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Workplace-Based Return-to-Work Interventions: Optimizing the Role of Stakeholders in Implementation and Research

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Introduction: *The challenges of engaging and involving stakeholders in return-to-work (RTW) intervention and research have not been well documented.* Methods: *This article contrasts the diverse paradigms of workers, employers, insurers, labor representatives, and healthcare providers when implementing and studying workplace-based RTW interventions.* Results: *Analysis of RTW stakeholder interests suggests that friction is inevitable; however, it is possible to encourage stakeholders to tolerate paradigm dissonance while engaging in collaborative problem solving to meet common goals. We review how specific aspects of RTW interventions can be instrumental in resolving conflicts arising from differing paradigms: calibration of stakeholders' involvement, the role of supervisors and of insurance case managers, and procedural aspects of RTW interventions. The role of the researcher in engaging stakeholders, and ethical aspects associated with that process are discussed.* Conclusions: *Recommendations for future research include developing methods for engaging stakeholders, determining the optimal level and timing of stakeholder involvement, expanding RTW research to more diverse work settings, and developing RTW interventions reflecting all stakeholders' interests.*

KEY WORDS: return-to-work; disability management; organizational factors; stakeholder relationships.

INTRODUCTION

Work disability is now conceptualized as a function of organizational, jurisdictional and social influences, rather than as primarily medically determined (1). For many conditions, the absence of a direct relationship between diagnosis, clinical measures of injury

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or illness severity, function at home, and ability to work, has been recognized. This social change has led to a wider conceptualization of work disability as reflected in the International Classification of Functioning, Disability, and Health (2).

As the conceptualization of work disability expanded, so has the number of groups interested in work disability prevention. Return-to-work (RTW) interventions are no longer restricted to clinic-based medical interventions: insurers have become involved through case managers (3–5); employers have realized that organizational policies impact RTW outcomes (6); and providers have become interested in expanding their involvement to achieve better outcomes (7).

There is growing consensus that while attending to the physical/medical aspects of the work disabled employee is important, much of the variability in RTW outcomes is accounted for by what takes place at the workplace (8). There is increasing evidence of greater effectiveness of workplace-based interventions as opposed to interventions provided outside the workplace (8–10). Organizational factors are also known to have significant impact on work disability costs (11). To reduce insurance or disability costs and ensure compliance with a growing number of government regulations concerning workplace safety and disability, employers have been increasingly interested in improving their disability management practices (12).

Recent conceptual models (13–15) and reviews (16,17) suggest that optimal relationships among stakeholders are an important condition for RTW interventions to be most effective. Stakeholders may include workers and their families, labor representatives, supervisors and corporate managers, healthcare providers, and insurers. Though multipartite involvement can be associated with better outcomes, it also brings new questions: What conflicts arise from different stakeholder paradigms? What components of interventions have been instrumental in resolving these conflicts? What is the optimal level of stakeholder involvement? Researchers agree that optimizing involvement of stakeholders is one of the most challenging aspects of workplace-based RTW intervention research.

Given the important role of workplace factors in predicting RTW outcomes, as well as the apparent effectiveness of workplace-based interventions, we have restricted the focus of our discussion on workplace-based RTW intervention, and on stakeholder interactions necessary for their implementation and evaluation. The main focus of this paper is on musculoskeletal disorders as they are the most frequently studied conditions in work disability research. Low back pain and upper extremity disorders are the leading diagnoses among disabling work-related medical conditions (18,19).

The role of stakeholders will be discussed in the context of workplace-based RTW interventions with the following objectives:

- Define workplace-based RTW interventions and review organizational and environmental factors impacting their uptake and stakeholder involvement
- Review stakeholders' paradigms
- Review current knowledge regarding the nature, intensity, and timing of stakeholder involvement
- Identify components of interventions that optimize involvement from stakeholders
- Explore the mechanisms of engagement of stakeholders and the role of researchers
- Identify directions for future research

DEFINING WORKPLACE-BASED RTW INTERVENTIONS

RTW interventions were initially primarily clinic-based rehabilitation treatments (20). Interventions then expanded to include interventions involving multidisciplinary teams (for reviews see Guzman (21) and Karjalainen (22)) and those with a strong link to the workplace (23). The noticeable benefits of providing treatment while the worker is working in some capacity (10) led to an increased involvement of the workplace in interventions.

Numerous definitions of workplace-based intervention exist. We retain the definition provided by Anema (9): "Interventions directed to the workplace, work organization, conditions or work environment and/or occupational (case) management strategies with active stakeholder involvement of (at least) worker and employer." These interventions are delivered at the workplace, and to workplace parties with the goal of reducing work disability duration following workplace injuries.

Workplace-based RTW interventions most commonly include work accommodations, designated RTW coordinators, disability management strategies (e.g., early contact with the worker), ergonomic work site visits, and education/training provided to supervisors, workers, or case managers (16,24), as well as work practice modification (e.g., advice for posture/stretching, pacing) (25). Accommodations can be classified into two categories: work environment modification (e.g., changes in rotation and workstation reorganization), and graduated return to work (e.g., modified hours, duties, or both) (26).

THE CONTEXT OF STAKEHOLDER INTERACTION: ORGANIZATIONAL AND ENVIRONMENTAL DETERMINANTS OF WORKPLACE INTERVENTION IMPLEMENTATION

The explanatory model developed by Baril and Berthelette (27), a framework for implementation of early RTW programs (Fig. 1), illustrates the context of stakeholder interactions.[8] Here, the structure of RTW programs (human and financial resources) influences their processes (activities). Organizational factors modulate the relationship between program structure and process. Socio-environmental factors include regional context as well as external stakeholders, such as insurers and healthcare providers. The focus of the model is on the RTW intervention itself, and for that reason, arrows converge towards the interaction between structure and process. For simplicity, we have not included arrows which reflect other bidirectional relationships that occur.

In terms of organizational context, company size and sector exert an influence on resources allocated to RTW programs and the manner in which programs are implemented. RTW measures are more prevalent in large companies than in small ones (27,28); although one study reported no size effect (29). Furthermore, some economic sectors, such as transportation and warehousing, have encountered difficulties introducing RTW measures (27).

Work organization affects the degree of flexibility available in RTW programs in terms of job modification, reduction of working hours, and task restructuring. High task

[8]This model, inspired by Contandriopoulos *et al.*'s model (99), is based on analyses of quantitative data from 13,728 administrative files of injured workers and on qualitative data from 16 companies (27).

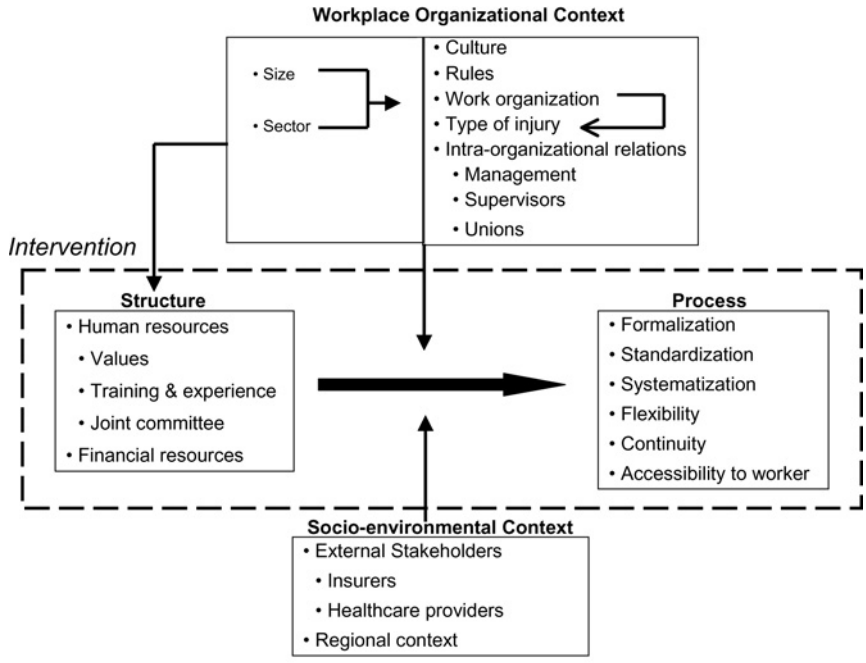

Fig. 1. Theoretical framework for the implementation of early return-to-work measures (27).

specialization, significant physical work requirements, recourse to sub-contracting, and precarious employment conditions reduce availability of modified work.

Organizational culture also affects relationships among intervention providers. People-oriented and safety-oriented organizational cultures are associated with improved RTW outcomes (30), while organizational bureaucracy is associated with resistance to the implementation of RTW measures (29). The health, safety, and organizational values of upper management influence the resources allocated to return to work, and ultimately, the ability of managers to implement improved RTW practices (31). Within a single company, variation in organizational culture at the level of departments and working groups may further affect the work climate and intra-organizational relations (6,27,29).

The socio-environmental context includes both interactions with and among stakeholders external to the workplace, as well as regional context. Regional characteristics impact on the social proximity of providers and are associated with certain economic characteristics (27). In this model, interactions with and between stakeholders, the primary focus of this paper, are conceptualized as part of the socio-environmental context in the case of stakeholders external to the workplace, and as part of the workplace organizational context in the case of stakeholders internal to the workplace.

THE PARADIGMS OF RTW STAKEHOLDERS

Identifying the primary RTW stakeholders is a critical step in designing and implementing interventions (13–15,17). Overall, there is consensus that stakeholders consist of workers and their families (32), labor representatives, employers, healthcare providers,

and the insurer, each operating within a set of economic, social, and/or legislative contexts. Stakeholders have different sets of assumptions or paradigms (33) that can result in different interpretations and actions in response to RTW issues.

Workplace

An employer's primary motivating factor is usually to keep their workplace economically viable, often through maintaining or increasing productivity. At the same time, employers may feel a social bond with their employees, which may involve a responsibility to "look out" for their employees' well-being (34). Although most employers have a genuine concern for worker welfare, decisions about adopting RTW initiatives are likely associated with either financial or regulatory interests. The primary motivators for employers to improve RTW outcomes are to reduce the insurance costs or direct costs of sick leave and to ensure compliance with government regulations concerning disability. These regulations and the financial workings of disability insurance systems tend to vary tremendously between jurisdictions; as a result, the interests of employers in RTW interventions can show similar variation.

Within this paradigm of productivity, employers have traditionally allocated limited resources to disability management. However, as a stronger business case supporting disability management and worker health has developed, we are seeing a shift in this paradigm to include disability management as a management objective. This shift may be influenced by both legislative changes as well as financial incentives for implementing proactive RTW programs (35). We have indeed seen a trend over the last decade for work accommodation offers from employers to increase (36,37).

The workplace comprises not only employers and managers, but also supervisors and co-workers, who have their own, possibly conflicting, motivations in relation to the return to work of injured workers (38,39). Supervisors may find themselves in conflict between their responsibility to assist injured workers in maintaining medically-prescribed work restrictions and their responsibility to improve production. Co-workers can experience conflict between feeling burdened and possibly resentful with extra work, and providing support to the injured worker (30). The social bond between employer and employees may be further diminished by the presence of contingent work, such as sub-contracting and telecommuting, that may negatively affect disability management and prevention efforts.

Given these motivating factors, employers will be most likely to respond positively to RTW programs where financial implications are favorable to productivity and profitability, and where roles of workplace staff are clear and not burdening. The financial costs and gains of providing work accommodation are of particular concern to employers given their immediate and important role in the planning of work accommodations. Employers are most likely to respond to RTW interventions that reduce sick leave or insurance costs, ensure compliance with local regulations, and reduce long-term financial risk without requiring any major organizational changes.

Labor Representatives

Labor representatives are part of the workplace, and their primary motivating factor is generally the protection of the rights of workers and of their quality of life. Some unions

have highlighted the positive effect of valued and productive modified work on recovery (27,38,40,41).

The rights of an injured worker to modified duty may conflict with the right of another worker to access the same position due to seniority (30). The existence of clauses tying job allocation to seniority, and the existence of poor relationships between employer and union representatives may hinder attempts to apply RTW measures. The presence of multiple union locals within the same company is also an obstacle to job re-allocation (27). Overall, presence of a union has been associated with more proactive RTW measures among employers; however, this relationship may be confounded by employer size (42).

Given these motivating factors, labor representatives are most likely to respond to RTW interventions that place responsibility on employers to provide better job accommodations and those that adequately address the concerns of affected co-workers or union members. If no union is present in a workplace, the researcher/intervention provider needs to ensure that there is worker representation in the planning of RTW interventions.

Healthcare Providers

The primary motivating factor of healthcare providers is protection of their patients' health. In addition, providers may have a significant financial and business interest in maintaining a certain level of patient follow-up and treatment utilization (43,44). Many still view disability as medically determined and thus focus on identifying and resolving disease through medical intervention. Return to work is thus viewed as primarily a function of successful medical or surgical treatment (45–47). In addition, healthcare providers play an important role in supporting pain management strategies in workers, and pain is an important determinant of RTW outcomes (48,49). The provider's role also includes recommending work accommodations and restrictions (50). Providers other than physicians (e.g., occupational therapists, occupational nurses, physical therapists) may be more fully integrated with the workplace than physicians (30).

Given these motivating factors, healthcare providers are most likely to respond to RTW interventions that improve patient well-being without reducing health care utilization and those that provide new opportunities for augmenting existing services.

Injured Workers

Injured workers' primary motivating factors are protection of financial security, physical integrity, and dignity, and preservation of valued workplace and career attachments.

The worker's paradigm centers on fear of job insecurity, assuring adequate healing, avoiding re-injury, and self-image (13,51). Perceived trusts, and legitimacy of their injuries as perceived by the workplace, insurer, and medical professionals, are salient issues for workers (38,52). Fear of re-injury due to a workplace perceived as unsafe (53) or to a perception that workers have not healed sufficiently (37) can be a strong negative factor in the RTW trajectory (54). Given these motivating factors, workers are most likely to respond to RTW interventions that alleviate pain and distress, encourage workplace support and accommodation, and ensure job safety and security.

Insurers

The insurer's primary motivating factor is the return to work of injured workers for the least cost. In addition, in many countries where insurance for work-related disability is separate from non work-related disability, the insurer is also invested in determining if the cause of the disability was work-related.

This paradigm of cost containment and of cause determination sets the stage for close interactions with healthcare providers. The insurer, guided by legislation (55) may take a medical perspective that requires the injured worker to be assessed by a physician with regards to cause of injury and capacity to work. Treatments deemed necessary to achieve return to work are approved for coverage. The insurer may be guided by published norms for disability duration according to injury type. This approach is based on the assumption that disability outcomes are predictable once the diagnosis is made and does not take into consideration co-morbidities or psychosocial context. When an injured worker does not proceed according to these norms, the insurer may activate additional resources, such as professional case managers, to attempt to clarify and resolve obstacles to return to work. Recently however, there has been a trend away from these "norms" to more risk-based allocation of resources.

Given these motivating factors, insurers are most likely to respond to RTW interventions that reduce disability costs without reducing the perceived need for insurance among employers.

MOVING BEYOND CONFLICT: INCREASING STAKEHOLDERS' TOLERANCE TO DISSONANT PARADIGMS

Given the diversity in stakeholders' paradigms, friction is inevitable. Employers may fear that taking too much responsibility for directing their employee's return to work could interfere with medical treatment, jeopardize their employee's health, or lead to legal problems. Healthcare providers may in turn feel that individualized RTW planning is beyond the scope of their services, is not adequately compensated, or damages patient rapport (56). Interestingly, workplace issues, rather than physical health, are perceived by physicians as the main barrier to successful return to work (50), while employers express dissatisfaction with the low level of physician input in RTW planning (30). Insurers may attract future business from employers, if their management is reflected in lower insurance premiums for employers, in part accomplished through an alliance with select healthcare providers. However, this cost containment strategy maybe at odds with the paradigms of other healthcare providers, workers, and union leaders.

It is unrealistic to expect to harmonize paradigms to the point that a common view is shared by all stakeholders. However, it seems reasonable to increase stakeholders' tolerance to the dissonance in paradigms, by: 1) Establishing clear parameters of optimal levels of involvement of stakeholders, 2) Increasing communication among stakeholders, 3) Decreasing sources of miscommunication and misinformation, and 4) Increasing stakeholders' awareness of other stakeholders' paradigms. We will explore how practical aspects of interventions can facilitate these processes.

It may also be reasonable to expect stakeholders to agree on a common goal – of returning workers to safe, sustainable, and meaningful work, without necessarily sharing

common interests. While stakeholders may hold dissonant views of RTW, they may still be able to engage in collaborative problem solving to identify shared goals of intervention, and engage in intervention design and research.

In order to engage stakeholders in RTW intervention implementation, researchers need to develop interventions which address the interests of all stakeholders. They need to highlight for each stakeholder how their interests are being served by working towards a common goal.

IS INVOLVEMENT FROM ALL STAKEHOLDERS NECESSARY?

It is important to challenge an assertion that involvement from all stakeholders is necessary for interventions to be effective (13,14,17). There are examples of varying levels of involvement of stakeholders and of situations where such optimal relationships are not present and where return to work still occurs.

The optimal level of healthcare involvement in RTW interventions appears to be highly dependent on the phase of the work disability.[9] In the acute phase, high-intensity clinical intervention has been shown to have detrimental iatrogenic effects (57). In contrast, low-intensity work-specific clinical intervention and clinical/occupational interventions offered at the worksite (26,58) have led to positive outcomes. In the sub-acute phase, recent evidence converges to demonstrate the effectiveness of workplace-linked interventions that include ergonomics and graduated activity upgrading, as compared to usual care and clinical intervention (9,10). Also, cognitive-behavioral interventions linked to the workplace are effective (23,59,60), while similar interventions offered in a clinical setting, in isolation from the workplace, may not be as effective (10), or even delay return to work (61). However, the presence/absence of workplace conflict and the degree of disability can influence these outcomes and the type of intervention that is needed (62,63). Regarding the chronic phase, two cohort studies of workers who were work disabled for 3 to 4 months at inception suggest that work accommodations are effective in reducing work disability duration in workers with chronic work disability (64,65). However, in the chronic phase, and particularly for those who no longer have a workplace to return to, more intensive clinical interventions are needed (62,63).

Overall, the evidence suggests that, particularly in the subacute phase, a "workplace effect" may be present, whereby an intervention integrated with and offered at the workplace is effective (8). This suggests that optimal involvement of the workplace should be high, with lower healthcare provider involvement.

Return to work can occur with minimal involvement of stakeholders. Many workers with workplace injuries do manage to return to work, despite lack of involvement from insurer or employer, even when their medical care is not optimal (53). These workers report that their RTW situation was very straightforward, or that the resources of strong work ethic, family, and co-worker support, were essential in overcoming obstacles that were at times generated by other stakeholders. Many small enterprises that employed these workers had no prior experience with a RTW issue, had little if any interaction with the insurer, and received no RTW communication from the physician. The limited resources available were

[9]Recent empirical studies distinguish three main disability phases defined by the number of days off work: Acute (up to 1 month), subacute (2–3 months), and chronic (more than 3 months) (14).

focused on facilitating the employer-worker interaction around modified work, which may be more critical than involving physician, union, and insurer (66).

In the *optimal* self-organized return to work, the worker is typically *asked* by the employer what s/he needs. Yet this optimal situation does not always occur, leading to potential problems. Workers may return to an environment which is poorly adapted to their injury and with limited awareness of the types of preventive measures they can take (pacing, reducing awkward postures etc.). This may lead to a higher rate of recurrences of work disability or new injuries. It is known that secondary and tertiary prevention interventions can have unintended positive impacts on primary prevention (58,67). The absence of formal stakeholder involvement may diminish such a positive impact on primary prevention as no systematic action is led by any system—insurer, healthcare, or employer. Finally, reducing involvement of healthcare providers can result in employers feeling reluctant to take on what is perceived as the role of the physician (34). While consideration for judicious use of resources is important, the impact of the "self-organized" return to work should be evaluated cautiously.

There appears to be a need to calibrate involvement of stakeholders in RTW interventions, where workplace and worker involvement should be high, and healthcare provider involvement more modest. Further calibration needs to occur as a function of size of the workplace. Clearer expectations regarding involvement of stakeholders have the potential to decrease conflict and optimize outcomes.

STRUCTURE AND PROCESSES OF INTERVENTIONS: OPTIMIZING INVOLVEMENT OF STAKEHOLDERS

Certain components of interventions can promote optimal involvement of stakeholders in the implementation of workplace-based interventions. First, in terms of structure and to provide examples, we will focus on the optimal involvement of supervisors and insurance case managers. Second, we will examine how characteristics of processes can facilitate stakeholder interactions. While we separate structure from process, we recognize that these two aspects can be intricately connected.

The Role of Supervisors

Supervisors are in a unique position to be the link between upper management and the worker him/herself, as well as the link between healthcare providers and the worker. Supervisors can provide modified work, interpret corporate policies, facilitate access to corporate and medical resources, monitor a worker's health and function, and communicate a positive message of concern and support (68). Although workers expect that supervisors will maintain communication and provide needed accommodations (69), some injured workers report indifference or hostility from supervisors after reporting work-related musculoskeletal pain (70). The process by which supervisors implement RTW interventions is now being considered as a determining factor of optimal RTW trajectories (68–70) and can be enhanced through management-supported training programs (54,71).

Engaging and empowering supervisors in disability prevention efforts requires a number of steps. First, supervisors must have a vested interest in improving RTW outcomes,

and this can be achieved by increasing departmental accountability for disability costs and including disability management practices in the performance evaluations of supervisors. Second, supervisors must be supported by senior management in their efforts to promote the well-being and safety of workers, even when this impacts production schedules. Third, supervisors must have the first aid skills necessary to judge the seriousness of workers' health complaints, and have the skills to make appropriate workplace accommodations based on ergonomic principles and recommendations of healthcare providers.

The Role of the RTW Coordinator: The Example of Insurance Case Managers

A designated RTW coordinator, regardless of disciplinary background or stakeholder group, can facilitate communication among stakeholders and ensure more regular application of RTW protocols, leading to decreased work disability duration and associated costs (58,72–74). We focus on RTW insurance case managers as coordinators, given the emerging research on this group. However, RTW coordinators can come from a variety of stakeholder groups.

Case managers can facilitate return to work by striking a balance between the employers' focus on work productivity and healthcare providers' focus on protecting their patients (3,72). Case managers have historically played an integral role in obtaining and monitoring medical benefits, however, case managers' involvement in RTW planning and implementation now varies by disability insurance systems, provider networks, and employers. Case managers may be able to improve communication between providers and employers and facilitate the work accommodation process. A case manager might also act as ombudsman for workers needing help dealing with supervisors, providers, or insurers (5). Recent research has focused on identifying specific methods for case management intervention, evaluating their effectiveness, and demonstrating feasibility within existing disability insurance systems (4).

Case managers may be employed by insurance companies, by medical clinics, or by employers, and this can lead to differences in the scope and objectives of case management services. Also, requirements for case manager background and training may vary considerably, from those having little or no medical training to those who are registered nurses or other allied health professionals.

Engaging and empowering case managers in disability prevention requires a number of steps. First, case managers must have sufficient authority to recommend work restrictions and accommodations in consultation with care providers. Second, case managers must have sufficient time and resources to view the physical work environment, engage the worker and supervisor in collaborative problem-solving, and facilitate individualized accommodations. Recent evidence suggests that expanding the training of case managers beyond tracking of medical utilization, to include training in problem-solving and work accommodation planning leads to improved satisfaction among workers and to an increase in number of work accommodations provided (3).

Processes of RTW Interventions: Facilitating Communication with Stakeholders

Standardization, systematization, and formalization of processes of RTW interventions can facilitate communication and decrease misinformation among stakeholder groups.

These procedural aspects of RTW interventions can be facilitated by specific tools and policies.

Workplace stakeholders have identified the need for tools for two purposes: 1) To improve communication among the workplace and treating physicians (31), and 2) To select modified work tasks that match the functional capacity of injured workers (31,75). The planning of modified work is frequently a source of tension between stakeholders due to role confusion, lack of knowledge, and to fear of doing harm due to lack of knowledge (30). Tools have been shown to facilitate implementation of modified work and improve communication. In one study, a guide for implementation of a RTW program, and workshops for workplaces, were used (41,76). In another study, a publication and checklist (77) were used for insurance case managers within a structured protocol (75).

Formal health and safety policies allow organizational policy to be formalized and the program process to be standardized (27). Several processes in RTW interventions may benefit from formalization: information campaigns about the program (27), evaluation of workers' functional capacities (78), regular contact with workers absent from work, worker-oriented follow-up (27,31) and program evaluation (12).

The main challenge in developing tools and formal policies is to blend simplicity with the right amount of detail to sufficiently address the complexities of work disability. Tools and policies must be simple if they are to be used on a regular basis, and training must be customized. Tools and policies can ensure equity in that the same processes are equally applied and accessible to all injured workers.

THE MECHANISMS OF STAKEHOLDER ENGAGEMENT

Applying Cross-Disciplinary Knowledge

Relatively little research in the area of RTW directly addresses the process by which stakeholders become engaged in the interests of, and dialogue with, other stakeholders. The concept of organizational change is relevant to understand the facilitation of stakeholder involvement in RTW programs. Organizational change theories generally converge on the three stages defined by Lewin (79): 1) *Readiness* to change, reflecting an orientation to change, 2) *Adoption* of change, reflecting a process, and 3) *Institutionalization* of change, reflecting the integration/formalization of the change.

Organizational readiness to change contributes significantly to speed, effectiveness, and worker participation of organizational change (80,81). A well-known and applicable definition of readiness is provided by Armenakis (82): "*Readiness is reflected in organizational members' beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization's capacity to successfully make those changes.*" This concept refers both to attitudes and capacity, which will be determined by, 1) Pressure and need for change, 2) Institutional resources, such as space and technology, 3) Staff attributes, such as efficacy and adaptability, and 4) Organizational climate, such as staff cohesiveness, openness to communication, stress level, and upper management support for change (81,83). The organizational readiness construct has informed recent organizational health intervention research in the areas of participatory ergonomics (84), organizational change in healthcare setting (80), and in preventive occupational health (85).

Research across several disciplines can be informative regarding how to facilitate movement from organizational readiness to adoption and institutionalization of change. In the area of participatory ergonomics (84,86), the focus has been on actively involving the workplace (including workers), in the design and uptake of ergonomic programs. Relevant work has been conducted in the area of implementation of evidence-based practice and guideline adoption among physicians and other healthcare providers (87). Often the process of improving readiness is not well described; where included, key elements are one-on-one dialogue with individual stakeholders, clear articulation of individual priorities, and subsequent facilitated interactions. Models of stakeholder involvement and of consultation are found in the business/management (88) and communication research disciplines (33).

Case studies provide a compelling format to convey information to stakeholders. Examples include case studies of implementation of integrated disability management in primary care (89) and of utilization management programs in workers' compensation systems (90). Provider readiness to engage with workplace stakeholders has been promoted through educational outreach, guided workplace visits, structured communication, and compensation for time spent interacting with workplaces (90). The level of workplace interest in engaging providers is generally high, as long as there are financial and regulatory motivations to improve disability management practices (91). Other case studies have been reviewed in the area of workplace-based stress prevention intervention and provide good examples of how to conduct economic analyses of the impact of interventions (92).

Finally, in the area of public health, research is emerging addressing how to involve and inform stakeholders in the process of diffusion of innovations (93). An excellent example is found in the Australian public health campaign project regarding management of back pain (94,95) (see Loisel *et al*., in this issue).

In many RTW interventions we find windows of opportunity to consolidate stakeholder involvement or enlist the involvement of previously disengaged stakeholders. Workplace-based ergonomic visits and RTW planning meetings offer such opportunities as they require the participation of various stakeholders (10,58,72,73). These meetings can increase awareness of other stakeholders' paradigms. Roundtables which bring together stakeholders to discuss RTW issues can also facilitate communication and offer an opportunity to understand the roots of differences in paradigms and increase tolerance to their dissonance.

The Role of the Researcher in Engaging Stakeholders

Current conceptual models (14,15) incorporate the role of researchers only to the extent that they are intervention providers. These models do not consider the impact of other researcher activities on stakeholder involvement. They do not address the role of the researcher in the various stages of a study: at project inception, when a research question is formulated, when interventions are developed and piloted, when data are analyzed and interpreted, and when results are disseminated. However, as is acutely felt by researchers, there is a pressing need to better understand our own role as researchers in relation to stakeholders, and to develop models, processes, and tools to improve our interactions with stakeholders.

Researchers can attempt to understand the nature of their own paradigm, which is motivated by a search for knowledge and evidence. The culture of evidence (96) of scientific

research encourages attention to detail, comprehensiveness, and caution against generalities. This can lead to a "product gap" between what employers and insurers are looking for, and what researchers are offering. Employers and insurers define RTW programs in practical terms of personnel, operating procedures, and tools. Researchers, on the other hand, conceptualize return to work as a complex problem-solving process, and avoid reducing this complexity to fixed procedures. Increasing researchers' awareness of their own paradigm and of its impact can decrease communication problems with stakeholders.

ETHICAL CONSIDERATIONS

Interventions and research at the workplace raise a number of ethical issues, which can influence the value of research findings and the success of interventions.

Researchers may hold multiple roles within one research project—as an intervention developer, provider, evaluator, or recipient of funding. Different roles can create conflicts of interests which need to be addressed. For instance, it is usually best to have separate research teams developing and evaluating an intervention.

Funding of RTW research may interject ethical dilemmas, as many studies are funded by workers' compensation boards, insurance companies, and governmental entities with financial and regulatory interests in RTW outcomes. The source of funding and the interests of the funder can influence the types of questions studied, the degree of cooperation obtained from stakeholders, how findings are reported, and even how the research is perceived by stakeholders. Scientific journals routinely require that authors acknowledge their source of funding and any possible conflicts of interest; clearly, researchers need to address these matters well before they reach the reporting stage.

In promoting improved communication between stakeholders, there is a risk that the worker's rights to privacy may be threatened. While obtaining comprehensive RTW outcome measures is of prime importance, what information can be shared raises ethical issues. Claims data banks and medical information are particularly sensitive material, and safeguards against misuse of such information need to be put in place.

CONCLUSION

Great disparity exists in RTW intervention stakeholders' paradigms. Friction is inevitable; however, it is possible to encourage stakeholders to tolerate paradigm dissonance while engaging in collaborative problem solving to meet common goals. We have reviewed how processes and structure of RTW interventions can be instrumental in promoting tolerance. In addition, we have challenged the assumption that involvement of all stakeholders is a necessary condition for optimal RTW outcomes. Instead, modulating the level of involvement of stakeholders may lead to a reduction in conflict and to improved RTW outcomes.

FUTURE DIRECTIONS FOR RESEARCH

Future direction for research can be summarized in the following areas:

- *Engaging stakeholders and increasing their tolerance of other paradigms*: Researchers in RTW need to examine the models and processes of stakeholder

engagement. There is relevant literature that speaks to the question of change of paradigms, and by the same token, to the process of increasing tolerance to other paradigms. Addressing the role of the researcher in relationship with stakeholders flows naturally from this research area. A better understanding of the researcher-stakeholder interaction could facilitate the research process, decrease frustrations of parties involved, increase the sustainability of relationships, and make positive consequences of research more lasting and wide-ranging.

- *Financial and legislative aspects of RTW programs*: In order to make the implementation of RTW programs more compelling for stakeholders, researchers need to study and convey the financial and legislative aspects of RTW programs as they relate to each individual stakeholder's interests. The costs and gains associated with work accommodation are of particular importance, as the employer plays a pivotal role in work accommodation planning.
- *The optimal involvement and timing of stakeholders*: Defining clear parameters of optimal intensity and timing of involvement will lead to improved RTW outcomes as well as decreased friction among stakeholders. This may be a function of factors such as size and sector of the workplace, nature of injury, and phase of work disability. Also, the process of self-organized RTW needs further research in terms of understanding its impact on prevention, recurrences, and workers' quality of life.
- *Processes and structure of interventions*: Although we now appreciate the importance of a work accommodation offer in the RTW trajectory, very little is known about the impact of the specific ergonomic, work organization, and schedule components on outcomes. Research in the area of modified work has led to identify the need for tools that: 1) Provide a link between measures of physical function and specific work tasks, 2) Improve concordance between ergonomic exposure categories and usual methods of accommodation, and 3) Provide a structured process for including employee and employer preferences (5). Facilitating the planning of work accommodations will decrease tensions around this process. Assessing the financial costs and gains of work accommodation will also be useful in promoting its implementation.

  Furthermore, research in supervisor/case manager training for disability management is a fruitful avenue to optimize the involvement of the workplace, which may address the problems of sustainability of RTW programs: "Train-the trainer" programs may build the capacity to sustain an intervention internally more efficiently than when an intervention is delivered by external providers.
- *Increase generalizability of studies*: Small workplaces are seldom studied. This has led to a bias wherein RTW strategies that have been successful in large companies have not been applied to all other enterprises. This is particularly true for quantitative research where it is necessary to obtain large numbers of participants in order to achieve sufficient statistical power, hence the pull towards larger organizations. Qualitative research more often involves the inclusion of small enterprises in their sample (27,34). The paucity of inter-sectoral comparative studies, of studies of sector-specific interventions, and of studies of conditions other than musculoskeletal disorders also limits generalizability.
- *Outcomes of RTW research*: Outcomes should reflect all stakeholders' perspectives, including the workers' perspectives. Reported outcomes of RTW interventions are primarily from the perspective of the employer or insurer, as they most often include

work disability duration and associated costs (16). Measures of re-injury, recurrence, quality of life and work life, and work limitations can provide insight into the sustainability of return to work from the employee perspective, but are not often reported (16,97).

The need to develop a comprehensive model of the work disability process that not only includes the role of stakeholders, but also addresses the quality and sustainability of interactions between stakeholders, permeates the above research questions. One of the most daunting aspects of conducting research in this area remains managing interactions with and among stakeholders. In the years to come, it will be essential to disseminate the knowledge and lessons learned regarding the multipartite nature of work disability to young researchers and to equip them with the skills to engage effectively with multiple stakeholders (98).

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