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Injured Workers' Assessment of Vocational Rehabilitation Services Before and After Retraining

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Abstract *Purpose* Workers' compensation-based vocational rehabilitation (VR) programs are costly and challenging to operate effectively. This study aimed to: (1) describe injured workers' assessment of Washington State's VR system before and after vocational retraining, (2) describe the factors affecting injured worker satisfaction with VR services, and (3) gather suggestions for program improvement from injured workers. *Methods* Telephone surveys were conducted in two distinct samples: (1) 361 workers were interviewed after determination of retraining eligibility but before retraining plan development, and (2) 360 workers were interviewed after cessation of vocational services and claim closure. *Results* Injured workers interviewed before retraining were more often satisfied with the VR system (69 %) than were those interviewed after VR services ended (46 %). Although 55 % were initially somewhat/very certain they would return to work (RTW) after retraining, only 21 % had RTW 3–6 months after claim closure. Poor health, poor functional ability, and multiple retraining attempts were significantly associated with dissatisfaction. Suggestions for program improvement fell most frequently into the following areas: (1) more training choices, more worker input into the retraining goal, and/or a better fit of the retraining goal with the workers' experience and abilities (25 %); (2) listen to, respect, and/or understand the worker with regard to their interests, goals, and limitations (17 %); and (3) more support with job placement, work re-entry skills, and RTW in general (9 %). *Conclusions* There is substantial room for improvement in worker satisfaction with VR. Injured workers' feedback may facilitate identification of opportunities to improve the VR process and RTW outcomes.

Keywords Vocational rehabilitation · Workers' compensation · Consumer satisfaction · Quality improvement · Return to work

Background

While the substantial majority of injured workers return to work (RTW) fairly soon after injury, some workers face a more challenging RTW trajectory and may receive workers' compensation (WC) for extended periods [1, 2]. The purpose of WC-based vocational rehabilitation (VR) programs is to facilitate RTW for workers who have been unable to return to their previous job after an occupational injury. These programs support activities aimed at determining the worker's ability to RTW, developing a plan for retraining the worker if needed, and supporting the training effort once initiated [3].

VR programs implemented within WC settings are costly, and substantial service delivery problems have been identified [1, 4–9]. Like many WC-based VR programs, the VR program managed by the Washington State Department of Labor and Industries (L&I) has faced a number of challenges and has evolved over time. L&I has a history of

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collaborative efforts with stakeholders to improve the performance of the VR program [4, 7]. Despite the importance of VR programs and the costs involved (for example, nearly $50 million in Washington State in 2006 [4]), there has been little WC-specific research regarding the effectiveness of VR in returning injured workers to work. However, just as quality improvement efforts in the field of health care delivery have long recognized patient satisfaction as an indicator of service quality, injured workers' experiences and satisfaction with service delivery have the potential to inform efforts to improve VR systems [10, 11].

Although there have been several surveys of injured worker satisfaction with WC-related health care [11, 12], there has been little research specific to injured workers' satisfaction with VR services. Notable exceptions include a set of qualitative studies conducted in Ontario [1, 5, 6] and an evaluation of New Zealand's VR system (which covers both occupational and non-occupational injuries) [9] that together offer an unusual in-depth window into workers' experiences and assessment of the VR process. These studies elucidate numerous challenges and barriers to meeting injured workers' needs and goals within VR systems, such as time constraints, conflicting values and priorities, power imbalances, restrictive rules and system-driven expectations, the lack of outcome-based evidence regarding particular interventions, and barriers to meaningful and effective claimant involvement in goal-setting and decision-making. These studies suggest that despite jurisdictionally widespread quality improvement efforts, there remains a great deal of room for VR system improvement internationally. Further research into injured workers' experiences, opinions, and suggestions for operational changes has the potential to provide important information about opportunities for VR system improvement [10].

Information about the needs and preferences of injured workers and their experiences with VR is sorely lacking. The present study builds on the sparse existing literature by using quantitative population-based methodologies to describe injured workers' opinions regarding the Washington State WC-based VR system at two distinct points in the vocational process: (1) subsequent to determination of retraining eligibility but prior to vocational plan development, and (2) after the cessation of vocational services and claim closure. Washington State is almost unique among states in having a single-payer WC system, and provides a model setting for generalizable population-based work disability research [13, 14].

The primary objectives of this study were to: (1) describe injured workers' assessment of the VR system before and after vocational retraining, (2) describe the factors affecting injured worker satisfaction with VR services, and (3) gather suggestions from injured workers for potential program improvements.

Methods

Study Population and Vocational Rehabilitation Services

Washington State has a single payer WC system (the State Fund) that covers approximately 70 % of workers specified by the Industrial Insurance Act [15]. L&I performs the functions of an insurer for State Fund claims and administers the state WC system for both State Fund and self-insured employers (who account for the remaining 30 % of workers).

The goals of the VR program managed by L&I are to determine the worker's ability to RTW, develop a plan for retraining the worker if needed, and support the training effort once initiated [3]. To accomplish these goals, L&I makes several types of referrals to private-sector VR counselors. Early intervention referrals, the most frequent type, are intended to assist an injured worker to RTW for the employer of injury or current employer. Early intervention referrals include services such as discussing early RTW options with the employer, worker, and health care provider, identifying potential barriers to RTW, performing job analysis, and facilitating job modifications or accommodations if needed. Ability-to-work assessment referrals provide L&I with information regarding a worker's employability or eligibility for further VR services, including vocational retraining. A worker may be eligible for retraining if found: (1) not employable due to the effects of the industrial injury or occupational disease, (2) physically able to participate in training, and (3) in need of training to become employable. About 2 % of all injured workers or 6 % of those entitled to time-loss compensation are found eligible for vocational retraining annually [16]. L&I makes plan development referrals for workers found eligible for retraining, bringing the VR counselor and the worker together to develop a retraining plan that is submitted to L&I for approval. The plan must address the worker's medical conditions and restrictions and other barriers to RTW, such as lack of education and experience, lack of skills, language difficulties, and availability of employment in the worker's labor market. After a retraining plan has been approved by L&I, a plan implementation referral is made to initiate retraining activities. In 2005, the median duration from injury to plan development referral was 751 days [unpublished data, L&I], and workers may have had multiple vocational service referrals before being found eligible for retraining (early intervention referrals and/or ability-to-work assessments, as well as previous retraining attempts in some cases).

Data Sources

State Fund and self-insured WC claims and VR data were obtained from L&I for all eligible injured workers. A complete description of the administrative data and data definitions used in this study are available online [7]. The Washington State IRB approved this study.

Two distinct surveys of eligible injured workers were conducted. Figure 1 depicts the timing of the two surveys with respect to the VR process. Survey A collected baseline data from workers shortly after they were determined eligible for a retraining plan and referred for plan development (but prior to initiation of retraining). Survey B was conducted 3–6 months after claim closure in order to collect follow-up information about use of acquired skills, employment outcomes, and satisfaction with various aspects of the WC and VR systems from workers who had a retraining plan approved on or after January 1, 2008.

Survey Development, Sampling, and Administration

Surveys A and B were developed in collaboration with L&I's vocational experts and stakeholders, and with assistance from Gilmore Research Group, an independent survey research firm. Questions were drawn from previously conducted surveys where possible, but many questions were adapted or newly developed to meet the particular needs of this study. All interview questions and the sources used in survey development are available online [7].

The initial target of 360 workers for each survey was based on balancing power analysis with available resources, and on projections of the numbers of workers with various characteristics and VR exposures that would be available for interviews within the available timeframes. Workers in the following categories were excluded from the surveys: (1) under age 18, (2) residence outside Washington State, (3) L&I employees, (4) employed through a prison program, and (5) unable to complete telephone interview in English or Spanish.

Workers became eligible for Survey A when they were determined eligible for development of a vocational retraining plan. Using a consecutive sampling approach, we attempted to interview all workers as soon as feasible after they became eligible (mean = 34 days, range = 18–61 days). Survey A interviews took place between August 27, 2009 and December 31, 2009.

Workers who had a retraining plan approved after January 1, 2008 became eligible for Survey B when their claim closed. Interviews were conducted 3–6 months after claim closure, from August 11, 2009 through August 17, 2011. Due to the extended and unpredictable length of time required for WC claims involving VR to mature, it was not feasible to identify a random sampling frame of claimants prior to claim closure. It was unlikely that sufficient pre-enumerated claims would have closed in time to enable interviewing for this study. Instead we used a combination of consecutive and quota sampling to ensure at least minimal representation in several important categories and to enable us to describe the responses of workers having a variety of experiences. We pre-designated quotas for 18 cells, defined by all possible combinations of 4 descriptors of particular interest: (1) State Fund versus self-insured, (2) department-approved versus worker-directed retraining, (3) approved plan length in months (4 categories: 0–6, 6–12, 12–18, 18–24), and (4) the vocational retraining plan was completed versus incomplete. The preset cell quotas were adjusted as we learned more about opt-out rates, non-response rates, and changing percentages of each type of claim in the underlying population.

Labor and Industries notified potential survey participants and their legal representatives by mail of their intent to release contact information to University of Washington (UW) researchers, and provided an opt-out mechanism (in English and Spanish). After notification and a 10-day waiting period, L&I released survey samples on a weekly basis for Survey A and monthly for Survey B.

Computer Assisted Telephone Interviews (CATI), approximately 9–10 min long for Survey A and 14–20 min for Survey B, were conducted by Gilmore Research Group.

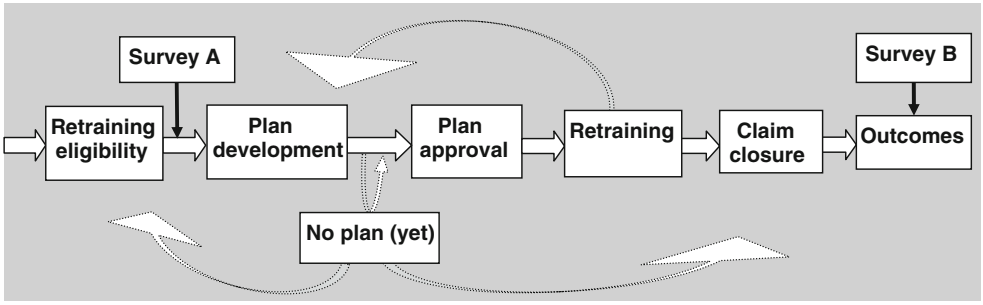

Fig. 1 Timing of surveys with respect to the vocational rehabilitation process

Workers and their legal representatives were mailed an advance letter that offered a $15 gift card and the ability to schedule the phone interview at a convenient time. Ten attempts to call each worker were made, spread out over a number of weeks, with reminder letters mailed as needed.

There were a total of 361 interviews rather than the planned 360 for Survey A, due to the last two interviews being conducted simultaneously. Survey B was terminated when the quota for each cell and the target number of interviews were reached (N = 360).

Response Rates and Post-stratification

The response and refusal rates presented in Table 1 were calculated following recommendations published by the American Association for Public Opinion Research (AAPOR) [17]. Figure 2 shows response and non-response categories for both surveys. About 4 % of interviews for both surveys were conducted in Spanish.

Labor and Industries identified 772 workers eligible for Survey A (including those who opted out of sharing their contact information with us), and 361 interviews were completed. The overall adjusted response rate was 61.6 %. There were few large or statistically significant differences between the respondents and the overall sample. Respondents were somewhat more likely to have State Fund (vs. self-insured) claims than was the case for the overall sample (89 %, compared with 85 % for the overall sample, $p = 0.03$). Respondents were less likely to have been determined eligible for plan development more than once (20 %, compared with 25 % for the overall sample, $p = 0.04$). These two factors were associated with at least some survey responses (for example, satisfaction and optimism about the impending plan's effectiveness). To improve generalizability and reduce non-response bias, post-stratification weights were calculated based on the distribution of these two factors in the full available sample.

Labor and Industries identified 1,956 workers eligible for Survey B (including those who opted out of sharing their contact information with us), and 360 interviews were completed. The overall adjusted response rate was 52.6 %. There were few large or statistically significant differences between the respondents and the overall sample.

Table 1 Response and refusal rates for Survey A and Survey B

Rate	Survey A (%)	Survey B (%)
Response rate	61.6	52.6
Cooperation rate	78.5	62.9
Refusal rate	16.9	31.0
Contact rate	78.4	83.6

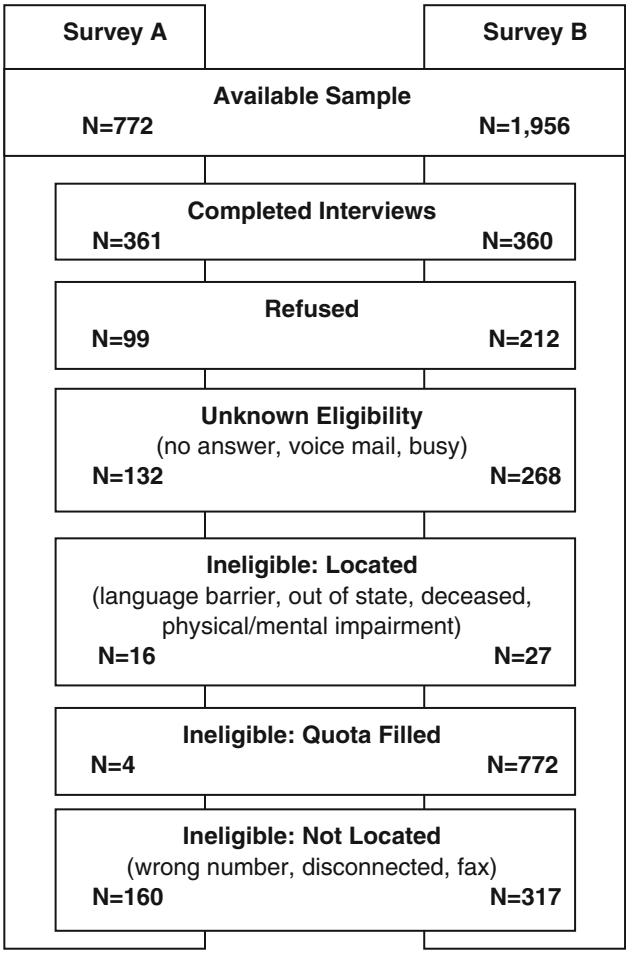

Fig. 2 Survey response diagram

Respondents were more likely to have State Fund (vs. self-insured) claims than was the case for the overall sample (89 %, compared with 83 % for the overall sample, $p = 0.0001$); this was accounted for by post-stratification weight adjustments. Respondents were also somewhat older at claim closure than those in the overall sample (50 years old, compared with 47 years old for the overall sample, $p < 0.00001$). Post-stratification weights were used to reweight the distribution of the cell quota descriptors defined above to match the distribution in the entire population of otherwise eligible workers who had a retraining plan approved in 2008.

Data Analysis

Post-stratification weighting was used for survey analyses as described above. Except when otherwise stated, all results incorporate these weights. Binary satisfaction measures excluded those who responded "Don't know." All statistical tests were two-tailed, with statistical significance defined as $p \leq 0.05$. All analyses were conducted

using Stata/SE 11.2 for Windows (StataCorp LP, College Station, TX, USA).

Results

Characteristics of Survey Respondents

Injured workers were interviewed for Survey A just after they were found eligible for retraining plan development (N = 361). According to Survey A, most respondents worked full time (89.6 %) and were satisfied with their job (87.9 %) before they were injured. At the time of Survey A, respondents were not working, were receiving time loss compensation, and reported a high degree of economic stress. More than two-thirds (69.8 %) were worried almost all the time about their ability to cover expenses or pay bills, 40.7 % reported recent contact from a credit agency, and 20.7 % reported that their housing was recently at risk due to unpaid bills.

Survey B was conducted 3–6 months after claim closure. Injured workers were interviewed if they had been found eligible for retraining and later had their claim closed, regardless of the outcome of that training (N = 360). In this sample, 175 had completed their retraining plan, 70 had incomplete retraining plans, and 115 had declined the department-approved retraining plan (unweighted numbers). Thirteen workers participated in both Survey A and Survey B.

Table 2 presents additional descriptive characteristics of injured workers responding to each survey. On average, workers in Survey A had been injured over 3 years prior to the survey, and workers in Survey B over 5 years prior. Many respondents had undergone previous retraining plan development referrals (24.9 % in Survey A and 29.3 % in

Table 2 Respondent characteristics

Characteristic	Data source	Survey A (N = 361)	Survey B (N = 360)
Years from injury to survey (mean years)	Admin	3.2	5.2
Age at survey (mean years)	Survey	46.9	49.7
Female	Admin	25.1 %	27.9 %
Married	Admin	54.3 %	55.4 %
One or more dependents	Admin	32.9 %	26.9 %
Education	Survey		
Grade 0–11		21.2 %	20.2 %
High school graduate		41.7 %	37.2 %
Any post-secondary education		37.1 %	42.6 %
Self-rated health status	Survey		
Excellent		1.1 %	5.6 %
Very good		5.8 %	10.3 %
Good		22.0 %	26.4 %
Fair		42.4 %	30.9 %
Poor		28.7 %	26.8 %
Self-rated ability to function outside work	Survey		
Excellent		0.5 %	2.4 %
Very good		5.5 %	7.2 %
Good		17.5 %	26.1 %
Fair		43.4 %	35.1 %
Poor		33.1 %	29.2 %
Rural residence county	Admin	36.4 %	36.9 %
Distressed residence county	Admin	18.4 %	14.4 %
Adjusted monthly pre-injury wage ($)	Admin	3,486	3,224
Formal apprenticeship before injury	Survey	28.8 %	27.5 %
Union member when injured	Survey	27.2 %	26.2 %
Large employer where injured (≥50 workers)	Admin	43.4 %	53.6 %
Somewhat/very satisfied with job where injured	Survey	87.9 %	84.2 %
State Fund claim (vs. self-insured employer)	Admin	84.7 %	89.5 %
Determined eligible for plan development more than once	Admin	24.9 %	29.3 %

Survey B). Respondents' self-reported health status and functional ability were quite low in both surveys.

Worker Expectations and Satisfaction Before and After Retraining

Table 3 presents survey responses regarding expectations and satisfaction with various aspects of the VR system at two distinct points in the process. In general, workers going into retraining plan development were significantly more often satisfied with their overall experience with the VR system up until that point (68.6 % in Survey A), compared with those interviewed after retraining activities had ended (46.2 % in Survey B). More than two-thirds of injured workers responding to Survey A rated the overall WC system as effective, were satisfied with the VR system, and expressed confidence that vocational retraining would help them RTW (Table 3). However the picture was quite different for the sample of workers interviewed after the cessation of VR services and claim closure (Survey B). After claim closure, less than half of injured workers were satisfied with the VR system or thought that vocational retraining had a positive effect on their ability to RTW.

Table 3 Worker expectations, opinions, and satisfaction ratings

Worker opinions	Percent	95 % CI
Survey A: prior to retraining plan development (N = 361)		
Somewhat/very certain of RTW within 6 months after completing own vocational plan	54.9	49.4–60.3
Retraining plan will have somewhat/very positive effect on own ability to RTW	75.5	70.4–80.0
Somewhat/very satisfied with overall experience with VR system so far	68.6	63.4–73.4
Washington State WC system is somewhat/very effective in meeting the needs of injured workers	69.0	63.8–73.7
Survey B: 3–6 months after claim closure (N = 360)		
Somewhat/very satisfied with current employment status	21.2	16.8–26.3
Retraining plan had somewhat/very positive effect on RTW	43.4	37.9–49.0
Somewhat/very satisfied with overall experience with VR system	46.2	40.5–52.1
Somewhat/very satisfied with claim manager	56.7	50.5–62.7
Claim manager had somewhat/very positive effect on RTW	38.1	32.3–44.3
Somewhat/very satisfied with VR counselor	65.8	60.0–71.1
VR counselor had somewhat/very positive effect on RTW	48.4	42.8–54.0
Overall, voc services received were appropriate	61.4	55.4–67.1

WC workers' compensation, *VR* vocational rehabilitation, *RTW* return to work

About 1 out of 5 were somewhat or very satisfied with their employment status, while more than 57 % were very dissatisfied with their employment status. Of the 13 workers interviewed in both surveys, 8 were less satisfied with the VR system after claim closure, 4 felt the same, and 1 was more satisfied (that particular individual had RTW prior to Survey B).

Although more than half of workers going into plan development (Survey A) were somewhat or very certain they would RTW within 6 months after completion of retraining, only 21.2 % of workers interviewed after claim closure (Survey B) had actually RTW at all, even part-time or temporarily (95 % CI 17.0, 26.3 %). Of the 80 workers reporting any RTW in Survey B, 40 had been working full-time for the past 4 weeks, while 15 had RTW temporarily but had not worked at all in the past 4 weeks. About half (50.8 %) of the 65 workers who had worked within 4 weeks of the interview reported that their current wages were "a lot less" than before the injury.

Dissatisfaction with the VR System

Given the significant percentages of workers who reported being dissatisfied with the VR system, 21.9 % in Survey A (95 % CI 17.8, 26.7) and 39.1 % in Survey B (95 % CI 33.6, 45.0), we investigated the factors distinguishing dissatisfied workers from those who were neutral or satisfied. As shown in Table 4, there were a number of striking differences between workers who were somewhat or very dissatisfied with the VR system and those who were neutral or satisfied. In particular, self-reported poor health and poor ability to function outside of work, as well as having been determined eligible for plan development more than once, were significantly associated with dissatisfaction in both surveys (and the observed differences were quite large).

The following characteristics had no significant association with dissatisfaction in either survey and were excluded from Table 4: gender, marital status, dependents, educational level, rural or distressed residence county, pre-injury wages, union member at time of injury, large employer where injured, satisfaction with job where injured, or State Fund versus self-insured claim. Economic stress (measured only in Survey A) was also not significantly associated with dissatisfaction.

Return to work expectations and outcomes were highly associated with satisfaction ratings. At the time of retraining plan referral (Survey A), 10.5 % of workers who felt somewhat or very certain that they would RTW within 6 months after retraining were dissatisfied with the VR system, compared with 36.5 % of those who were neutral or uncertain about their employment prospects ($p < 0.00001$). In the sample interviewed after claim closure (Survey B),

Table 4 Associations between worker characteristics and dissatisfaction with the vocational rehabilitation system (Survey A and Survey B)

Characteristic	Data source	Dissatisfied with VR system (%)			
		Survey A		Survey B	
		Mean	*p* Value	Mean	*p* Value
Years from injury to survey	Admin		.0005		NS
Dissatisfied		4.0		5.4	
Neutral or satisfied		3.0		5.1	
Age at survey	Survey		.02		NS
Dissatisfied		49.8		50.1	
Neutral or satisfied		46.3		49.4	
		Percent	*p* Value	Percent	*p* Value
Interview language	Survey		.05		NS
English		22.8		39.3	
Spanish		0.0		34.0	
Self-rated health	Survey		.001		.02
Poor		34.8		52.0	
Fair or better		17.1		35.9	
Self-rated non-work functioning	Survey		.0005		.003
Poor		33.8		53.6	
Fair or better		16.0		33.5	
Apprenticeship before injury	Survey		NS		.05
Yes		27.7		48.5	
No		19.4		35.6	
Determined eligible for plan development more than once	Admin		<.00001		.01
Yes		40.0		50.6	
No		15.9		34.3	

Other characteristics from Table 2 were tested but excluded from this table if there was no significant association in either survey

VR vocational rehabilitation, *Admin* administrative claims data

45.3 % of workers who were dissatisfied with their employment status were also dissatisfied with the VR system, compared with 26.9 % of workers who were neutral or satisfied with their employment status ($p = 0.005$).

Because RTW status was highly associated with satisfaction, we broke out Survey B responses by whether the worker had RTW at all prior to the survey. Figure 3 presents a summary of workers' satisfaction ratings and opinions about various aspects of the VR process, as reported 3–6 months after claim closure. Workers who had RTW consistently gave more positive ratings than workers who had not RTW, though the difference was not always significant. However, even among the 80 workers who had RTW at all prior to the survey, less than 60 % were satisfied with their current employment status.

Usefulness of Retraining

Workers were asked about the usefulness of the skills or knowledge acquired during their vocational retraining. Of those workers who had completed their retraining plan, 85.5 % stated that the training was useful to them in some way, even if they had not yet RTW. Of those who had completed their retraining plan and RTW after claim closure, 71.3 % reported using the skills acquired during retraining in their RTW job. Of the remaining 28.7 % (those who reported *not* using skills acquired during their vocational training), 51.0 % stated that there were no jobs available for the retraining plan's goal occupation, while 18.0 % said the training was inadequate.

Workers' Suggestions and Potential Areas for Improvement

The final question of Survey B asked workers: "Based on your experience with the VR system, if you could make one improvement, what would it be?" Of those surveyed, 63.2 % made a specific suggestion, 16.5 % responded that no improvement was needed, 9.8 % responded that the whole system or multiple aspects of the system required improvement, and 10.5 % did not offer a response.

Workers' suggestions were grouped into non-exclusive themes. Suggestions for improvement fell most frequently into the following areas: (1) there should be more training choices, more worker input into the retraining goal, and/or a better fit of the retraining goal with the workers' experience

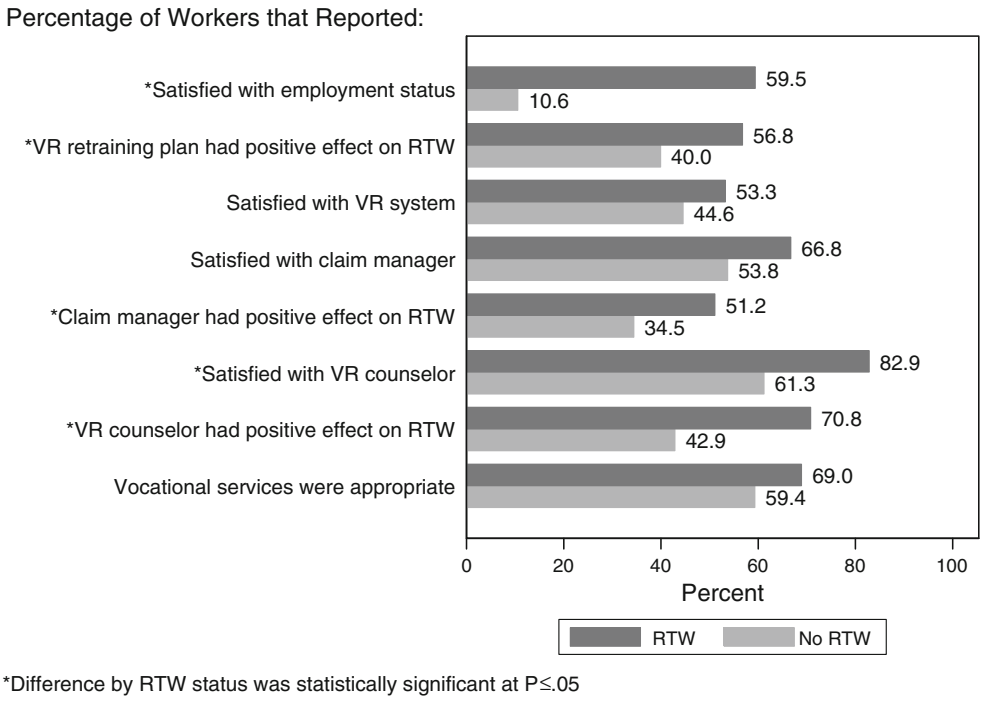

Fig. 3 Worker satisfaction with various aspects of the vocational rehabilitation system by RTW status (Survey B). *VR* vocational rehabilitation, *RTW* return to work

and abilities (cited by 25 % of those offering any suggestion); (2) various players should listen to, respect, and/or understand the worker with regard to their interests, goals, and limitations (cited by 17 %); and (3) L&I should provide more support with job placement, work re-entry skills, and RTW in general (cited by 9 %). In addition, there were many suggestions aimed at improving system issues, such as providing more money or time for training, allowing more flexibility for special needs or circumstances (e.g., older workers, physical impairments, pregnancy, lack of academic experience), reducing delays and improving efficiency in the VR system, and providing clearer information about the process. There were also a number of suggestions specific to improving the quantity and/or quality of services provided by claim managers and/or VR counselors, such as reducing staff transitions or otherwise providing more continuity, increasing support for decision-making, and increasing the amount of interaction in general. Some workers commented on the quality of the training/education, suggesting that training quality should be monitored and that training should be more realistic, use more current tools or software, and include internships. A complete table of workers' suggestions is available online [7].

Discussion

This study provides important new information about injured workers' assessments of the VR system before and after vocational retraining. The difference in satisfaction levels expressed by the two different samples of workers interviewed at different points in the process was striking. In general, workers interviewed as they were beginning retraining plan development were significantly more often satisfied with the VR system than workers interviewed after VR services had ended. More than two-thirds of injured workers responding to Survey A rated the overall WC system as effective, were satisfied with the VR system more specifically, and expressed confidence that vocational retraining would help them RTW (Table 3). These initial satisfaction levels were strikingly similar to results of previous surveys of workers in Washington State's WC system (not limited to workers receiving VR services). For example, in a statewide injured worker satisfaction survey conducted in 2000, 69 % of respondents interviewed about 5 months after their State Fund or self-insured claim was filed were at least somewhat satisfied with the way their WC claim was handled [18]. In a survey conducted on behalf of L&I in 2003, 74 % of workers who had received time loss compensation were at least somewhat satisfied with their overall claims experience [19]. Thus, it does not appear that injured workers who begin the VR retraining process are more dissatisfied as a group than are other WC claimants. However this general picture was quite different for the sample of workers interviewed after the cessation of VR services and claim closure. According to Survey B, less than half of injured workers were satisfied with the VR system or thought that vocational retraining had a positive

effect on their ability to RTW. Workers who had completed a formal apprenticeship prior to injury (and who therefore may have had a relatively stronger attachment to the previous occupation) were more likely to be dissatisfied with the VR system. These findings may be explained in large part by the termination of time loss compensation and by the disconnect between initially optimistic RTW expectations and the reality of difficult RTW prospects after claim closure [1, 5, 7, 20–22].

In accord with previous research [10, 11], RTW expectations and outcomes were highly associated with satisfaction ratings. In Survey A, being uncertain of employment prospects after retraining completion was significantly associated with dissatisfaction with the VR system. Although there is evidence that worker expectations are an important predictor of RTW outcomes [23–26], we found that workers going into retraining plan development may overestimate their likelihood of future RTW after retraining. While 55 % of workers interviewed for Survey A were somewhat or very certain they would RTW after retraining, only 21 % of workers interviewed for Survey B had actually RTW at all (even part-time or temporarily) as of 3–6 months after claim closure, and more than 57 % were very dissatisfied with their employment status.

Even among the 65 workers who had worked within 4 weeks of the interview, just over half reported that their current wages were "a lot less" than before the injury. Only half of workers who had RTW at all reported working full-time for the 4 weeks prior to the interview. In Survey B, dissatisfaction with employment status had a stronger association with dissatisfaction with the VR system than did lack of employment. Although successful RTW is the primary goal of VR and of most injured workers, it is possible that returning to work may not be the most desirable outcome for every worker (and a small percentage of Survey B respondents who had not RTW did report being satisfied with that situation).

In both surveys, poor health, poor functional ability, and multiple retraining attempts were significantly associated with dissatisfaction. This suggests that there may be a need for initiatives beyond standard VR services that are designed to address the special needs of workers having the most challenging health situations and those who get "stuck" or continue to cycle repeatedly through the VR process. Previous research suggests that both ability and health may require ongoing attention during VR [5].

On a more positive note, despite the level of dissatisfaction expressed, the vast majority (more than 85 %) of workers who had completed their retraining plan found the retraining useful in some way. In addition, 71 % of those workers who had both completed retraining and RTW reported using the skills acquired during retraining in their new jobs.

Injured workers' suggestions for VR system improvements were also informative. The most frequently cited theme was that there should be more training choices, more worker input into the retraining goal, and/or a better fit of the retraining goal with the workers' experience and abilities (cited by 25 % of those offering any suggestion). Similar issues have been reported in other jurisdictions. A VR evaluation in New Zealand found that their VR program appeared to focus mainly on standard interventions, rather than being tailored to individual claimant requirements [9]. Nearly a third of claimants surveyed for the New Zealand VR evaluation did not think their own goals were taken into account, and nearly a third did not feel fully involved in setting goals [9]. Focus groups with VR service providers conducted in Ontario have noted the challenges and barriers faced by VR professionals in providing services tailored to the best interests of injured workers, including worker resistance to participation, system-driven expectations, and time constraints [6]. Even if our survey findings reflect misperceptions by workers rather than inadequacies with VR services or retraining plan fit, such perceptions could be expected to interfere with worker satisfaction, successful plan completion, and ultimately RTW outcomes [1]. It should also be noted that an increased system focus on worker choice does not always translate to the availability of more meaningful or beneficial choices and can also lead to unintended negative consequences [6]. The second most frequently cited theme was that various players should listen to, respect, and/or understand the worker with regard to their interests, goals, and limitations (cited by 17 %). This comports with the findings of a qualitative study conducted in Sweden, which found that respectful and supportive treatment by rehabilitation professionals was considered by injured workers to be an essential element of high-quality encounters [27].

Workers' suggestions have been summarized and communicated to the L&I subcommittee tasked with recommending and monitoring system improvements. L&I has since identified opportunities for change and improvement in several of these areas, such as enhancing connections with existing employment service agencies in order to facilitate more support with job placement and work re-entry skills as retraining concludes.

Strengths and Limitations

These surveys provide important new data that may be of interest to researchers, VR service providers, and WC policy-makers nationally. To date, very few studies have assessed injured workers' satisfaction and experiences with VR, and most of those have been confined to the grey literature. Although details of the coverage and provision of VR services for injured workers vary greatly between

jurisdictions, information about the needs and preferences of injured workers and their experiences with VR is sorely lacking and broadly relevant (e.g., WC covers some VR services in most states) [28]. Washington State is almost unique among states in having a single-payer WC system, and provides a model setting for generalizable population-based work disability research [13, 14].

Response rates for both surveys were on the high end of expectations for WC-related surveys ([29], p. 31). Due to the amount of time required for WC claims involving VR to mature, the constraints imposed by external timelines, and the practicalities of data collection, we were unable to use random probability sampling for either survey. Instead, we used consecutive sampling for Survey A. For Survey B, quota sampling was used in order to boost the proportion of self-insured claims, to ensure adequate numbers of completed plans, and to ensure a variety of approved plan lengths. We used post-stratification techniques for both surveys in order to reduce nonresponse bias and enhance the representativeness of these surveys with respect to the general population of injured workers eligible for VR retraining. However, absent a randomized probability sample, respondents may not be completely representative of the general population. Although there was little evidence of bias based on measured variables, there may have been attitude, opinion, or other unmeasured differences that were correlated with non-response. Post-stratification weighting for Survey B was based on the distribution of plan characteristics for plans approved in 2008 only (approved plan length was not measured for later plans unless an interview was conducted); it is unknown whether that distribution changed in later years. Finally, although we used quotas for Survey B, it is still the case that faster-closing claims within a specific quota category would more likely have been included in the overall sample. Therefore, there was inherent and unavoidable bias toward sampling claimants with (1) incomplete plans that were interrupted sooner, and (2) completed plans with fewer delays. It must also be noted that these surveys were conducted in the midst of a severe economic recession, which likely detrimentally affected both the employability of injured workers returning to the labor market and satisfaction with VR services.

Conclusions

We found that workers interviewed as they were beginning retraining plan development were significantly more often satisfied with the VR system than workers interviewed after VR services had ended. We also found that retraining plan development and/or the specific approved retraining plan often did not meet injured workers' perceived needs/abilities; many workers felt that they did not have enough input into the choice of training goal or that their needs were not understood or respected. Taken together, the findings of this study suggest that there is substantial room for improvement in worker satisfaction with VR. In addition, injured workers' feedback on VR services may reflect opportunities to improve RTW outcomes. Our study findings suggest that it may be necessary to develop innovative approaches to address injured workers' common perceptions that they do not have enough input into retraining plans, that they are offered inadequate retraining choices, and that they receive inadequate communication and support from the VR counselors and claim managers, as well as inadequate RTW assistance. Even if these findings sometimes reflected misperceptions rather than inadequacies with either VR services or retraining plan fit, the identification and implementation of system improvements that address injured workers' perceptions may hold potential to improve both satisfaction and RTW outcomes.

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Conflict of interest The authors declare that they have no conflicts of interest.

References

1. MacEachen E, Kosny A, Ferrier S, Chambers L. The "toxic dose" of system problems: why some injured workers don't return to work as expected. J Occup Rehabil. 2010;20(3):349–66.
2. Wickizer TM, Franklin G, Plaeger-Brockway R, Mootz RD. Improving the quality of workers' compensation health care delivery: the Washington State Occupational Health Services Project. Milbank Q. 2001;79(1):5–33.
3. Washington State Department of Labor and Industries. Workers' compensation benefits: a guide for injured workers. Publication F242-104-000 [03-2012]. 2012 [cited 19 March 2013]; Available from: http://www.lni.wa.gov/IPUB/242-104-000.pdf.
4. Barth P, Grob H, Harder H, Hunt A, Silverstein M. Washington Pension System Review, Upjohn Institute Technical Report No. 08-025. Prepared for State of Washington, Department of Labor & Industries, Contract No. K1018. 2008 [cited 17 April 2012]; Available from: http://www.upjohninst.org/publications/tr/tr08-025.pdf.
5. MacEachen E, Kosny A, Ferrier S, Lippel K, Neilson C, Franche RL, et al. The 'ability' paradigm in vocational rehabilitation: challenges in an Ontario injured worker retraining program. J Occup Rehabil. 2012;22(1):105–17.

6. MacEachen E, Kosny A, Ferrier S, Lippel K, Neilson C, Franche RL, et al. The ideal of consumer choice: challenges with implementation in an Ontario injured worker vocational retraining program. Disabil Rehabil. Online first: 25 April 2013. doi:10.3109/09638288.2013.771704.
7. Sears JM, Wickizer TM. Evaluation of the vocational rehabilitation pilot program. Report to the Washington State Legislature as required by ESSB 5920 (Chapter 72, Laws of 2007). 2012 [cited 19 March 2013]; Available from: http://www.lni.wa.gov/ClaimsIns/Files/Vocational/VocPilotProgEval.pdf.
8. KPMG LLP. WSIB Labour Market Re-entry (LMR) Program Value For Money Audit Report. 2009 [cited 27 March 2013]; Available from: http://www.wsib.on.ca/files/Content/VFMAVFMALMR2009/LMRvfma.pdf.
9. McPherson K. Evaluation of vocational rehabilitation under the IPRC Act 2001. 2007 [cited 20 March 2013]; Available from: http://hazelarmstronglaw.co.nz/beta/wp-content/uploads/2012/07/Evaluation-of-Vocational-Rehabilitation-under-the-IPRC-Act-2001-Kathryn-McPherson.pdf.
10. Sitzia J, Wood N. Patient satisfaction: a review of issues and concepts. Soc Sci Med. 1997;45(12):1829–43.
11. Wickizer TM, Franklin G, Fulton-Kehoe D, Turner JA, Mootz R, Smith-Weller T. Patient satisfaction, treatment experience, and disability outcomes in a population-based cohort of injured workers in Washington State: implications for quality improvement. Health Serv Res. 2004;39(4 Pt 1):727–48.
12. Pourat N, Kominski G, Roby D, Cameron M. Satisfaction with care and perceptions of quality among injured workers in California's Workers' Compensation system. J Occup Environ Med. 2007;49(11):1249–56.
13. Franklin GM, Fulton-Kehoe D. Outcomes research in Washington state workers' compensation. Am J Ind Med. 1996;29(6):642–8.
14. Franklin GM, Wickizer TM, Fulton-Kehoe D, Turner JA. Policy-relevant research: when does it matter? NeuroRx. 2004;1(3):356–62.
15. State of Washington. RCW title 51: chapter 51.12. Employments and occupations covered. [cited 19 August 2012]; Available from: http://apps.leg.wa.gov/rcw/default.aspx?Cite=51.12.
16. Washington State Department of Labor and Industries. Vocational Improvement Project Report to the Legislature: As required by RCW 51.32.099. December, 2012.
17. The American Association for Public Opinion Research. Standard definitions: final dispositions of case codes and outcome rates for surveys. 5th ed. Lenexa: AAPOR; 2008.
18. Wickizer T, Franklin G, Fulton-Kehoe D, Gluck J, Smith-Weller T, Turner J, et al. Satisfaction among Injured Workers with Health Care Delivery: Final Survey Results; Deliverable 7G. Prepared for Occupational Health Services Project, Washington State Department of Labor and Industries. Seattle, WA: University of Washington; 2000.
19. Gilmore Research Group. Customer Satisfaction Study 2003. Prepared for State of Washington, Department of Labor & Industries. Seattle, WA: Gilmore Research Group; August 2003.
20. MacEachen E, Kosny A, Ferrier S. Unexpected barriers in return to work: lessons learned from injured worker peer support groups. Work. 2007;29(2):155–64.
21. Young AE. Return to work following disabling occupational injury–facilitators of employment continuation. Scand J Work Environ Health. 2010;36(6):473–83.
22. Young AE. Employment maintenance and the factors that impact it after vocational rehabilitation and return to work. Disabil Rehabil. 2010;32(20):1621–32.
23. Heijbel B, Josephson M, Jensen I, Stark S, Vingard E. Return to work expectation predicts work in chronic musculoskeletal and behavioral health disorders: prospective study with clinical implications. J Occup Rehabil. 2006;16(2):173–84.
24. Hepp U, Moergeli H, Buchi S, Bruchhaus-Steinert H, Sensky T, Schnyder U. The long-term prediction of return to work following serious accidental injuries: a follow up study. BMC Psychiatry. 2011;11:53.
25. Iles RA, Davidson M, Taylor NF, O'Halloran P. Systematic review of the ability of recovery expectations to predict outcomes in non-chronic non-specific low back pain. J Occup Rehabil. 2009;19(1):25–40.
26. Sandstrom J, Esbjornsson E. Return to work after rehabilitation. The significance of the patient's own prediction. Scand J Rehabil Med. 1986;18(1):29–33.
27. Klanghed U, Svensson T, Alexanderson K. Positive encounters with rehabilitation professionals reported by persons with experience of sickness absence. Work. 2004;22(3):247–54.
28. Tanabe RP. Workers' compensation laws as of January 2012. WC-12-18. Cambridge: Workers Compensation Research Institute; 2012.
29. Kominski G, Pourat N, Roby D, Cameron M. Access to medical treatment in the California workers' compensation system, 2006. Los Angeles: UCLA Center for Health Policy Research; 2006.