



# PORTRAIT OF RESILIENCE AMONG WORKERS OF THE HEALTH AND SOCIAL SERVICES NETWORK IN ESTRIE

A brief status report

BY THE DIRECTION DE SANTÉ PUBLIQUE, THE OCCUPATIONAL HEALTH TEAM AND THE HEALTH AND SOCIAL SERVICES HTA  
UNIT OF THE CENTRE INTÉGRÉ UNIVERSITAIRE DE SANTÉ ET DE SERVICES SOCIAUX DE L'ESTRIE – CENTRE HOSPITALIER  
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# TABLE OF CONTENTS

|                                                                                                                                                                      |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>BACKGROUND</b> .....                                                                                                                                              | <b>1</b>  |
| PREVENTION AND PROMOTION AS AN ORGANIZATIONAL LEVER .....                                                                                                            | 1         |
| ENQUÊTE DE SANTÉ POPULATIONNELLE ESTRIENNE 2014-2015 (2014-2015 POPULATION HEALTH SURVEY FOR ESTRIE)<br>FOR THE STATUS REPORT OF THE CIUSSS DE L'ESTRIE - CHUS ..... | 3         |
| PROMOTING HEALTH ASSETS TO IMPROVE STRESS MANAGEMENT AT THE WORKPLACE .....                                                                                          | 4         |
| OBJECTIVE OF THE STATUS REPORT .....                                                                                                                                 | 4         |
| <b>METHODOLOGY</b> .....                                                                                                                                             | <b>4</b>  |
| RESILIENCE .....                                                                                                                                                     | 4         |
| OTHER VARIABLES OF INTEREST .....                                                                                                                                    | 5         |
| SOCIODEMOGRAPHIC VARIABLES .....                                                                                                                                     | 5         |
| <b>RESULTS</b> .....                                                                                                                                                 | <b>5</b>  |
| OBJECTIVE 1: RESILIENCE SCORE AMONG THE WORKERS OF THE CIUSSS DE L'ESTRIE – CHUS .....                                                                               | 5         |
| OBJECTIVE 2: THE DISTRIBUTION OF RESILIENCE BY SOCIAL POSITION.....                                                                                                  | 7         |
| OBJECTIVE 3: THE PROPORTION OF VARIABLES OF INTEREST BY OCCUPATIONAL CATEGORY .....                                                                                  | 8         |
| OBJECTIVE 4: THE ROLE OF RESILIENCE IN THE ASSOCIATION BETWEEN DAILY STRESS AND PSYCHOLOGICAL DISTRESS .....                                                         | 10        |
| <b>DISCUSSION OF THE RESULTS</b> .....                                                                                                                               | <b>11</b> |
| LIMITATIONS OF THE PORTRAIT.....                                                                                                                                     | 11        |
| <i>Findings</i> .....                                                                                                                                                | 11        |
| <b>RECOMMENDATIONS FOR ACTION</b> .....                                                                                                                              | <b>12</b> |
| DOCUMENT THE MAGNITUDE OF THE PROBLEM AMONG CERTAIN TARGET GROUPS .....                                                                                              | 12        |
| <i>Consider other relevant data sources in occupational health</i> .....                                                                                             | 12        |
| DEVELOP AN ORGANIZATIONAL PREVENTION STRATEGY.....                                                                                                                   | 13        |
| <i>Promote adaptation to change</i> .....                                                                                                                            | 13        |
| DEVELOP INDIVIDUAL STRATEGIES AIMED AT REINFORCING THE CAPACITY TO MANAGE STRESS.....                                                                                | 13        |
| <i>Promote healthy lifestyles and stress-management methods</i> .....                                                                                                | 13        |
| <i>Emotional management strategy in the worker-beneficiary relationship</i> .....                                                                                    | 14        |
| <b>BIBLIOGRAPHY</b> .....                                                                                                                                            | <b>15</b> |



# LIST OF TABLES

- TABLE 1.** PSYCHOSOCIAL RISK FACTORS ACCORDING TO THE INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC (INSPQ) .....2
- TABLE 2.** MEAN SCORE AMONG THE VARIOUS CLASSES OF INDIVIDUALS IN THE 2014-2015 HEALTH SURVEY OF ESTRIE'S POPULATION (ESPE) .....5
- TABLE 3.** MEAN RESILIENCE SCORE FOR EACH OF THE 10 QUESTIONS USED TO MEASURE THE TOTAL RESILIENCE SCORE AMONG THE 1,008 RESPONDENTS OF THE HEALTH AND SOCIAL SERVICES NETWORK IN ESTRIE (RSSS).....6
- TABLE 4.** MEAN RESILIENCE SCORE IN THE ESPE 2014-2015 ACCORDING TO A VARIETY OF SOCIODEMOGRAPHIC VARIABLES INDICATIVE OF THE SOCIAL POSITION OF INDIVIDUALS .....7
- TABLE 5.** DESCRIPTION OF THE PROFESSIONS GROUPED BY OCCUPATIONAL CATEGORY.....8
- TABLE 6.** PROPORTION OF THE LEVEL OF DAILY STRESS, OF WORK AS THE MAIN LEADING SOURCES OF STRESS, AND OF PSYCHOLOGICAL DISTRESS (AND MEAN RESILIENCE) AMONG THE 1,008 NETWORK WORKERS IN ESTRIE .....9



## LIST OF ACRONYMS

**CIUSSS:** Centre intégré universitaire de santé et de services sociaux

**CHUS:** Centre hospitalier universitaire de Sherbrooke

**ESPE:** Enquête de santé populationnelle estrienne

**INSPQ:** Institut national de santé publique du Québec

**LSN:** Local services network

**RSSS:** Health and social services network in Estrie



## BACKGROUND

There isn't the slightest doubt that a healthy employee is more productive and costs less. The impact of health problems on enterprises is major. Every year, approximately 20% of Canadian workers suffer a stress-related disease<sup>1</sup>. Research indicates that stress at the workplace accounts for 20% of absenteeism costs, 40% of employee turnover costs, 55% of employee assistance program costs, 50% of workplace accidents, and 10% of the costs of prescription drug insurance plans<sup>2</sup>. This bleak portrait is also reflected in the phenomenon of presenteeism, which occurs when employees go to work and do not manage to accomplish their tasks effectively.

It should also be noted that stress is a risk factor both to health and to the proper functioning of enterprises<sup>3</sup>. Workers who are stressed are more likely to experience poor health and to be less motivated, productive, and compliant with occupational safety regulations<sup>3</sup>.

## PREVENTION AND PROMOTION AS AN ORGANIZATIONAL LEVER

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Mental health at the workplace is a broad concept which refers not only to the policies, procedures, processes, systems, and initiatives used to improve and protect the psychological health of workers as individuals, but also to the more general environmental, physical, and organizational factors at the workplace which have an impact on the incidence of mental health problems<sup>4</sup>.

As regards stress at the workplace, the generally accepted definition is a deleterious physical and emotional response which occurs in the presence of conflicting demands at work and the individual's capacity to meet them<sup>5</sup>.

Over the past two decades, research has helped to identify the main factors which have a decisive impact on the stress perceived by individuals at the workplace, notably from the following models: "demand-control-support", "effort/recognition imbalance", and more recently "organizational justice." Furthermore, these risk factors are causally related to the development of disease at the workplace, including psychological, musculoskeletal, cardiac, and atherosclerotic problems<sup>6</sup>. Known as psychosocial risk factors, they are generally grouped according to employment context and work organization. They are described in the table below (Table 1).

**Table 1.**  
**Psychosocial risk factors according to the Institut national de santé publique du Québec (INSPQ)<sup>6</sup>**

| Work context and prevention factors                   |                                                                                                                                                                                                                  |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work and employment context                           | <ul style="list-style-type: none"> <li>• Job insecurity</li> <li>• Organizational change</li> </ul>                                                                                                              |
| Absenteeism, disease, and presenteeism                | <ul style="list-style-type: none"> <li>• Indicator of the burden of disease</li> </ul>                                                                                                                           |
| Health activities or policies at the workplace        | <ul style="list-style-type: none"> <li>• Importance given to health prevention at the workplace and to psychological health in particular</li> </ul>                                                             |
| Activities or policies against violence or harassment | <ul style="list-style-type: none"> <li>• Violence</li> <li>• Sexual harassment</li> <li>• Discrimination</li> </ul>                                                                                              |
| Return to work activities or policies                 | <ul style="list-style-type: none"> <li>• Presence of adapted return to work policies, in particular for psychological health</li> </ul>                                                                          |
| Work-life balance activities or policies              | <ul style="list-style-type: none"> <li>• Possibilities offered at the workplace to promote work-life balance beyond the minimum legal requirements</li> </ul>                                                    |
| Organizational factors                                |                                                                                                                                                                                                                  |
| Workload                                              | <ul style="list-style-type: none"> <li>• Amount of work</li> <li>• Complexity</li> <li>• Time constraints</li> </ul>                                                                                             |
| Recognition                                           | <ul style="list-style-type: none"> <li>• Workplace recognition of efforts made by workers through diverse means (compensation, appreciation, respect, job security, job perspectives, and promotions)</li> </ul> |
| Social support from the superior                      | <ul style="list-style-type: none"> <li>• Ability of the superior to support his employees as well as the degree of dignity, courtesy, and respect which employees receive from their superior</li> </ul>         |
| Social support from coworkers                         | <ul style="list-style-type: none"> <li>• Team spirit, degree of group cohesion, assistance, and collaboration from coworkers in accomplishing tasks</li> </ul>                                                   |
| Decision-making autonomy                              | <ul style="list-style-type: none"> <li>• Possibility of exercising some level of control over one's work; possibility of using or developing one's skills</li> </ul>                                             |
| Information and communication                         | <ul style="list-style-type: none"> <li>• Means implemented by management to inform and consult about the situation of the enterprise and about management's vision</li> </ul>                                    |

Based on these risk factors, it is possible to act on these determiners within organizations to improve the health of employees. There was, in the field of health promotion at the workplace, interest in developing programs, actions, and interventions targeting organizational stress factors by taking action upstream within organizations. The efficacy of the proposed strategies was often scantily documented, unsystematic, or limited to a few elements of the problem.

The key elements of effective initiatives were defined. These elements must be based on validated theoretical models, be focused on primary prevention, include participation from managers and employees, target specific objectives once the causative risk factors have been identified, and plan for rigorous implementation procedures followed by an evaluation. Thus, practical resources for employers based on the promotion of good health practices at the workplace are available for this purpose. Some groups, notably Groupe entreprises en santé, are proposing an initiative and a standardized structured framework for implementing an environment conducive to global health and the maintenance of management practices which take into account the health of employees at the workplace<sup>7</sup>. The Institut national de santé publique du Québec (INSPQ) has developed and validated a tool for diagnosing organizational risk factors as well as training on how to use this tool. The INSPQ also proposes a structured preventative initiative based on good practices.

To this organizational strategy can be added more individualized intervention methods which can foster resilience among individuals. Rather than seeing conflicting strategies, we need to consider this strategy as being complementary. For example, there are the more group-based programs, including medical and dental insurance and employee-assistance programs. These measures enable one to take care of one's health and to alleviate the financial stress that such expenses may incur. Other examples of more general actions to promote health at the workplace which may also have a beneficial effect on individual stress include organizing physical activity sessions; setting up a fitness room or lounge; and holding workshops on nutrition, work-life balance, personal finance, stress management strategies, and transitioning into retirement.

Organizations which value the improvement of health and well-being at the workplace also improve their organizational profile. Doing so enables organizations to improve their growth potential as well as to recruit highly skilled workers and to retain their loyalty<sup>4</sup>. Employees working in enterprises which prioritize the health of their human resources report having more energy at work, better daily stress management, fewer absences, and higher productivity<sup>5</sup>.

## ENQUÊTE DE SANTÉ POPULATIONNELLE ESTRIENNE 2014-2015 (2014-2015 POPULATION HEALTH SURVEY FOR ESTRIE) FOR THE STATUS REPORT OF THE CIUSSS DE L'ESTRIE - CHUS

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The *Enquête de santé populationnelle estrienne* (ESPE) 2014-2015 is a broad health survey which was conducted in the Estrie region. It is representative of all adults living in the nine local services networks with 10,687 respondents. The survey was conducted in 2014 in the territory which corresponded to Estrie at that time, well before the *Act to modify the organization and governance of the health and social services network, in particular by abolishing the regional agencies* came into force. The survey was completed in 2015, taking into account the addition of two local services network (LSN) following the reform, specifically local services networks Pommeraiie and Haute-Yamaska. All of these adults responded to a questionnaire about their health, well-being, lifestyle habits, and other individual behaviours. Among these adults, 1,008 reported working either full time or part time in the health and social services network.

Therefore, while it is possible for people to report that they work for the health and social services network when that is not the case (or for those who actually do to report otherwise), the ESPE 2014-2015 contains a sizeable sample to examine the health stakes of workers at the Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke (CIUSSS de l'Estrie – CHUS).

## PROMOTING HEALTH ASSETS TO IMPROVE STRESS MANAGEMENT AT THE WORKPLACE

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The ESPE 2014-2015 contains questions regarding health assets (resilience, positive mental health, social participation, sense of belonging to the community). Unlike traditional measures aimed at identifying problems, limitations or diseases, health assets are used to identify the factors generating well-being, resources, or abilities.

The scientific literature indicates that a greater stockpile of health assets further empowers individuals and communities, and helps to improve living quality and well-being. This assertion is true both directly (more health assets = better health outcomes<sup>8</sup>) and indirectly (more health assets moderates the relationships between a disadvantaged social position and negative health outcomes<sup>9,10</sup>).

## OBJECTIVE OF THE STATUS REPORT

---

The objective of this brief status report is to draw a portrait of resilience among the health and social services network workers in Estrie using the ESPE 2014-2015. More specifically, we will examine:

1. The mean resilience score of the workers;
2. The distribution of this score according to various sociodemographic variables;
3. The proportion of variables of interest (level of daily stress, stress at the workplace, psychological distress) by a variety of occupational categories;
4. The moderating role of resilience, meaning its ability to alleviate the impact of daily stress on psychological distress.

## METHODOLOGY

### RESILIENCE

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Resilience is the capacity of an individual or of a community to adapt to a stressful event<sup>11,12,13</sup>. To measure this variable, the French validated version of the Connor-Davidson Resilience Scale (CD-RISC) was used. This scale contains 10 questions used to assess to what extent a respondent has felt able to handle various aspects of life<sup>11,12,13</sup>. Every question provides five possible answers (not true at all, rarely true, sometimes true, often true, true nearly all the time) which correspond to values of 0 to 4. The scale gives a global score of 0 to 40 (the sum of the score of the 10 questions). A higher score indicates higher resilience. The 10 questions are shown in Table 2.

## OTHER VARIABLES OF INTEREST

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Beyond resilience, three main variables were examined:

1. The daily stress level (quite stressful or extremely stressful vs. somewhat, not really or not at all stressful);
2. Work as the leading source of daily stress (yes vs. no);
3. The presence of psychological distress (six multiple-choice questions which indicate the presence of psychological distress if the score is equal to 7 or above).

## SOCIODEMOGRAPHIC VARIABLES

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The social position of respondents is measured using 10 indicators:

1. Gender;
2. Age;
3. Education;
4. Household income;
5. Living alone or not;
6. Being an owner or a tenant;
7. Employment status;
8. The LSN or household borough;
9. Household composition;
10. Perceived health status.

## RESULTS

### OBJECTIVE 1: RESILIENCE SCORE AMONG THE WORKERS OF THE CIUSSS DE L'ESTRIE – CHUS

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**Table 2.**  
**Mean score among the various classes of individuals in the 2014-2015 health survey of Estrie's population (ESPE)**

| Class of persons                                                                           | n      | Resilience $\bar{X}$ score (/40) |
|--------------------------------------------------------------------------------------------|--------|----------------------------------|
| Estrie                                                                                     | 10,687 | 31.4                             |
| Estrie (active population aged 18-64 years)                                                | 8,066  | 31.4                             |
| Estrie (active population aged 18-64 years working full time or part time)                 | 5,533  | 31.7                             |
| Estrie (active population aged 18-64 years working full time or part time for the network) | 1,008  | 31.6                             |

The mean resilience score is similar regardless of the class of persons investigated. Despite the absence of significant differences among the groups, it is interesting to find that the score is somewhat high. This suggests that Estrie residents in general have a high level of resilience. In order to examine this score in greater depth, we have examined the mean score for each one of the 10 questions which make up the total resilience score for the 1,008 respondents of the ESPE 2014-2015 who have reported working full time or part time for the health and social services network.

**Table 3.**  
**Mean resilience score for each of the 10 questions used to measure the total resilience score among the 1,008 respondents of the health and social services network in Estrie (RSSS)**

| To which degree do the following statements apply to you within the last month?            | $\bar{X}$ score for the question (/4)<br>(n = 1,008) | vs. population of Estrie<br>(n = 10,687) |
|--------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------|
| 1. I am able to adapt when changes occur.                                                  | 3.56                                                 |                                          |
| 2. I can manage all of the situations which I face.                                        | 3.29                                                 |                                          |
| 3. I try to see the humorous side of things when facing problems.                          | <b>3.08</b>                                          | -                                        |
| 4. Coping with stress can make me stronger.                                                | <b>3.00</b>                                          | +                                        |
| 5. I tend to bounce back after illness, injury, or hardship.                               | <b>3.22</b>                                          | +                                        |
| 6. I believe I can achieve my objectives even if there are obstacles.                      | <b>3.39</b>                                          | +                                        |
| 7. Under pressure, I remain focused and I think clearly.                                   | <b>3.05</b>                                          | -                                        |
| 8. I am not easily discouraged by failure.                                                 | <b>2.89</b>                                          | -                                        |
| 9. I consider myself to be a strong person when facing life's challenges and difficulties. | <b>3.19</b>                                          | -                                        |
| 10. I am able to manage unpleasant or painful feelings such as sadness, fear, or anger.    | <b>3.07</b>                                          | +                                        |

Even though the mean scores observed for the 10 questions do not provide information that is unequivocal, their comparison to the mean score of other Estrie residents in the ESPE 2014-2015 lead to a few findings. Thus, the workers of the RSSS in Estrie are more likely to believe that managing stress makes them stronger, that they can bounce back after a stressful event, that they can achieve their objectives, and that they are capable of managing unpleasant feelings. Conversely, our employees are less likely to see the humorous side of things when facing a problem, to remain focused under pressure, not to become discouraged by failure, and to consider themselves strong when faced with adversity.

## OBJECTIVE 2: THE DISTRIBUTION OF RESILIENCE BY SOCIAL POSITION

**Table 4.**  
**Mean resilience score in the ESPE 2014-2015 according to a variety of sociodemographic variables indicative of the social position of individuals**

| Sociodemographic variables           | Categories of variables                | n   | Total resilience score<br>(n = 1,008) |
|--------------------------------------|----------------------------------------|-----|---------------------------------------|
| <b>Gender</b>                        | Men                                    | 252 | 32.5* (+)                             |
|                                      | Women                                  | 756 | 31.4 (+)                              |
| <b>Age</b>                           | 18-29 years old                        | 210 | 31.0                                  |
|                                      | 30-49 years old                        | 476 | 31.7                                  |
|                                      | 50-64 years old                        | 322 | 32.0*                                 |
| <b>LSN</b>                           | New LSN (Pommeraiie & Haute-Yamaska)   | 260 | 31.3                                  |
|                                      | Sherbrooke                             | 434 | 31.7                                  |
|                                      | The 6 other LSN                        | 315 | 31.8                                  |
| <b>Education</b>                     | High school or less                    | 132 | 30.5                                  |
|                                      | Cegep/College                          | 422 | 31.6                                  |
|                                      | University                             | 454 | 32.0*                                 |
| <b>Gross annual household income</b> | Less than \$30,000 per year            | 85  | 30.0                                  |
|                                      | \$30,000 to \$79,999 per year          | 494 | 31.5                                  |
|                                      | \$80,000 or more per year              | 390 | 32.2*                                 |
| <b>Owner</b>                         | Owner                                  | 812 | 31.6                                  |
|                                      | Tenant                                 | 197 | 31.8 (+)                              |
| <b>Living alone</b>                  | Yes                                    | 176 | 31.1 (+)                              |
|                                      | No                                     | 831 | 31.8                                  |
| <b>Household composition</b>         | Living alone                           | 176 | 31.1                                  |
|                                      | Single mother                          | 58  | 32.4 (+)                              |
|                                      | Couple with children < 18 years old    | 389 | 32.0                                  |
|                                      | Couple without children < 18 years old | 299 | 31.4                                  |
| <b>Perceived health</b>              | Excellent/Very good/Good               | 956 | 31.7                                  |
|                                      | Fair/Poor                              | 53  | 30.4 (+)                              |

\* Statistically different proportions ( $p \leq 0.05$ ) using a chi-squared test

(+) Proportion statistically superior ( $p \leq 0.05$ ) to Estrie population

This table helps us to better identify the resilience profile of health and social services network workers compared to the general population in Estrie. Generally, men are more resilient, whereas those in the 18-29 age group are less so. There is the presence of a gradient between the mean resilience score, the level of education, and household income. We also note that compared to the general population, being a single mother working for the network appears to slightly increase resilience. In general, the other sociodemographic variables such as place of residence and borough, being an owner or a tenant, living alone or not, and perceived health status have little association with resilience among network workers in Estrie.

## OBJECTIVE 3: THE PROPORTION OF VARIABLES OF INTEREST BY OCCUPATIONAL CATEGORY

To respond to this objective, we used a sample of 1,008 adult employees of the health and social services network of Estrie. Among the employees, if we consider the RSSS workers overall, 33.3% report that their daily work is quite stressful or extremely stressful (compared to 28.7% for all workers in Estrie), 56.2% indicate that their work is their main source of stress (compared to 51.2% for all workers in Estrie), and 25.7% have a score indicative of psychological distress (compared to 23.3% for all workers in Estrie). To examine the proportion of these variables by type of employment, many professions have been grouped into eight of the most broadly representative occupational categories (tables 5 and 6).

**Table 5.**  
Description of the professions grouped by occupational category

| Occupational category                                                                          | Description of the professions of the National Occupational Classification (NOC) 2011                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Senior management, specialized middle management in health care</b>                         | Executives or director, assistant-director, heads of services, coordinators at intermediate levels                                                                                                                                                                                                          |
| <b>Administrative and office support occupations</b>                                           | Administrative assistants, administrative and financial supervisors, office support personnel, auditors, auditors and accountants, human resources professionals, procurement clerks, storekeepers and storekeepers                                                                                         |
| <b>Technical support occupations</b>                                                           | Food service staff, laundry staff, housekeeping staff, building maintenance and repair staff                                                                                                                                                                                                                |
| <b>Professional occupations in nursing and assisting occupations in support of health care</b> | Coordinators, supervisors, nurses, licensed practical nurses, attendants and orderlies                                                                                                                                                                                                                      |
| <b>Professional occupations in health care</b>                                                 | Physicians, dentists, optometrists, other practitioners (midwives, medical assistants, nurse practitioners and nurse practitioners), pharmacists, dietitians and nutritionists, audiologists and speech therapists, physiotherapists, occupational therapists, other professionals in therapy or diagnostic |
| <b>Professional occupations in education services</b>                                          | University teachers, post-secondary teachers, college teachers, other vocational instructors, school information counselors                                                                                                                                                                                 |
| <b>Occupations in social services and in community services</b>                                | Psychologists, social workers, social and community service workers, educators, family helpers, other therapists, counselors, planning officers, researchers, consultants and consultants                                                                                                                   |

| Occupational category                                                                             | Description of the professions of the National Occupational Classification (NOC) 2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical occupations in health care and professional occupations in natural and applied sciences | Technologists in bacteriology and microbiology, medical laboratory technologists, medical laboratory technologists and pathologists, respiratory therapists, clinical perfusionists and cardiopulmonary technologists, radiology and radiotherapy technologists, ultrasound technologists, cardiology technologists and electrophysiology technologists, other technologists (dietitians, prosthetists, orthotists, pharmacists), biochemists and chemists, bacteriologists, pharmacologists, microbiologists, immunologists, geneticists and geneticists, toxicologists |
| Missing data                                                                                      | Do not know, no answer, non-codable response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Table 6.**  
**Proportion of the level of daily stress, of work as the leading source of stress, and of psychological distress (and mean resilience score) among the 1,008 network workers in Estrie**

| Occupational category                                                                   | <i>n</i> | Daily stress (quite stressful or extremely stressful) | Work is the 1 <sup>st</sup> source of stress | Psychological distress | $\bar{X}$ score Resilience |
|-----------------------------------------------------------------------------------------|----------|-------------------------------------------------------|----------------------------------------------|------------------------|----------------------------|
| Senior management, specialized middle management in health care                         | 60       | 55.0 (+)                                              | 74.6 (+)                                     | 16.7 (-)               | 34.2 (+)                   |
| Administrative and office support occupations                                           | 99       | 33.3                                                  | 59.6                                         | 29.3 (+)               | 30.9 (-)                   |
| Technical support occupations                                                           | 52       | 25.0 (-)                                              | 53.8                                         | 42.3 (+)               | 29.2 (-)                   |
| Professional occupations in nursing and assisting occupations in support of health care | 235      | 28.5 (-)                                              | 50.6                                         | 23.4                   | 31.6                       |
| • <i>Nurses</i>                                                                         | 130      | 33.1                                                  | 60.5 (+)                                     | 23.8                   | 31.3                       |
| • <i>Nursing assistants, beneficiary attendants</i>                                     | 83       | 22.0 (-)                                              | 32.5 (-)                                     | 25.3                   | 31.8                       |
| • <i>nurses aides and orderlies</i>                                                     |          |                                                       |                                              |                        |                            |
| Professional occupations in health care                                                 | 109      | 47.7 (+)                                              | 64.5 (+)                                     | 16.5 (-)               | 31.2                       |
| Professional occupations in education services                                          | 33       | 33.3                                                  | 57.6                                         | 27.3                   | 32.3 (+)                   |
| Social services and community services personnel                                        | 113      | 27.4 (-)                                              | 48.2 (-)                                     | 29.2 (+)               | 31.5                       |

| Occupational category                                                                          | <i>n</i> | Daily stress (quite stressful or extremely stressful) | Work is the 1 <sup>st</sup> source of stress | Psychological distress | $\bar{X}$ score Resilience |
|------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------|----------------------------------------------|------------------------|----------------------------|
| Technical health care professions and professional occupations in natural and applied sciences | 144      | 27.8 (-)                                              | 60.8 (+)                                     | 27.4                   | 31.8                       |
| Missing data                                                                                   | 164      | 34.1                                                  | 56.3                                         | 25.7                   | 31.6                       |
| All occupational categories                                                                    | 1,008    | 33.3                                                  | 56.2                                         | 25.7                   | 31.6                       |

It is interesting to observe that despite a higher level of daily stress among the senior management employees (or specialized middle management employees), they have a higher mean resilience score and a lower proportion of psychological distress than the other workers of the health and social services network (Table 5). The same observation applies to those in professional occupations in health care. We observe that those in the professional occupations of nursing, which include nurses, nursing assistants, and beneficiary attendants, have a level of psychological distress and resilience around the average. Those in administrative support occupations stand out with a level of psychological distress that is superior to the average and with a lower level of resilience.

Among those in technical support occupations, in social services and community services occupations, in technical health care professions, and in professional occupations in natural and applied sciences, despite having a lower mean level of stress compared to that of other network staff, the proportion of psychological distress is greater. Although the inferior mean resilience score might constitute an explanation in the first socio-professional category (technical support occupations), that is not the case for the other job categories in which resilience is centred around the mean.

## OBJECTIVE 4: THE ROLE OF RESILIENCE IN THE ASSOCIATION BETWEEN DAILY STRESS AND PSYCHOLOGICAL DISTRESS

To test the hypothesis according to which resilience moderates the association between daily stress and psychological stress, various logistic regression models were tested. Thus, in the first model, the effect of daily stress (quite stressful or extremely stressful) on the presence of psychological distress was tested among the 1,008 workers of the health and social services network in Estrie. The odds ratio (OR) was 1.63 (confidence interval (CI) of 95% = 1.23 - 2.18). This means that the probability of being an individual with psychological distress is 63% higher among those who perceive their daily life as being quite stressful or extremely stressful (compared to individuals who consider it to be a little, not really or not at all stressful). When the same association is examined among our employees whose resilience score is lower than the regional average (resilience < 31.6), the ratio of scores is instead 2.81 (CI 95% = 1.91 - 4.14). In the group of less resilient employees, perceiving one's daily life as being stressful increased the probability of psychological distress almost threefold. Finally, when the same association among individuals with an above-average resilience score is examined (resilience  $\geq$  31.6), there is no longer any existing association between daily stress and psychological distress (OR = 0.84, CI 95% = 0.50 - 1.51). In other words, a higher resilience asset would have had a protective effect among health care workers by attenuating the deleterious effect of daily stress on psychological health.

## DISCUSSION OF THE RESULTS

### LIMITATIONS OF THE PORTRAIT

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Considering the sample size and the sample plan used, we believe that the results validly reflect the status of workers of the health and social services network in Estrie as regards the level and source of daily stress, the resilience score, and the level of psychological distress. The coefficients of variation obtained indicate that the proportions reported for these variables are reliable. It should be noted, however, that the results presented were gathered in the summer of 2014 and then completed in 2015 to account for two LSN which were annexed to the administrative territory of Estrie, and thus represent the situation at that time. While gathering data, the major reorganization of the network announced in 2013 was under way and had not been completed.

Furthermore, given the transversal nature of the survey, certain biases that are characteristic of this type of study may be present, in particular the fact that the results show people who have a professional occupation. The fact of having a job means that individuals who have a more favourable health status than that of the general population are selected<sup>14</sup>. However, by comparing with a referential population of individuals at the workplace, this effect can be attenuated.

### FINDINGS

In light of these results, various findings can be made.

First finding: The population in Estrie, regardless of the category of individuals examined (Estrie residents, Estrie residents within the active population employed by the network) show high resilience. These results are coherent with those observed in samples using the same measure for adults in different countries<sup>15,16</sup>.

Second finding: The health and social services network workers in Estrie also have particularities as regards resilience and their capacity to adapt. When the global resilience score is deconstructed to examine each one of its components, compared to the population of Estrie, the employees are more likely to believe that managing stress makes them stronger, that they can bounce back after a stressful event, that they can achieve their objectives, and that they can manage unpleasant feelings. Conversely, the employees are less likely to see the humorous side of things when facing a problem, to remain focused under pressure, not to get discouraged by failure, and to consider themselves strong when faced with adversity.

Third finding: The profile of health care workers with higher resilience corresponds to those who benefit from a more favorable social and economic position, in particular as regards the level of education and income. These data are also coherent with the scientific literature which report social inequalities in the distribution of positive health statuses<sup>8,9</sup>.

Fourth finding: A third of network employees in Estrie report that their daily lives are very stressful or extremely stressful; more than half report that their work is their leading source of stress; and a quarter manifest psychological distress. When these proportions by job category are examined, we find that despite present and intense stress, managers express a high resilience score and a lower proportion of psychological distress. This result must be qualified in light of the significant effect of internal selection for this type of position.

Conversely, the portrait is different among administrative support, technical support, and social services and community services personnel. These three occupational categories present with levels of psychological distress superior to those of other employees, despite similar or lower levels of stress.

Finally, a fifth finding: A higher reserve of resilience among health and social services network workers acts as a protective factor and lowers the impact of daily stress on the presence of psychological distress. These results support the implementation of interventions to promote resilience among individuals and professions more vulnerable to psychological distress or to daily stress.

## RECOMMENDATIONS FOR ACTION

The main recommended strategies aimed at preventing psychological health problems can be grouped under three broad components:

1. Document the magnitude of the problem among certain target groups;
2. Develop an organizational prevention strategy;
3. Develop individual strategies aimed at reinforcing the capacity to manage stress.

### DOCUMENT THE MAGNITUDE OF THE PROBLEM AMONG CERTAIN TARGET GROUPS

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#### CONSIDER OTHER RELEVANT DATA SOURCES IN OCCUPATIONAL HEALTH

This portrait presents data which primarily concern the resilience of workers. In order to draw a more complete portrait of the status of different occupational categories, other sources of data must be considered, primarily:

- Data for work-related absences and illnesses, particularly burnout and other work-related psychological problems;
- Compensation data for work-related psychological problems.

These data are easily available and routinely compiled by human resources personnel. Within the reorganisation context, it would be particularly useful to ensure the periodic monitoring of these key indicators. In addition, three occupational groups have been identified in this portrait as presenting with concerning levels of psychological distress and for which we should prioritize examination of those data, specifically administrative support staff, technical support staff, and social services and community services staff.

Also, qualitative data gathering, such as focus groups, could be planned; it is also a part of the initiative put forward by the INSPQ. Finally, a second population health study for Estrie is expected in 2018. If the data can be used to classify workers by occupation, it will be possible to study the progression of the data on the stress and psychological distress of the health and social services network workers.

## DEVELOP AN ORGANIZATIONAL PREVENTION STRATEGY

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The strategies put forward by public health to promote psychological well-being at the workplace emphasize a structured initiative to identify psychosocial risk factors followed by measures aimed at controlling them at the organizational level<sup>17</sup>. As previously discussed (Table 1), psychosocial risk factors can be associated with work organization, management practices, employment conditions, and social relations. These factors increase the likelihood of generating deleterious effects on the physical and psychological health of those exposed to them. Validated diagnostic tools have been developed by the INSPQ<sup>18</sup>. In partnership with the local resources of the occupational health outreach team, the INSPQ and the human resources, communications, and legal affairs department, a pilot project is currently being deployed in two clinical departments of the CIUSSS de l'Estrie – CHUS. Such an initiative should be supported and eventually developed throughout the organization, particularly for the professional categories previously identified as being more vulnerable. Within the framework of this project, an action plan has been developed and is available.

### PROMOTE ADAPTATION TO CHANGE

In the context of a reorganization, change management strategies adapted to this context could be considered in order to attenuate their impact<sup>19</sup>.

## DEVELOP INDIVIDUAL STRATEGIES AIMED AT REINFORCING THE CAPACITY TO MANAGE STRESS

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### PROMOTE HEALTHY LIFESTYLES AND STRESS-MANAGEMENT METHODS

We should pursue the general efforts to promote healthy lifestyles and well-being already deployed among staff in order to increase the resilience asset throughout this population group. In this study, the evidence confirms the protective effect of resilience against psychological distress. When choosing the activities and the programming, we could select activities likely to improve the aspects of resilience identified in this portrait in which the workers appear to present with a certain deficit. The idea is to encourage employee participation and empowerment through a variety of interventions.

Also, several organizations advocate the practicality of training aimed at increasing resilience among health care personnel. Such is the case of The Canadian Medical Protective Association<sup>20</sup>, which recommends training for residents, and of the Royal College of Physicians and Surgeons of Canada, which has integrated a component on resilience in the CanMEDS 2015 Physician Competency Framework<sup>21</sup> under the section entitled "Professionnel" (French version).

## **EMOTIONAL MANAGEMENT STRATEGY IN THE WORKER-BENEFICIARY RELATIONSHIP**

We expect health care personnel and support personnel to demonstrate a high level of empathy toward the personal situations of the beneficiaries. These expectations in themselves can create an emotional burden that is difficult for workers to manage. In this study, the social services and community services personnel is particularly affected by a high prevalence of psychological distress, which was observed in particular in other social work studies<sup>22</sup>.

Empathy management strategies appear to be promising, according to recent studies conducted in caregiving contexts similar to that of the CIUSSS de l'Estrie – CHUS. Thus, we propose a strategy based on perspective taking aimed at establishing a healthy balance between empathy and the psychological well-being of health care staff<sup>23,24</sup>. Such strategies might eventually be integrated to on-the-job training of the staff.

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