Quality of working life indicators in Canadian health care organizations: a tool for healthy, health care workplaces?

Donald C. Cole1,3, Lynda S. Robson1, Louise Lemieux-Charles1,2, Wendy McGuire2, Claude Sicotte4 and Francois Champagne4

**Background**
Quality-of-work-life (QWL) includes broad aspects of the work environment that affect employee learning and health. Canadian health care organizations (HCOs) are being encouraged to monitor QWL, expanding existing occupational health surveillance capacities.

**Aim**
To investigate the understanding, collection, diffusion and use of QWL indicators in Canadian HCOs.

**Methods**
We obtained cooperation from six diverse public HCOs managing 41 sites. We reviewed documentation relevant to QWL and conducted 58 focus groups/team interviews with strategic, support and programme teams. Group interviews were taped, reviewed and analysed for themes using qualitative data techniques. Indicators were classified by purpose and HCO level.

**Results**
QWL indicators, as such, were relatively new to most HCOs yet the data managed by human resource and occupational health and safety support teams were highly relevant to monitoring of employee well-being (119 of 209 mentioned indicators), e.g. sickness absence. Monitoring of working conditions (62/209) was also important, e.g. indicators of employee workload. Uncommon were indicators of biomechanical and psychosocial hazards at work, despite their being important causes of morbidity among HCO employees. Although imprecision in the definition of QWL indicators, limited links with other HCO performance measures and inadequate HCO resources for implementation were common, most HCOs cited ways in which QWL indicators had influenced planning and evaluation of prevention efforts.

**Conclusions**
Increase in targeted HCO resources, inclusion of other QWL indicators and greater integration with HCO management systems could all improve HCO decision-makers' access to information relevant to employee health.

**Key words**
Health promotion; information systems; occupational health services; performance measurement; personnel management.

**Introduction**
The concept of quality-of-work-life (QWL) has been used in a variety of ways, encompassing an approach to industrial relations, a method of work re-design involving team decision-making and a movement to enhance organizational effectiveness [1]. Human resource (HR) management practices that promoted supportive working relationships and flexibility as ways to improve both job satisfaction and productivity have also been a traditional focus in management literature [2]. As part of the broader quality movement in health care, QWL concerns around staff development and well-being have been recognized as important facets of health care organization (HCO) performance [3]. HCOs are multidisciplinary and multi-site organizations bringing together a large array of healthcare services generally offered by hospitals, nursing homes and primary care facilities. Recruitment difficulties have stimulated the inclusion of concern for employees into the mission statements of many Canadian
HCOs [4]. The health of nurses has been a particular concern [5,6] reinforced by mounting evidence of links between nursing staff/patient ratios and patient mortality [7] and nurse burnout and patient satisfaction [8,9]. Nursing researchers have developed frameworks for QWL factors among professional nurses [10].

Monitoring the QWL in HCOs has included the use of ‘leading’ or upstream indicators of work environment relevant to QWL, usually obtained through workforce surveys [11], and ‘lagging’ or downstream indicators of health and organizational outcomes, such as injury or absence, as part of healthy workplace (HWP) measurement information systems [12]. Occupational health services have mounted tracking systems for employee exposure surveillance [13], employee attitudes or practices assessment [14] and health status surveillance [15,16]. Such tracking has been for both health protection [17] and health promotion [18] purposes. Monitoring occupational health and safety (OH&S) is part of broader quality systems such as ISO 9000 and a key component of OH&S management systems [19,20]; as well, implementation indicators have been developed for occupational health services [21].

In Canada, the national HCO accreditation organization, the Canadian Council on Health Service Accreditation (CCHSA), has developed QWL dimensions, descriptors and indicators as a part of the achieving improved measurement (AIM) programme [22–24]. Health management researchers have linked CCHSA initiatives to ongoing research on organizational performance in health care [25] and conceptual frameworks for analysis of HCO performance [26]. Building on earlier measurement of performance indicators at the clinical team level [27], this paper reports on the second phase of a two-phase study on multi-level performance indicators in Canadian HCOs. We asked:

1. How do personnel in Canadian HCOs understand QWL indicators?
2. What QWL indicators are collected at what organizational levels in HCOs?
3. What conditions affect HCO development and use of QWL indicators?

Methods

We conducted multiple case studies, using common data collection methods, and common descriptive analysis techniques.

Site selection

In an earlier phase of this study [27], we conducted a survey among all Canadian HCOs that were either preparing for accreditation or had been accredited in the past two years. We obtained a 52% response rate for the prospective group (33 out of 63 organizations) and 68% for the retrospective group (40 out of 59). Eight HCOs were selected from these 73 responding HCOs, aiming to maximize variation in geographic location, nature of HCO, size (represented by annual operating budget) and accreditation status (recently passed or preparing for). The phase 2 recruitment package (introductory letter, summary of findings from phase 1, agreement-to-participate form, and proposed teams/team members to be interviewed) was sent directly to a senior HCO executive. Two HCOs refused; one due to lack of time and the other because it was in the midst of restructuring. Nevertheless, the six participating HCOs varied considerably on key, relevant characteristics (Table 1, available as Supplementary data at Occupational Medicine Online), including three that had recently completed CCHSA accreditation and three teaching HCOs (indications absent from table to maintain confidentiality).

Focus group/interview recruitment

A designated HCO contact person approached participants, explained the purpose of the study, indicated the voluntary nature of participation and requested participation. We sought participants at three distinct levels: upper management providing strategic leadership (strategic); middle management engaged in support functions (support), particularly HR, risk management and OH&S teams; and teams providing direct service to clients/patients (clinical/programme). Recruited participants included a wide variety of teams/individuals spanning the three levels of HCOs (see Table 2 in the Supplementary data).

Data collection

Prior to and during each visit, we obtained relevant HCO documents on its mission statement, goals and strategic plan; quality objectives for the HCO and for each team being interviewed; and updated performance indicator information. We tailored our focus group/interview guides to each HCO, based upon phase 1 findings, relevant documents and performance indicator frameworks [26,27]. In each guide, probes covered development, collection, reporting and use of indicators, with greater emphasis on QWL for support team interviews and less emphasis for strategic and clinical teams. We pre-tested draft guides at a large rehabilitation HCO and made modifications for clarity. In each focus group/interview, the purpose and procedure was described and consent to audio tape the interview was obtained, in keeping with ethics approval by the Research Ethics Board of the University of Toronto.
Analysis

Documents for each HCO were reviewed by different research team members to understand the organizational context (including mission statement, external accountability and organizational structure) and to appraise the extent to which QWL indicators were present (including reports for accreditation).

For each focus group interview, the interviewer listened to the tapes, reviewed written notes and prepared a report including direct quotations of pertinent sections, i.e. partial transcription. Initial grouping and cross-referencing of data occurred as part of interviewer–researcher development of preliminary reports back to HCOs [28]. An initial set of themes and coding scheme was revised based upon an audit of our work by a qualitative researcher outside the research team. Coded data on all HCOs were entered into N-Vivo [29], a qualitative data management software tool, to generate reports of mentions relevant to the different themes (details available from authors).

We developed an EXCEL database of indicators that we deemed potentially relevant to QWL (209 mentions). We tried to determine whether the indicator was primarily intended for performance monitoring or for other measurement purposes (undetermined for 80) and whether it was specifically intended for QWL measurement (undetermined for 35). Potential QWL indicators were further categorized using AIM work-life dimensions [23] and the HWP scorecard framework [12]. The latter synthesizes OH&S health promotion, HR and organizational performance frameworks to assess a HWP. Consolidated HCO-specific reports were checked by a HCO contact person to permit corrections and clarification of uncertainties.

Classification potential QWL indicators

Of the 209 quantitative indicators that the research team judged to be potential QWL indicators, 120 were considered performance indicators by members of HCO teams. In terms of intended use of the indicators (rows in Table 3), 36 were clearly intended as QWL performance indicators, e.g. referrals to the Employee and Family Assistance Programme, while others focused more on HR performance, e.g. total outstanding grievances. Some indicators were used for both QWL and HR purposes, e.g. new employee health assessments participated in the AIM development process and explicitly cited survey data as a source for QWL performance indicators. Three other HCOs made mention of staff surveys, e.g. staff satisfaction survey, employee opinion survey and Health Canada’s Healthy Workplace survey, but they did not cite them as sources of QWL indicators. Despite this lack of understanding of the relationship between AIM and QWL, the research team felt that potential QWL indicators could be mapped to several AIM work-life dimensions, most notably ‘well-being’ (119/209) and ‘learning environment’ (31/209).

Clinical/programme teams suggested a variety of relevant QWL issues, e.g. an Emergency Services manager commented, ‘Here is a basic indicator, tears. I have nurses, managers, patients in tears. This is an indicator that stress is very high’.

Converting such issues to quantitative QWL indicators was perceived as a challenge:

I think it’s a neat idea to use teamwork (as a dimension of performance). Our challenge is to ensure that our indicators actually reflect teamwork. What is it and how do we measure it? Setting the goal is easier than developing the indicators.

Many teams saw HR as the lead support team in the organization for QWL indicator development, collection and feedback to clinical/programme teams (columns in Table 3 in the Supplementary data online). Participation in a National HR Benchmarking survey was associated with more frequent quantification, less frequent use of number or count indicators and greater use of rates, proportions and percentage indicators. Environment, OH&S and risk management teams more often played lead roles in response to legislative and regulatory requirements for healthy and safe workplaces.

Results

Understanding of QWL and indicators potentially related to QWL

A number of HCOs included concern for employees and their well-being as part of their mission statement yet QWL was a relatively new concept to most teams. HR and environment departments had a number of objectives relevant to QWL. Several participants drew links between QWL, HR and overall HCO performance:

To provide [the] best patient care, staff need to take into consideration what patient needs are. What does it take to do that? There has to be teamwork. There have to be integrated teams. There have to be staff who feel valued. It’s all centred around making life better for the patient. If you have a happier group of people, working in teams, you’ll have a better end product.

To provide [the] best patient care, staff need to take into consideration what patient needs are. What does it take to do that? There has to be teamwork. There have to be integrated teams. There have to be staff who feel valued. It’s all centred around making life better for the patient.
enablers’ (81/209), including continuing education/competency certification, employee/family assistance programme utilization, training in fire safety and hazardous materials information and immunization. HWP ‘working condition’ measures were next most frequent (62/209), including incident rates (violence, aggression, needlestick injuries), workload and overtime. Workload measures were common, although no HCO personnel regarded these as QWL indicators. The related indicator, overtime, was recognized by only one HCO although many traditional HR indicators have potential as ‘leading’ QWL indicators. As one HR representative noted for a department undergoing re-organization:

It [grievance rate indicator] tells you a lot about the mood and the stress levels…the number of grievances was high; [then] the number of grievances has steadily decreased, [until now] most are quite reasonable.

Among the ‘lagging’ indicators, ‘health outcomes’ (48/209) tended to focus on physical problems, e.g. workers’ compensation lost time injury rates for musculoskeletal conditions, with references to mental health outcome indicators less common. In the other lagging indicator group, ‘organizational outcomes’ (18/209), costs associated with short-term disability, workers’ compensation and legal disputes were common.

Facilitators and barriers to development and use of QWL indicators

External pressures, e.g. provincial Ministry of Health requirements, fostered QWL indicator development (Table 4 in the Supplementary data online). Perceived value of QWL indicator development was greater at the strategic and support levels, with clinical/programme teams fearing additional reporting burdens. Teams found definition of QWL indicators hard, did not understand their fit with other performance measures, and often lacked resources for implementation, particularly in smaller HCOs, e.g. six potential QWL indicators in the smallest HCO versus 64 in the largest HCO. Fragmentation in information systems was common, e.g. in one HCO, consolidation was taking place across 28 HR, finance and payroll systems into one regional integrated administrative system yet the manual OH&S system of data collection was left out. Limited integration occurred for reasons of confidentiality, e.g. employee health data; lack of confidence in the data, e.g. one OH&S department did not provide reports to the joint OH&S committee; or lack of resources, e.g. a HR information system could not provide information to clinical/programme managers on absenteeism [30]. Some HCOs did have integrated information systems, with HR providing absenteeism, sick time and injury data directly to clinical/programme managers, with comparisons to the corporation average.

Most HCOs cited ways in which QWL indicator use had influenced their operations: working groups formed to study QWL survey results and come up with recommendations; development of new programmes, for the entire HCO or a specific clinic/programme; and actual budget allocations to deal with problems identified or to take advantage of opportunities (Table 5 in the Supplementary data online). Some HCOs used QWL indicators as quality improvement tools, e.g. monitoring injury rates before and after implementation of back injury prevention programmes.

Discussion

We documented an impressive array of information that could function as QWL indicators and hence reflect on how ‘healthy’ HCOs are for their employees. Both traditional lagging indicators of sickness absenteeism, injury frequency and lost-time duration as well as leading indicators of preventive activities such as training and immunization rates were regarded as important by multiple levels of HCOs. In this sense, considerable support emerged for including occupational health-and-safety-related indicators as part of QWL monitoring.

Nevertheless, absent were direct hazard surveillance measures, e.g. biomechanical demands, or use of relevant HR indicators as QWL indicators, e.g. workload. Both are likely to contribute to musculoskeletal injuries, important among health care workers [6,5,31]. Also not explicit, though perhaps present in some staff surveys, were measures of job autonomy, respect, influence and social relations at work—all constructs relevant to diverse HCO employee health and organizational outcomes [5,32]. The added burden on staff required for indicator documentation and reporting may impede implementation in already downsized HCOs.

Perhaps the external/environmental pressures for QWL indicator development and use are not as strong as for other quality management indicators [33]. Although evidence from best practice organizations suggests that integration of information on employee health-related activities and other organizational activities should be a goal [34,35], few HCOs used sophisticated computerized information systems to provide both HR and OH&S information to clinical/programme managers. Innovative integrated risk management frameworks as part of quality processes advocated by Stower [36] or strategic information systems to facilitate use of performance indicators throughout HCOs [37] were rare.

Several reasons may account for such limited integration. HR executives may not prioritize OH&S
information, as evidenced by HR executives’ low ranking of safety and health on a list of topics considered for a university HR management curriculum [38]. Further, loose linkages often exist between operational and strategic levels in organizations, as Meyer and Gupta [39] have argued in the organizational performance literature. Despite professed interest in information, many organizations suffer from limited capacity to integrate, analyse and use information at multiple levels [40].

Our study experienced limitations in the time available during site visits to fully capture participants’ understanding of potential QWL indicator use in their HCO. More intensive work on QWL indicator development with leading HCOs [41] and increase in QWL-targeted HCO resources are required. Integration of more QWL indicators into HCO quality audits [3], management systems, and accountability structures should also improve HCO decision-makers’ access to information relevant to QWL. Together such work should assist occupational health practitioners in promoting high-quality healthcare workplaces [5,32].

Acknowledgements

The authors gratefully acknowledge the assistance provided by the staff of the participating HCOs to share information and insights about their organizations. Thanks also to Diana Craig for conducting interviews, Adele Iannantuono for data auditing and coding, Jane Hutchison and staff of CCHSA (Canadian Council of Health Service Accreditation) for ongoing discussions on QWL indicators, Jan Barnsley for insightful comments as a member of the Health Care Performance Research Team, and members of the Institute for Work & Health (IWH) Healthy Workplace research group for conceptual discussions. Financial support for this work was provided by HEALNet and, indirectly, by the Ontario Workplace Safety and Insurance Board to IWH.

References

20. International Labour Organization (ILO). Meeting of experts on ILO guidelines on occupational health
and safety management systems. MEOSH/2001/1. MEOSH-N-2001-05-0174-1-EN.Doc. Geneva: ILO Info-
cus Programme on Safety and Health at Work and the
Environment (SafeWork); 2001; 26 pp.
21. Poika A. Implementation of a quality system for the
examination of occupational diseases. Occup Med (Lond)
22. Canadian Council on Health Services Accreditation
(CCHSA). Le Projet MIRE (Mesures Implante"es pour le
Renouveau de l’Evaluation)/ The AIM (Achieving Improved
23. Canadian Council on Health Services Accreditation
24. Canadian Council on Health Services Accreditation
(CCHSA). Indicators and the AIM Accreditation Program.
Ottawa, ON: CCHSA, 2001; 69 pp.
27. Lemieux-Charles L, Gault N, Champagne F, et al. Use of mid-level indicators in determining organizational per-
formance. Hospital Q (Summer) 2000;48–52.
Publications and Qualitative Solutions & Research (QSR), 1999.
J, Cole D, Sicotte C. The use of multilevel performance
indicators in managing performance in health care organ-
31. Catalano JD, Dugan MK, Heyer N, Tucker N, Story-
Yenken M. Summary report on healthcare industry stakeholder meetings: A feasibility evaluation of tools and methods for surveillance of health and safety hazards in
hospitals. Report to Centers for Disease Control and
Prevention, National Institute for Occupational Safety
32. Lowe GS. High-quality healthcare workplaces: a vision and
action plan. Hospital Q (Summer) 2002;49–56.
33. Wagner C, Groenewegen PP, de Bakker DH, Van der Wal
G. Environmental and organizational determinants of
quality management. Qual Manag Health Care 2001;9:
63–76.
34. Bunn WB III, Pikelny DB, Slavin TH, Paralkar S. Health,
safety, and productivity in a manufacturing environment.
35. Goetzel RZ, Guindon AM, Turshen IJ, Ozminkowski RJ.
Health and productivity management: establishing key
36. Stower S. Measuring risk in a children’s unit: developing a
local strategy for health, safety and risk management at
Queen’s Medical Centre, Nottingham. Int J Health Care
Qual Assurance 2002;49–56.
37. Gordon D, Carter M, Kunov H, Dolan A, Chapman F. A
strategic information system to facilitate the use of
performance indicators in hospitals. Health Services
38. Van Eynde DF, Tucker SL. A quality human resource
 curriculum: recommendations from leading HR executives.
Hum Resour Manag 1997;36:397–408.
40. Davenport TH, Harris JG, de Long DW, Jacobson AL.
Data to knowledge to results: building an analytic
41. Robson L, Severin C, Cole D, Hepburn G. Collaborative
Development of a Healthy Workplace Balanced Scorecard—
Michael’s Hospital Priorities in Employee Health & Safety
and Potential indicators. Toronto: Institute for Work &