



# The effects of insomnia and strategies to reduce its impact on law enforcement

# Introduction

Police officers are exposed to a higher risk of sleep disorders, a health problem that can impair their ability to make decisions and lead to professional errors and accidents. Indeed, it is clinically proven that the prevalence of insomnia is disproportionately higher in law enforcement, and because of the work police officers perform, the consequences of these sleep disorders are more serious. According to one study, 53% of municipal and provincial police officers in Canada have been diagnosed with sleep disorders<sup>1</sup>, compared to between 10 and 22% of the general population.<sup>2,3</sup>

The impact of insomnia-related disorders is not negligible, since affected front-line officers are three to seven times more likely to suffer from mental health problems.

This analysis focuses on the amply documented correlation between sleep disorders and mental health disorders.<sup>i</sup>

**53%**

of Municipal and Provincial Police Officers in Canada have been diagnosed with sleep disorders.

<sup>i</sup> Our analysis is based on data from more than 5,000 records kept by the HALEO clinic.

The links between insomnia, workplace injuries and mental health problems has been widely studied. In the civilian population, no less than 25% of the cost of accidents and errors in the workplace are attributable to sleep disorders.

In addition, police departments that prioritize their teams' well-being and resiliency by focusing on sleep health will see a major return on their investment. Employers who offer the HALEO program are seeing positive results in terms of improved mental health and reduced absenteeism among their employees.



It is clinically proven that the prevalence of insomnia is disproportionately higher in law enforcement, and because of the work police officers perform, the consequences of these sleep disorders are more serious.

# The prevalence of chronic insomnia in law enforcement

As shown in the table below, the prevalence of chronic insomnia among police officers is 53%<sup>1</sup>, which is three times higher than in the general population.

This major difference is due to several factors, including atypical schedules and the high-stress, high-risk situations that police officers must face daily.<sup>1</sup>



# 93%

of firefighters and paramedics suffer from major sleep disorders.

## Insomnia poses health and safety risks for people working in law enforcement:

- The number of accidents attributable to poor sleep was much higher among police officers who have atypical schedules and is closely linked to the presence of a sleep disorder.<sup>4</sup>
- Among police recruits, each hour of sleep reduces the risk of committing at least one professional error.<sup>5</sup>
- Sleep disorders among police officers lead to reduced job performance (e.g. administrative errors, falling asleep at the wheel and safety violations).<sup>6</sup>
- According to a survey of firefighters and paramedics, 93% said they suffered from major sleep disorders.<sup>7</sup> As for police officers, they complain of sleepless nights more often than the general population.<sup>8</sup>



# Diagnosis of insomnia and mental health problems among first responders in Canada<sup>1</sup>

Role	Insomnia	Mental health issues
First responder	56%	49%
Provincial/municipal police officer	53%	46%
RCMP officer	59%	51%
Correctional services officer	58%	56%
Firefighter	49%	46%
Paramedic	60%	54%

Compared to: 10-22% of civilian adults (US) <sup>2 3</sup>

## Testimonial of a police officer who went through HALEO's cognitive behavioural therapy for insomnia (CBT-I)

**“** The job of a police officer involves several factors that have an impact on sleep quality, such as stressful situations and atypical schedules. I searched for tools and solutions for several months, to minimize the impact of these factors on my sleep, and consequently my ability to function well both personally and professionally.

### **Restorative sleep is essential to good health.**

The medication prescribed by my doctor had great short-term benefits, but I quickly became addicted and experienced some serious side effects. Seeing that I was looking for a long-term solution, my doctor strongly recommended cognitive behavioural therapy for insomnia.

I was skeptical at first, but the HALEO program helped me return to healthy sleep. I'm now well equipped to be at my best, at work and at home, and I could see results in only three weeks. I stopped all medication and I'm fully satisfied with the program!”

**”**

Louis M., Lieutenant-Detective



# Insomnia and mental health

There is irrefutable evidence of a two-way relationship between sleep and mental health problems.<sup>12</sup> Indeed, insomnia is a crucial factor in the development and persistence of a large number of mental health disorders, including anxiety, depression, chronic pain, substance abuse, burnout and suicidal ideation.

In other words, people suffering from sleep disorders and insomnia are more likely than others to experience emotional and physical suffering, pain<sup>15</sup> and anxiety, and to feel profoundly despondent and depressed. And if it goes untreated, insomnia is associated with a risk of major depression.<sup>11, 13, 14</sup>

In addition, there is a strong correlation between sleep disorders and the severity of symptoms of post-traumatic stress disorder (PTSD).

Among police officers, symptoms of a lack of sleep tend to progressively worsen throughout the officer's shift.

# Insomnia: One cause of mental health problems

- Police officers who report more severe sleep disorders also report more severe symptoms of depression.<sup>19</sup>
- Most paramedics and firefighters report sleep disorders, a problem associated with poorer health, lower job satisfaction, increased psychological distress and symptoms of depression.<sup>20, 21</sup>
- Among police officers, sleep disorders are largely associated with symptoms of PTSD and overall mental health issues.<sup>22</sup>





# HALEO successfully treats insomnia

- **More than 5,000 people have been treated by the HALEO clinic.** Many had comorbidities such as anxiety disorders and symptoms of depression.
- In addition to a clinically validated program to treat nightmares, **HALEO provides specialized programs in cognitive behavioural therapy for insomnia (CBT-I) for law enforcement personnel who have unconventional schedules** and suffer from obstructive sleep apnea or PTSD.
- Our licenced therapists are specialized in treating insomnia.
- We presented outstanding clinical results at meetings of the American Academy of Sleep Medicine (2019, 2021, 2022), the World Sleep Congress (2019), and the Canadian Sleep Society (2021 and 2023).

# Participation and satisfaction rates that speak for themselves

HALEO		Digital and traditional therapies
Completed treatment	<b>85%</b> of HALEO's patients complete their treatment.	<ul style="list-style-type: none"><li>• Less than 50% for online therapies</li><li>• Less than 70% for in-clinic therapies</li></ul>
Employee satisfaction (NPS*)	<b>NPS = 87</b>	NPS = 27

\*NPS, or net promoter score, is a measure of how an organization is rated by its patients. A score above 50 is excellent, and a score above 80 is outstanding.

## A safe and efficient solution

Almost all patients report fewer symptoms and return to functioning normally.

**94%**  
**Insomnia\***

**85%**  
**Depression\***

**80%**  
**Anxiety\***

\*Percentage of individuals with moderate to severe symptoms during evaluation who no longer have clinically significant symptoms after treatment; clinical results for Q4 2020.

# Profitable for employers

**10x ROI**

**The HALEO program offers a substantial return on investment (ROI).<sup>ii</sup>**

Indeed, for many clients the program costs 10 times less than what it returns. This calculation takes into account the cost of absences and lack of productivity of individuals who registered for the program.

The costs associated with insomnia also include medication, replacements to compensate for short-term absences, as well as disability payments.

These “collateral” costs are not included in the calculation of ROI and therefore represent major additional savings.

<sup>ii</sup> We can measure ROI if information is available on the impact of insomnia in the workplace.

# A proven therapy

**Cognitive behavioural therapy for insomnia (CBT-I) is a “well-established treatment supported by empirical data.”<sup>23</sup>** This is the conclusion of a task force commissioned in 2006 by the American Academy of Sleep Medicine to update treatment parameters for insomnia.

Indeed, many meta-analyses have provided evidence of its efficacy.<sup>24, 25</sup>

The benefits of CBT-I are undeniable. The treatment is effective, whether or not patients have a comorbid disease or disorder (such as anxiety, depression or PTSD), whether they are younger or older, or whether or not they use sleeping pills.<sup>26</sup>

In addition, it is clear that CBT-I also reduces the severity of symptoms of depression<sup>27</sup> and anxiety<sup>28</sup>.

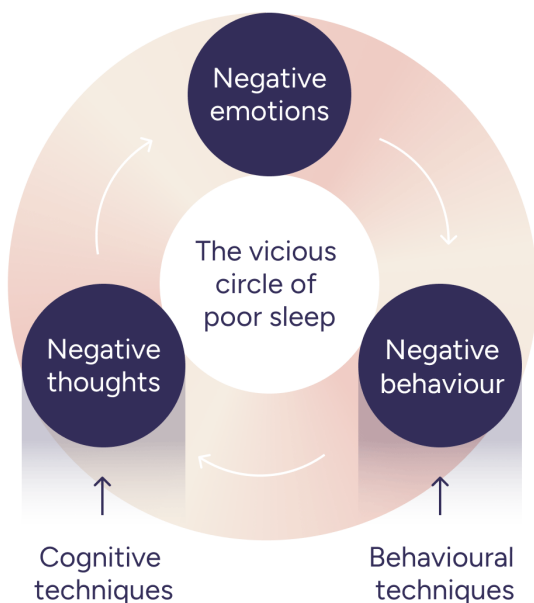


Figure 1. CBT-I is a treatment that combines cognitive, behavioural and educational elements that help the patient return to healthy and restful sleep.



# Recommended by experts

Today, CBT-I is recommended as the first-choice<sup>29</sup> of Health, the American College of Physicians, the European Sleep Research Society, and the American Academy of Sleep Medicine.

**No other treatment for insomnia has the same level of proven effectiveness.**

Compared to pharmacological treatments, CBT-I improves sleep more sustainably over time, with far fewer side effects. As a result, it is not surprising that a majority of patients reduce their use of sleep medication after going through treatment.<sup>29 30 31 32 33</sup>

Unfortunately, despite its efficacy in treating insomnia and associated symptoms of depression and anxiety, traditional CBT-I is difficult to access.<sup>34</sup>

**Only therapists, psychologists or other healthcare professionals who have a subspecialty in sleep disorders can offer it.**<sup>35</sup>

In addition, aggravating factors commonly encountered in first responders, such as stressful working conditions, obstructive sleep apnea and nightmares, further complicate treatment, requiring special protocols and extensive training of therapists.



# HALEO's CBT-I program

**Our virtual CBT-I program offers a solution to all the problems that limit the accessibility and effectiveness of traditional therapy.**

HALEO has developed a unique and easy-to-implement insomnia treatment solution that includes an online platform and a CBT-I training program.

In short, the HALEO clinic offers a five-week treatment program based on weekly video sessions with a highly skilled and licensed therapist, supported by a mobile app for iOS and Android.

Online sessions are held at a time and location convenient for the patient, including daytime breaks at work, or at home in the evenings or on weekends.

The therapists that HALEO employs and supervises are experienced specialists who are licenced by government authorities in the clinical and technical aspects of the treatment.

**HALEO's CBT-I program is structured and personalized, as well as complemented by a mobile app** whose many useful features include digital records of the subject's sleep data, clinical questionnaires, tools such as relaxation recordings and training, therapeutic and supportive materials and content, an online platform to connect to the therapist, a chat tool, and features to encourage treatment adherence.

In addition, all patients are screened for other sleep or mental health problems.

**To this day, more than 5,000 patients have been treated for clinical-level insomnia at the HALEO Clinic.**

Since then, HALEO has expanded its services and now offers:

- **A CBT-I program specially tailored to shift workers** and people with circadian problems, including shift-work sleep disorder
- A CBT-I program for people with obstructive sleep apnea
- A CBT-I program for people on disability leave
- **A nightmare treatment program** based on proven methods, such as image rehearsal therapy

# HALEO:

## A partner you can trust

HALEO is there when lives are on the line. We enjoy the trust of workers in industries including healthcare, law enforcement, public safety, manufacturing and transportation, where sleep disorders can have a devastating impact on organizations and the communities they serve. We are also trusted by major insurers and benefits platforms, including Greenshield Canada.

The privacy and safety of our clients and their workforces is our highest priority. HALEO's commitment to data security is demonstrated through our SOC 2 and ISO 27001 certifications.



# References

- <sup>1</sup> Angehrn, A et al. Sleep Quality and Mental Disorder Symptoms among Canadian Public Safety Personnel. *International Journal of Environmental Research and Public Health*. 2020; 17(8):2708.
- <sup>2</sup> Roth, T. New developments for treating sleep disorders. *J Clin Psychiatry*, 2001, 62, 3–4.
- <sup>3</sup> Ford, D, Kamerow, D. Epidemiologic Study of Sleep Disturbances and Psychiatric Disorders: An Opportunity for Prevention? *JAMA*. 1989;262(11):1479–1484. doi:10.1001/jama.1989.03430110069030.
- <sup>4</sup> Phillips, B et al. Shift work, sleep quality, and worker health: A study of police officers. *Southern Medical Journal* 1999, 84, 1176–1184.
- <sup>5</sup> Carleton, R.N. et al. Exposures to Potentially Traumatic Events Among Public Safety Personnel in Canada. *Can. J. Behav. Sci*. 2019, 51, 37–52.
- <sup>6</sup> Rajaratnam, S.M. et al. Sleep disorders, health, and safety in police officers. *JAMA* 2011, 306, 2567–2578.
- <sup>7</sup> Jones, S. et al. Prevalence and correlates of psychiatric symptoms among first responders in a Southern State. *Arch. Psychiatr. Nurs*. 2018, 32, 828–835.
- <sup>8</sup> Marmar, C.R et al. Predictors of posttraumatic stress in police and other first responders. *Ann. N. Y. Acad. Sci*. 2006, 1071, 1–18.
- <sup>9</sup> McLay RN, et al. Insomnia is the most commonly reported symptom and predicts other symptoms of post-traumatic stress disorder in U.S. service members returning from military deployments. *Mil Med* 2010;175:759–62.
- <sup>10</sup> Germain A, et al. Sleep-specific mechanisms underlying posttraumatic stress disorder: integrative review and neurobiological hypotheses. *Sleep Med Rev* 2008;12:185–95
- <sup>11</sup> Breslau N et al. Sleep disturbance and psychiatric disorders: a longitudinal epidemiological study of young adults. *Biol Psychiatry* 1996;39:411–8.
- <sup>12</sup> Harvey, A.G. Insomnia, psychiatric disorders, and the transdiagnostic perspective. *Curr. Direct. Psychol. Sci*. 2008, 17, 299–303.
- <sup>13</sup> Strine TW, Chapman DP. Associations of frequent sleep insufficiency with health-related quality of life and health behaviors. *Sleep Med*. 2005 Jan;6(1):23–7. doi: 10.1016/j.sleep.2004.06.003.
- <sup>14</sup> Léger D et al. Medical and socio-professional impact of insomnia. *Sleep*. 2002 Sep 15;25(6):625–9.
- <sup>15</sup> Sivertsen B, et al. The epidemiology of insomnia: associations with physical and mental health. The HUNT-2 study. *J Psychosom Res*. 2009, Aug;67(2):109–16.
- <sup>16</sup> Taylor, D. et al. Insomnia as a health risk factor. *Behav Sleep Med*. 2003, 1, 227–47
- <sup>17</sup> Kyle, S. et al. Insomnia and health-related quality of life. *Sleep Medicine Reviews*, 2010,14(1), 69–82.doi:10.1016/j.smrv.2009.07.004.
- <sup>18</sup> Metlaine, A. et al. Association between insomnia symptoms, job strain and burnout syndrome: a cross-sectional survey of 1300 financial workers. *BMJ Open*. 2017, 7(1)
- <sup>19</sup> Garbarino, S. et al. Sleep quality among police officers: Implications and insights from a systematic review and meta-analysis of the literature. *Int. J. Environ. Res. Public Health*. 2019, 16, 885.
- <sup>20</sup> Neylan, T. et al. Neuroendocrine regulation of sleep disturbances in PTSD. *Ann. N. Y. Acad. Sci*. 2006, 1071, 203–215.
- <sup>21</sup> Vargas de Barros, V. et al. Mental health conditions, individual and job characteristics and sleep disturbances among firefighters. *J. Health Psychol*. 2013, 18, 350–358.

# References

- <sup>22</sup> Chopko B et al. Trauma-Related Sleep Problems and Associated Health Outcomes in Police Officers: A Path Analysis. *J Interpers Violence*. 2021, Mar;36(5-6).
- <sup>23</sup> Morin, C. et al. Psychological and behavioral treatment of insomnia: Update of the recent evidence (1998-2004). *Sleep*. 2006, 29(11), 1398-1414.
- <sup>24</sup> Geiger-Brown, J. et al. Cognitive behavioral therapy in persons with comorbid insomnia: A meta-analysis. *Sleep Medicine Reviews*. 2015, 23, 54-67.
- <sup>25</sup> Wu, J. et al. Cognitive Behavioral Therapy for Insomnia Comorbid With Psychiatric and Medical Conditions: A Meta-analysis. *JAMA Internal Medicine*. 2015, 175(9), 1461-1472.
- <sup>26</sup> van Straten A, et al. Cognitive and behavioral therapies in the treatment of insomnia: a meta-analysis, *Sleep Medicine Reviews*. 2017, doi:10.1016/j.smrv.2017.02.001.
- <sup>27</sup> Gebara, M., et al. Effect of insomnia treatments on depression: A systematic review and meta-analysis. *Depression and Anxiety*. 2018, 35(8), pp.717-731.
- <sup>28</sup> Belleville G. et al. Meta-analytic review of the impact of cognitive-behavior therapy for insomnia on concomitant anxiety. *Clinical Psychology Review*. 2011, 31(4): 638-652.
- <sup>29</sup> Smith M. et al. Comparative Meta-Analysis of pharmacotherapy and Behavior Therapy for Persistent Insomnia. *Am J Psychiatry*. 2002, 159: 5–11.
- <sup>30</sup> Morin C, et al. Behavioral and pharmacological therapies for late life insomnia. *JAMA*. 1999, 281: 991-9.
- <sup>31</sup> Jacobs G, et al. Cognitive behavior therapy and pharmacotherapy for insomnia. *Arch Intern Med*. 2004, 164: 1888-96.
- <sup>32</sup> Sivertsen B, et al. Cognitive behavioral therapy vs zopiclone for treatment of chronic primary insomnia in older adults. *JAMA*. 2006, 295: 2851-8.
- <sup>33</sup> Vincent, N., & Lionberg, C. Treatment preference and patient satisfaction in chronic insomnia. *Sleep: Journal of Sleep and Sleep Disorders Research*. 2001, 24(4), 411-417.
- <sup>34</sup> Koffel E. et al. Increasing access to and utilization of cognitive behavioral therapy for insomnia (CBT-I): a narrative review. *J Gen Intern Med*. 2018, Jun;33(6):955-962.
- <sup>35</sup> Sharma & Andrade. "Behavioral interventions for insomnia: Theory and practice." *Indian journal of psychiatry*. 2012, 54,4: 359-66.



