ABSTRACT

Introduction: There is increasing recognition of the importance of intrinsic motivation, team dynamics, and burnout in multidisciplinary teams striving to achieve the Quadruple Aim.

Objective: To assess self-rated team climate, intrinsic motivation, and burnout of a multidisciplinary team at an urgent primary care center and to explore potential relationships between the concepts.

Methods: A scoping review of the English-language literature was conducted to identify any validated team climate, intrinsic motivation, and burnout measurement tools. The Team Climate Inventory Short Form and a single-item measure of burnout were chosen because of their validity, appropriateness to the study setting, and practicality. Daniel Pink’s concept of motivation was operationalized into a novel, 13-question survey tool. The face validity of the survey questions was assessed by various clinicians. The online survey was administered to a 38-member multidisciplinary team working at an urgent primary care center in Vancouver, Canada. Scores for team climate, motivation, and burnout were assessed, along with the tool’s internal consistency.

Results: The survey findings (33 responses) indicate a relatively high-performing multidisciplinary team, with high scores in all categories related to team climate and intrinsic motivation. Only 8% of 25 respondents met the threshold level of burnout, with no respondents indicating severe or complete burnout. Reliability analysis produced α coefficients of 0.956 and 0.945 for team climate and intrinsic motivation, respectively, indicating satisfactory reliability.

Discussion: The burnout ratings align with the scores for team climate and intrinsic motivation. The study findings suggest that the clinic’s current approach to leadership and management has been effective in promoting a healthy team and work environment. The small sample size does not permit statistical inferences without further testing and validation. Further exploration is warranted of various structural, organizational, system-level, and environmental factors that affect the survey’s results.

Conclusion: The study fills a gap in the health services research literature pertaining to the performance of multidisciplinary teams.

INTRODUCTION

In health care, a number of complex factors and relationships exist that influence the respective experiences, performance, and outcomes of interprofessional and multidisciplinary health care teams. These complex dynamics are of great interest to health care administrators and health services researchers and are a focus of policy makers striving to operationalize the Institute for Healthcare Improvement’s Quadruple Aim framework.

Starting at the level of the individual health care practitioner are factors related to personal well-being, stress burden, vulnerability to burnout, and job satisfaction. Related but distinct to this idea is the relationship between the health care practitioner and the workplace, as well as the extent to which the clinician is motivated by a sense of purpose and is encouraged to refine his/her skills and craft with the support of his/her workplace resources.

Beyond this exists the realm of interpersonal and internal team dynamics, notably a team climate of excellence, support for innovation, and a shared culture conducive to progress. As health care systems move to increasingly rely on multidisciplinary teams, the recognition of team dynamics as salient contributors to the experiences and health outcomes of both patients and health care practitioners requires their systematic measurement, assessment, and evaluation.

In primary care, multidisciplinary teams have considerable benefits, including improved individual mental health, morale, effectiveness, and efficiency. Related is the concept of team climate, described as the degree to which a team is supportive, communicative, and collaborative in creating an environment conducive to innovation. Maintaining this climate is important in ensuring that the benefits of working in multidisciplinary teams are not hindered.

The Team Climate Inventory (TCI) is a well-documented tool that has been increasingly used to assess team climate in health care settings. First developed by Anderson and West, this tool measures 4 factors: Vision, participative safety, task orientation, and support of innovation. Vision refers to the shared motivation of the team toward common goals and objectives and the perceived attainability of these goals. Participative safety refers to the degree to which the environment is encouraging, promotes interaction and participation, and is psychologically safe. Task orientation refers to a shared attitude for self and team-level appraisal, communication, and accountability. Support for innovation relates to the team attitudes toward innovation and change and their support for new ideas. Although the original TCI is a 44-item tool, a shortened version is increasingly used in health care settings.

Keywords: burnout, intrinsic motivation, multidisciplinary, team climate, Quadruple Aim
The 14-item version has been employed in the literature and been shown to be valid and reliable. The literature provides support for the TCI as an accurate indicator for improved health care performance, quality of care, and clinical outcomes. In an observational study conducted by Campbell et al across 60 general practices in the UK, team climate was found to be positively associated with improved access, continuity of care, and patient satisfaction. This finding is supported by Bower et al, who found that higher team climate scores were associated with improved care for diabetes and improved patient experiences.

Although progress has been made to better understand team dynamics and health care practitioners’ burnout, few researchers have examined the role of motivation in this context. Contemporary health care policy largely operates on the basis of external rewards as a means of motivation, with intrinsic motivators often being overlooked. In his book Drive, Pink has explored these traditional techniques of motivation and outlined their shortcomings in the changing landscape of labor. Although the figurative “carrot or stick” approach is well-suited to encourage performance on routine and unchanging tasks, it is not as effective for careers requiring critical thinking, creativity, complex tasks, or cognitive challenges. Pink proposes that intrinsic motivation involves 3 factors: Purpose, autonomy, and mastery. These 3 aspects of motivation operate on the theory that we humans have an inherent desire to direct our own lives, and to progress and improve in areas that matter while serving something larger than ourselves.

This perspective of motivation has also been applied directly to the field of health care. Phipps-Taylor and Shortell aimed to assess which motivators, financial or not, were most effective in influencing physician behavior to meet the demands of a changing primary care landscape, in the context of US accountable care organizations (ACOs). The nonfinancial motivators explored included mastery, autonomy, social purpose, and relatedness, all areas that are often overlooked in efforts to motivate behavioral change. Phipps-Taylor and Shortell concluded that nonfinancial motivators, such as mastery and social purpose, complemented and enhanced any level of financial motivator. Their case study of ACOs strongly emphasized nonfinancial motivators (particularly mastery and social purpose) over financial incentives.

These findings are important to the US policy goals of reducing costs while improving both the quality and efficiency of care. In health care, it is theoretically plausible that financial compensation and extrinsic factors may be overly relied on as a means of motivation, and that intrinsic motivators may be better targets for quality improvement (QI). Although Phipps-Taylor and Shortell have examined similar concepts of intrinsic motivators in health care teams through interviews and documented research, no well-documented or validated tools currently exist to measure and assess intrinsic motivation.

Complex relationships between the aforementioned factors of team climate and motivation are strongly associated with practitioner outcomes related to burnout, which has grown to be a prevalent issue among health care practitioners, with profound implications for the safety and well-being of the clinician, patient, and beyond. Characterized by symptoms of extreme emotional exhaustion, decreased job satisfaction, and depression, burnout is an area of focus and importance in the health care community. Beyond the effects of burnout on the health care practitioner directly, burnout has been well documented as leading to poor patient care outcomes and safety. With consideration for its increasing prevalence and evidence of its poor outcomes for both the patient and the clinician, there is an urgency to effectively and efficiently address burnout.

A principal tool to measure and assess burnout among health care practitioners is the Maslach Burnout Inventory, a proprietary 22-item tool. This widely implemented and validated tool assesses 3 subscales: Emotional exhaustion, de-personalization, and reduced personal accomplishment. Rohland et al developed a single-item, nonproprietary measure that aims to measure burnout with emotional exhaustion as the subscale of interest. This single-item measure was compared with the Maslach Burnout Inventory and found to be a reliable substitute.

The aim of this study was to develop and test a conceptually sound, valid, practical, and free survey tool to assess team climate, intrinsic motivation, and burnout in a multiprofessional team-based urgent primary care setting in Vancouver, Canada. A benefit of this study is to potentially enable the meaningful integration of the various streams of health services research pertaining to these 3 respective concepts and to explore their interrelationships. Teamwork in primary care across Canada is generally underexplored in measurement, which is increasing in importance as provinces increasingly move toward team-based services through reform initiatives such as primary care networks in British Columbia and Alberta, and Ontario Health Teams in Ontario.

METHODS

Before development of a survey tool, an initial scoping review of the English-language literature was conducted to identify any validated team climate, motivation, and burnout measurement tools. The 14-item TCI-Short Form and a nonproprietary, single-item measure of burnout were chosen for this study because of criteria related to their validity, perceived appropriateness to the study setting, and practicality. When no suitable intrinsic motivation tool was identified, Pink’s concept of motivation was operationalized into a novel survey tool comprising 13 questions. The survey was designed to assess self-rated motivation using Pink’s 3 components of motivation and a 5-point Likert scale. To assess the face validity of these motivation questions and to reaffirm that the survey tool was perceived to be an appropriate assessment of the target objectives, the authors obtained feedback from an experienced general practitioner, 2 registered nurses (RNs), and a biomedical engineer.

Setting and Participants

The study setting and participants were identified as the multidisciplinary team of health care practitioners at the City Centre Urgent Primary Care Centre in downtown Vancouver, Canada. The clinic’s novel service delivery model of multidisciplinary urgent primary care is a cornerstone of health system reform in the province of
British Columbia and is therefore an appropriate setting for the initial testing of the survey instrument. The mechanisms and processes of team-based care at the clinic are complex and encompass a large multidisciplinary team for a full array of clinical and organizational functions spanning triage, assessment, diagnosis, treatment, referral, and coordination of care. The team is composed of physicians (general practitioners, family medicine physicians, and emergency physicians), nurse practitioners (NPs), RNs, patient care coordinators, radiology technologists, medical office assistants, laboratory assistants, pharmacists, and mental health and substance-use clinicians. The initial point of contact for all patients is a triage RN, who applies a standardized triage tool to assign an acuity score and use predefined nursing-initiated treatment and diagnostic tests. A medical office assistant then registers the patient before a second RN takes the patient into a care space, where a more detailed nursing assessment is completed before a physician or NP sees the patient. The physician or NP acts on test results and may communicate with the ultrasonography, radiology, or laboratory technicians to arrange for additional testing. The practitioner will often also need to collaborate with the pharmacist and RN (eg, intravenous antibiotics) and the patient care coordinator (eg, for referral to a specialist). Practitioners may hand off some patients to a second physician or NP to follow-up on pending test results. This multidisciplinary collaboration allows each team member to work to his/her strengths and to support and rely on each other to provide comprehensive care.

Teamwork processes at the clinic are continuously reviewed (Plan-Do-Study-Act cycles) and are gradually being standardized. They include standing orders and protocols (based on national guidelines), enabling coherent and coordinated multidisciplinary team-based care, and the use of team huddles and structured communication mechanisms.

Data Collection and Analysis

The survey was designed and administered using an online survey format (SurveyGizmo, Boulder, CO). Analysis of survey results consisted of measuring scores for team climate, motivation, and burnout. The reliability and internal consistency of the respective team climate and motivation components of the survey tool were measured and assessed using Cronbach α coefficients.

RESULTS

The survey tool consisted of 3 sections and 29 questions in total (Appendix, available from: www.thepermanentejournal.org/files/2020/19.155app.pdf). The first section was assessing motivation through 3 subsections of purpose, autonomy, and mastery, containing a total of 13 questions on a 5-point Likert scale (1, strongly disagree; 2, disagree; 3, neutral; 4, agree; and 5, strongly agree). The second section evaluated TCI through the 4 subsections of vision, participative safety, task orientation, and support for innovation, with a total of 15 questions using the same Likert scale. The final section consisted of the single-item measure of burnout, which requested that the respondents evaluate their self-rated burnout on the basis of 5 options.

The survey was administered to 38 staff at the Urgent Primary Care Centre, with an 87% completion rate (n = 33). The burnout scores for team climate, motivation, and burnout. The reliability and internal consistency of the respective team climate and motivation components of the survey tool were measured and assessed using Cronbach α coefficients.

Table 1. Team Climate Inventory scores (n = 33)

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean (SD)</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team vision</td>
<td>4.31 (0.734)</td>
<td>4</td>
</tr>
<tr>
<td>Participative safety</td>
<td>4.04 (0.875)</td>
<td>4</td>
</tr>
<tr>
<td>Task orientation</td>
<td>4.13 (0.838)</td>
<td>4</td>
</tr>
<tr>
<td>Support for innovation</td>
<td>3.97 (0.799)</td>
<td>4</td>
</tr>
</tbody>
</table>

SD = standard deviation.

Table 2. Intrinsic Motivation scores (n = 33)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean (SD)</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>4.456 (0.67)</td>
<td>5</td>
</tr>
<tr>
<td>Autonomy</td>
<td>4.173 (0.74)</td>
<td>4</td>
</tr>
<tr>
<td>Mastery</td>
<td>4.43 (0.64)</td>
<td>5</td>
</tr>
</tbody>
</table>

SD = standard deviation.

Table 3. Burnout scores of staff on survey (n = 25)

<table>
<thead>
<tr>
<th>Burnout level</th>
<th>Number (%) of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>No burnout</td>
<td>15 (60)</td>
</tr>
<tr>
<td>Some symptoms</td>
<td>8 (32)</td>
</tr>
<tr>
<td>Burnout threshold</td>
<td>2 (8)</td>
</tr>
<tr>
<td>Moderate burnout</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Complete burnout</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>
or completely burnt out, and 60% of staff reported that they had no symptoms of burnout.

**DISCUSSION**

This study aimed to assess the self-rated team climate, intrinsic motivation, and burnout of the multidisciplinary team at an urgent primary care center. By investigating these 3 areas simultaneously, the aim was to explore and potentially draw connections between the concepts of team climate and the prevalent problem of burnout to the areas of purpose, autonomy, and mastery. Furthermore, the study aimed to fill a gap in the health services research literature, because practical and conceptually sound instruments that enable the integrated assessment of the aforementioned concepts in health care settings currently do not exist.

The study leveraged validated measurement instruments for team climate and burnout, both of which are free to use and without the need for expensive licensing. Intrinsic motivation was conceptually underpinned by Pink’s theoretical framework of human drive (focusing on mastery, autonomy, and purpose), which was also leveraged by Phipps-Taylor and Shortell’s case study analysis of physician motivation in ACOs. Initial analyses of the tool’s face validity and internal consistency suggest satisfactory face validity and reliability of the survey instrument, which is promising for future application and testing.

The online survey was administered to a large multidisciplinary team of health care practitioners at a relatively new urgent primary care center in downtown Vancouver: City Centre Urgent Primary Care Centre. The response rate was high overall (87% of 38), with satisfactory representation across all disciplines, which included physicians, nurses (NPs and RNs), managers, radiology technicians, patient care coordinators, pharmacists, and assistants (medical laboratory, medical office, and administrative).

The survey findings indicate a relatively highly performing multidisciplinary urgent primary care team, with participants reporting overall high scores in all categories related to team climate and intrinsic motivation. For motivation, the autonomy category was an area that scored slightly lower in general. Considering that job autonomy has been positively related to key work outcomes such as performance, satisfaction, and commitment, its further exploration is of importance and will be a focus of future QI work at the clinic.

In terms of burnout, only 8% of respondents met the threshold level of burnout using the single-item measure. Furthermore, no respondents expressed severe or complete burnout. These findings for burnout align well with the ratings for team climate and intrinsic motivation. These results, however, contrast with the existing literature, which reports rates of burnout often ranging between 20% and 50%, including in Canada. It is important to highlight that the response rate to the burnout questions was lower than for the overall survey, with only 25 of the 38 respondents (65.8%) completing this section of the survey. The reasons for nonresponse warrant further investigation (whether owing to survey fatigue because the burnout section was at the end, or whether owing to more serious factors relating to cynicism, alienation, fear, etc).

Stress and its management are largely the focus in contemporary assessments of burnout; however, additionalcontributing factors include workplace support, opportunities for professional development, reasonable workloads, and a sense of meaning, professional freedom, and purpose. The tool developed in this study was intended to rigorously measure these factors, to explore their interrelationships, and to yield potentially useful insights relating to the design of interventions that effectively contribute toward achievement of the Quadruple Aim. It would be useful and interesting to further investigate the various factors (eg, organizational, system-level, environmental) that affect team performance, intrinsic motivation, and burnout. This study’s findings suggest that the engaged leadership and governance of the clinic, as well as some of the current interventions to promote healthy teamwork and patient care dynamics, may have been effective. The clinic leadership has consciously worked to operationalize the University of California San Francisco’s “Ten Building Blocks of High Performing Primary Care” framework. That framework provides a useful heuristic enabling a systematic approach to the ongoing development and evaluation of the clinic. Three of the framework’s conceptual building blocks in particular—Engaged Leadership (Building Block 1), Team-Based Care (Building Block 4), and Patient-Team Partnership (Building Block 5)—seem to have been effective, resulting in a relatively high-performing, motivated, and healthy team environment.

Each of these Building Blocks explicitly focuses on concepts pertaining to team climate categories of vision, participative safety, task orientation, and support for innovation. The clinic’s leadership team has also implemented numerous strategies and functions that focus on improving the clinic’s performance and team environment, such as the following:

- development of a standards committee composed of all the clinic’s disciplines
- recurring interprofessional team meetings
- monthly team reviews of patient experience and satisfaction survey results
- simulation-based interdisciplinary team training
- implementation of QI Plan-Do-Study-Act cycles that establish and periodically evaluate measures of success using the BC (British Columbia) Patient Safety and Quality Council performance framework (focusing on dimensions of quality: Acceptability, appropriateness, accessibility, safety, and effectiveness)
- patient safety and quality rounds
- development of policies and procedures manuals and discrepancy reporting processes

The clinic’s leadership has also consciously worked to co-construct a common vision of core values with all of the clinic’s team members. The shared core values document is meant to enable and encourage self-reflection and thought, particularly in relation to creating a sense of meaning and purpose at the workplace. It is perceived to be of great value toward enabling the creation of a healthy and productive work environment that promotes salutogenic relationships, professional development, and personal growth. The clinic’s leadership views the shared vision as a cornerstone that supports meaningful and effective interactions at the interface of patient care, which ultimately enables
high-quality care and positive health outcomes.

The clinic’s team members are encouraged to periodically revisit the core values and to reflect on the following questions to enable development and improvement of the core values:

- Do the core values resonate with you and have personal meaning?
- What motivates you to do your work?
- What makes your work purposeful?
- What brings you joy and satisfaction at work?
- How can we increase positivity at work?
- How can we reduce negativity at work?

Any structural, system-level, and patient experience factors may have affected perceptions of team performance, intrinsic motivation, and burnout. The clinic is newly renovated with modern infrastructure and equipment, complete with comprehensive and convenient on-site laboratory, diagnostic imaging, and pharmacy facilities. Additionally, the clinic has recently received much policy and media attention, because its service delivery model of urgent care is an important cornerstone of health reform in the province. The clinic also implements patient surveys, the results of which generally indicate a very high level of patient satisfaction and positive patient experiences. All these structural, system-level, and patient experience factors warrant further investigation using various (eg, qualitative and quantitative) research methods.

Further use of the survey tool developed in this study across various organizational settings and contexts would provide much needed data that would enable researchers to better understand the dynamics between the concepts of team performance, motivation, and burnout, and yield insights into the effectiveness of interventions across various health care settings. Understanding the dynamics and interrelationships between these concepts is particularly salient in light of policy interest in operationalizing the Institute for Healthcare Improvement’s Quadruple Aim framework (ie, improving patient experience and satisfaction, improving practitioner experience and satisfaction, improving population health, and reducing the per capita cost of health care). In Canada, rigorous instruments enabling the systematic measurement of team performance, intrinsic motivation, and burnout are needed to enable assessment of the impact of reforms focusing on enabling multidisciplinary team-based primary care, such as primary care networks in British Columbia and Alberta, and Ontario’s Health Teams. During the past few years in the US, there has indeed been increasing attention to the importance of operationalizing intrinsic motivators to improve the performance of ACOs. Phipps-Taylor and Shortell's investigation in The Milbank Quarterly concluded:

For accountable care organizations (ACOs) to be successful they need to change the behavior of their physicians. To stimulate this change, a broad range of motivators are being used, including ways to see a greater impact on patients (social purpose) and opportunities to be a more effective physician (mastery), in addition to personal financial incentives.

From our analysis of case studies, it does not appear that the full range of motivators is being deployed by ACOs, which suggests an opportunity to develop more sophisticated and wider-ranging portfolios of motivators for greater impact.

… The case study ACOs more strongly emphasized nonfinancial motivators [particularly mastery and social purpose] for changing physician behavior than financial incentives. In interpretation of this study’s findings, a clear limitation is sample size. Because of sample size restraints, it was not possible to draw generalizable conclusions or to separate the data by profession to assess whether differences exist between team member roles because the anonymity of respondents would be compromised. One area for future investigation is stratification of data by profession considering that parameters such as the severity and prevalence of burnout have been observed to differ significantly within a health care team.

The tool developed in this study aims to contribute toward the development of a practical, free, and conceptually sound instrument that enables the integrated assessment of important yet largely overlooked concepts that are critical to the achievement of the Quadruple Aim. Pending further testing and validation, the tool could provide data that might yield valuable insights into the complex relationships between intrinsic motivation, team climate, and burnout, all of which affect the performance of multidisciplinary teams. These concepts are of increasing importance because the rapidly changing landscape of labor in health care systems requires increased creative problem solving and critical thinking, rending the traditional focus on extrinsic motivators less effective.

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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Authors’ Contributions

Maya Khazei and Ali Rafik Shukor, M Biotec, MSc, jointly conceptualized the study, conducted the scoping literature review, and drafted the manuscript. Maya Khazei conducted the survey and data analysis. All authors have given final approval to the manuscript.

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