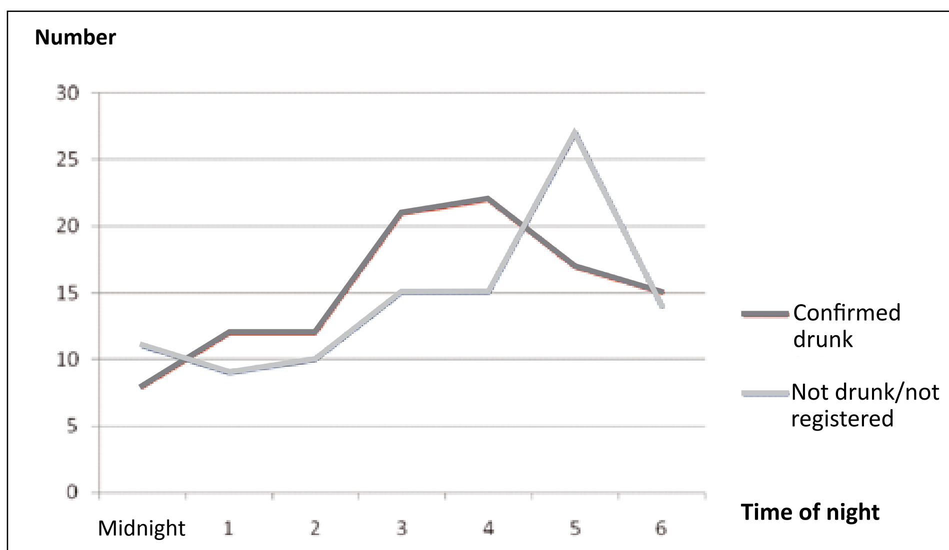

Figure 7. The distribution by hour of admissions from the city center to the emergency ward in Reykjavík counting all cases on evaluation nights in 2007 and 2008 depending on whether alcohol intake was confirmed or not

and, in turn, the behaviour of the guests. According to a study by Ólafsdóttir (2008) violence most frequently broke out just before closing time and the conditions of the premises, such as lightning, noise, smoke and crowdedness, may contribute to the discomfort of guests and thereby also to their violent behaviour.

Figure 7 shows the distribution by hour of admissions from the city center to the emergency ward in Reykjavík, counting all cases on evaluation nights in the latter study, depending on whether alcohol intake was confirmed or not. Most of the alcohol related admissions were registered between 3 and 6 a.m., peaking at 4.30.

In the first study thirteen people who are residents or stakeholders in the city center were interviewed. Most of the interviewees supported the longer opening hours despite some complaints on increased disturbance and difficulties in keeping the streets clean. On the positive side there were fewer gatherings in the streets, and the lines of people waiting for taxis to take them home were shorter (Ragnarsdóttir et al. 2002).

In the latter study seven residents or stakeholders in the city center were interviewed. Most of them thought that the situation had improved with the longer opening hours and the new rules defining areas for various premises. Despite agreeing with the longer opening hours, some were not happy with the development in other respects. Comments included the need for a more restricted definition of the areas for premises with longer opening hours, lack of monitoring and control of noise in the neighbourhood of the premises, the authorities indifference to the interests of residents and stakeholders, and the need for improved surveillance and enforcement of the regulations set for the premises.

From a telephone survey of barkeepers

in the first study, it was apparent that they varied in how much they took advantage of being permitted to serve alcohol around the clock, depending on occasion and atmosphere (Ragnarsdóttir et al. 2002). The mean closing time was 4:30 a.m. Saturdays and 5:00 Sundays. This telephone survey was not repeated in the latter study, but one of the reported interviews mentioned that most of the premises closed between 3 and 5 a.m.

In addition to the above-mentioned residents and stakeholders in the city center, 14 managers of bars and restaurants answered a telephone survey about the smoking ban. The responses indicate general agreement with the ban, but some had reservations about its implementation. The managers did not find that the ban had any effect on the number of guests, how long they stayed or the revenues generated. This is in accordance with many other studies finding that smoking bans don´t affect the economics of the entertainment business (Eriksen & Chaloupka 2007). However, participants in the survey complained that the ban had been implemented without consulting with them, causing inequality because housing conditions make it harder for some to comply than others. In other interviews comments were made about more noise outside because of guests smoking, more litter and cigarette stubs on the sidewalks and the perceived danger of drinks being laced with drugs because smokers are required to leave their drinks inside while smoking outside.

Conclusion

The purpose of this paper is to use findings from two evaluation studies on the effects of changes in rules and legislation regarding bars and restaurants and to see if they indicate any influences on harmful incidents in Reykjavik's City Center over the period 1999 to 2008. During these years rules on the serving hours for alcohol were changed and a smoking ban was implemented in bars and restaurants. Our hypothesis was that longer serving hours and the smoking ban would have opposite effects; longer serving hours would increase harmful incidents while the smoking ban would decrease them. The data support the first part of the hypothesis whereas no effects on the amount of customers or their time and money spent at the bars, and thereby the bars' economy, can be traced.

The first evaluation study was made in 2000 and the latter in 2008. Data were collected from the police, the emergency ward of Landspitalinn-University Hospital, and interviews with residents and stakeholders in the city center. As it turns out it is impossible to draw any conclusions over time from the police reports because of changed registering. Even though the samples are small, external influencing factors such as growth in economy cannot be excluded and the conclusions must be interpreted cautiously, it is interesting to see how they harmonize with the trends spotted in Ólafsdóttir's research (2007) in time-series data on alcohol-related harm collected from public statistics, directorates and surveys for the period 1990–2004. The overall findings showed that alcohol-related harm decreased in a period of sharply increasing alcohol consumption. However, the crime statistics indicated an increase in violent offences from 1999 to 2000 and a peak in drunken driving incidents in 2000 followed by a decrease. These findings are in harmony

with the results of the two evaluation studies that are the topic of this article.

On the positive side, the problems in 1999, related to people gathering in the city center around closing time of the bars, seem to have decreased. Most of the bars and restaurants close between 3 and 5 a.m. Neither changed hours nor the smoking ban had any effect on the number of guests or premises' revenues, according to the barkeepers. In fact, most of those interviewed were for the smoking ban even though they would have liked to have had more to say about its implementation. It is thereby possible that the better quality of air in the premises has a positive effect on the guests and, in turn, leads to less alcohol-related harm even though it was not detected in this study.

On the negative side the results show a steady rise in the number of police work-tasks during the decade under study. In the latter study the number of incidents of criminal code offences, non-code criminal offences and traffic infractions reported by the police during the study nights accounted for more than half of reported work-tasks. The number of admissions to the emergency ward also increased between the two studies. In both studies the workload at the emergency ward was greatest around the closing time of the bars and restaurants between 3 and 5 a.m. In the latter study about half of the admissions to the ward came from the city center, and the reasons for most of them were incidents often associated with alcohol and drugs. In 57% of all admissions from the city center alcohol intake was confirmed, with the number of admissions peaking at 4.30 a.m. According to these findings the visitors to the emergency ward on weekend nights are most frequently young men, coming drunk from the city center after an episode of violence. These findings are very compatible with Stockwell's and Chikritzhs' (2009) review of studies evaluating the public health and safety impact of changes in liquor selling hours. The data from the emergency ward at Landspitalinn-University Hospital are also compatible with findings from the WHO Collaborative Study on Alcohol and Injuries (WHO 2007).

The results indicate that longer opening hours of restaurants and bars in Reykjavik's City Center have contributed to a rise in harmful events in the city center during the decade under study. Conservatively estimated, half of cases registered at the emergency ward of Landspitalinn-University Hospital came from the city center and almost 60% of them were drunk, with wounds and bruises after involvement in violence. The results imply that if alcohol were not involved, the workload of the police and the emergency ward would have been considerably less.

The findings support the hypothesis that longer serving hours increase harmful incidents. The results indicate that longer opening hours of restaurants and bars in Reykjavik's City Center have contributed to a rise in harmful events in the city center during the studied decade. In the latter study the number of incidents of violent offences reported by the police as well as the number of alcohol-related visits to the emergency ward of Landspitalinn-University Hospital had risen. The effects of the smoking ban on harmful events were not traced. Most of the interviewees supported it and said it had no effect on the number of guests, how long they stayed or the rev-

enues generated. Its implementation was criticized because of increased noise and debris around the premises.

For the policy makers in Reykjavík it is a challenging opportunity to develop the entertainment areas of the city so that the demands of the citizens and the entertainment industry are met, and the rules and regulations on the operation of bars and restaurants are reasonably enforced. There is also a definite opportunity to improve the framework of the smoking ban while enjoying the general agreement about it. As Hatfield, Lister and Traynor (2009) suggest, it is a balancing act to reconcile stakeholders' different views. Different efforts to govern give rise to new problems.

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NOTES

1 The approval of liqour licence applications requires an opinion from a committee of six representatives. The representantives come from the Reykjavík Health Care Committee, the Administration of Occupational Safety and Health, the police, the fire department and the building inspector. The license is not granted unless all six representatives agree on it.

2 The criminal code offences include instances of theft and robbery, sabotage, offences against public authorities, sexual offences, manslaughter and violence against the person. The non-code crimes include offences against the Acts on Alcohol and Drugs.

3 The BAC limit for driving in Iceland is 0.5 mg% (0.05%).

REFEERENCES

Allen Consulting Group (2009): Alcohol-related harm and the operation of licensed premises. Report to the Department of Justice. Melbourne

Althingi (1998): Áfengislög nr. 75/1998 (Law on Alcohol) http://www.althingi.is/lagas/138a/1998075.html

Althingi (2007a): Lög um veitingastaði,

gististaði og skemmtanahald nr. 85/2007 (Law on restaurants, accommodation and entertainment) http://www.althingi.is/lagas/138a/2007085.html
Althingi (2007b): Lög um tóbaksvarnir nr. 6/2002
Anderson, P. (2008): Binge Drinking and Europe. Deutsche Hauptstelle für Suchtfragen e.V. (DHS). Hamm: DHS http://www.ias.org.uk/resources/papers/europe/phproject/bingedrinking-report.pdf
Chikritzhs, T.N. & Stockwell, T.R. (2002): The impact of later trading hours for Australian public houses (hotels) on levels of violence. Journal of Studies on Alcohol 63 (5): 591–599
Dobson, R. (2008): Smoking bans reduce heart attack admissions. British Medical Journal 337:a597
Edwards, G. & Anderson, P. & Babor, T.F. & Casswell, S. & Ferrence, R. & Giesbrecht, N. & Godfrey, C. & Holder, H.D. & Lemmens, P. & Mäkelä, K. & Midanik, L.T. & Norström, T. & Österberg, E. & Romelsjö, A. & Room, R. & Simpura, J. & Skog O.J. (1994): Alcohol Policy and the Public Good. New York: Oxford University Press and WHO Europe
Elmland, K. & Österberg, E. & Ólafsdóttir, H. & Lund, I. & Johanson, L. (1998): Appendix: The social history of public drinking in the Nordic countries. In: Olson, B. & Törrönen, J. (eds.): Painting the town red. Pubs, restaurants and young adults´ drinking cultures in the Nordic countries. NAD Publication No. 51, Helsinki: Nordic Council for Alcohol and Drug Research (NAD)
Eriksen, M. & Chaloupka, F. (2007): The economic impact of clean indoor air laws. CA: A Cancer Journal for Clinicians 57: 367–378
Grube, J.W. & Nygaard, P. (2001): Adolescent drinking and alcohol policy. Contemporary Drug Problems 28: 87–132
Hadfield, P. & Lister, S. & Traynor, P. (2009): "This town's a different town today": Policing and reglulating the night-time economy. Criminology & Criminal Justice 9 (4): 465–485. Sage. http://crj.sagepub.com/content/9/4/465.full.pdf+html
Mäkelä, P. & Rossow, I. & Tryggvesson, K. (2002): Who drinks more and less when policies change? The evidence from 50 years of Nordic studies. In: Room, R. (ed.): The effects of Nordic alcohol policies. What happens to drinking and harm when alcohol controls change? NAD Publication No. 42, Helsinki: Nordic Council for Alcohol and Drug Research (NAD) http://www.nad.fi/pdf/NAD_42.pdf
Ólafsdóttir, H. (2008). Licensed premises as settings for violence. In: Olson, B. & Törrönen, J. (eds.) Painting the town red. Pubs, restaurants and young adults´ drinking cultures in the Nordic countries. NAD Publication No. 51, Helsinki: Nordic Council for Alcohol and Drug Research (NAD)
Ólafsdóttir, H. (2007). Trends on alcohol consumption and alcohol-related harms in Iceland. Nordic Studies on Alcohol and Drugs 24 (Supplement): 47–60 http://nat.stakes.fi/NR/rdonlyres/FC262251-CB5E-4814-A024-9B52A33A0405/0/NAT_Supplement_07_web.pdf
Ólafsdóttir, H. & Bergsveinsdóttir, U.M. (2008): Reykjavík Nightlife Narratives. In Olson, B. and Törrönen, J. (eds.): Painting the town red. Pubs, restaurants and young adults´ drinking cultures in the Nordic countries. NAD Publication No. 51, Helsinki: Nordic Council for Alcohol and Drug Research (NAD)
Ragnarsdóttir, Th. & Kjartansdóttir, Á. & Davídsdóttir, S. (2002): Effects of extended alcohol serving-hours in Reykjavík. In Room, R. (ed.): The effects of Nordic alcohol policies: What happens to drinking when alcohol controls change? NAD Publication No.42, Helsinki: Nordic Council for Alcohol and Drug Research (NAD) http://www.nad.fi/pdf/NAD_42.pdf
Reykjavík (1998): Þróunaráætlun miðborgarinnar 2001–2024 (City center development plan 2001-2024), Greinargerð III – sjá AR 2001 – 2014 (http://reykjavik.is/Portaldata/1/Resources/skipbygg/skipulagsm_l/throunaraetlun_midborgar/greinargerd-III.pdf
Reykjavík (2004): Málsmeðferðarreglur um vínveitingaleyfi (Procedures for liquor licensing). Upphaflega samþykktar 30. mars 1999, með breytingum, sem samþykktar voru á fundum borgarráðs 19. október 1999,

29. febrúar 2000, 26. júní 2001, 25. september 2001 og 23. mars 2004. http://gamli.reykjavik.is/upload/files/malsmedf_reglur%20m.%20afengisveitingaleyf.pdf

Reykjavík Metropolitan Police (2007). Reykjavík Metropolitan Police – New structure. An announcement. http://www.logreglan.is/upload/files/New%20Structure.pdf

Statistics Iceland (2010a). http://www.statice.is/Statistics/Prices-and-consumption/Consumption

Statistics Iceland (2010b). Table 13.7. *Household final consumption expenditure 1990–2008.* http://www.statice.is

Statistics Iceland (2010c). http://www.statice.is/Statistics/Population

Statistics Iceland (2010d). http://www.statice.is/Statistics/Prices-and-consumption/Wage-index

Stockwell, T. & Chikritzhs, T. (2009): Do relaxed trading hours for bars and clubs mean more relaxed drinking? A review of international research on the impacts of changes to permitted hours of drinking. Crime Prevention and Community Safety 11: 153–170

WHO (2007): Alcohol and injury in emergency departments summary of the report from the WHO. Collaborative Study on Alcohol and Injuries. http://www.who.int/substance_abuse/publications/alcohol_injury_summary.pdf