

Employable Outcome Analysis 2017 Update

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Overall objective

To better understand the variables important in predicting an employable outcome among workers after Work Transition services.

Background

- Predictive modelling performed last year identified a number of variables that were statistically significant predictors of a worker achieving an employed outcome.
 - Included Completed WT Plans between Jan 1 2014 and Jun 30 2015
- We now have an extra 12 months of data (Jul 1 2015 – Jun 30 2016) so decided to update the model and check on progress of our key factors.
 - In order to achieve an even comparison the previous model was restricted to a 12 month period (Jul 1 2014 – Jun 30 2015)
- In addition we ran a version of the Training models which included only Formal Vocational Training types (codes: 100 – University, 110 – College/Vocational 1 year or more, & 111 – College/Vocational <1 year)
- This report details the findings of this comparison and offer insights into how we're doing on the key variables identified.

Key Variables

In this report we'll focus on the changes in the statistically significant variables identified in the previous work:

1. Worker Rep
2. Age at Injury
3. Time to Referral
4. Months to Plan Approval
5. Training Funding
6. ESL/Interpreter Request
7. Specialized Services

Overall Model

Jul 2014 to June 2015

- **N=1308 (613 employable & 695 employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Training Received (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU

Overall Model

Jul 2014 to June 2015

- **N=1308 (613 employable & 695 employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
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 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU

Overall Model

Jul 2014 to June 2015

Statistically Significant Predictor Variables

Interpreter Request (Y vs. N)	0.304	The odds of being employed are 69.6% lower for workers with an interpreter request compared to those without.
Worker Rep (Y vs. N)	0.595	The odds of being employed are 40.5% lower for workers with a worker rep compared to those without.
Age at Injury	0.929	For every increase of 2.5 years in age, the odds of being employed are reduced by 7.1% .
SEB Hourly Wage	1.181	For every increase of \$2.50 in SEB hourly wage, the odds of being employed increase by 18.1% .
NEL PI %	0.892	For every increase of 5% in the NEL PI%, the odds of being employed are reduced by 10.8% .

Overall Model

Jul 2015 to June 2016

- **N=986 (438 employable & 548 employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Training Received (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU

Overall Model

Jul 2015 to June 2016

- **N=986 (438 employable & 548 employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Training Received (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU

Overall Model

Jul 2015 to June 2016

Statistically Significant Predictor Variables

Interpreter Request (Y vs. N)	0.246	The odds of being employed are 75.4% lower for workers with an interpreter request compared to those without.
Age at Injury	0.898	For every increase of 2.5 years in age, the odds of being employed are reduced by 10.2% .
SEB Hourly Wage	1.121	For every increase of \$2.50 in SEB hourly wage, the odds of being employed increase by 12.1% .
Months to Referral	0.972	For every increase of 3 months in time to referral, the odds of being employed are reduced by 2.8% .

What's changed year to year?

2014/15 vs. 2015/16

Statistically Significant Variable	2014/15 Odd Ratio	2015/16 Odds Ratio	Year to Year Change
Interpreter Request (Y vs. N)	0.304	0.246	Likelihood of being employed decreased by 5.8%
Worker Rep (Y vs. N)	0.595	N/A	No longer statistically significant
Age at Injury (2.5 years)	0.929	0.898	Likelihood of being employed decreased by 3.1%
SEB Hourly Wage (\$2.50)	1.181	1.121	Likelihood of being employed decreased by 6%
Months to Referral (3 months)	N/A	0.972	Not previously significant
NEL PI % (5%)	0.892	N/A	No longer statistically significant

Training Model

Jul 2014 to June 2015

- **Workers who received training (N=1025; 483 Employable & 542 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)
 - Computer (Y vs. N)
 - ESL (Y vs. N)
 - LBS (Y vs. N)
 - Academic Upgrading (Y vs. N)
 - Specialized Services (Y vs. N)

Training Model

2014 to June 2015

- **Workers who received training (N=1421; 673 Employable & 748 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)
 - Computer (Y vs. N)
 - ESL (Y vs. N)
 - LBS (Y vs. N)
 - Academic Upgrading (Y vs. N)
 - Specialized Services (Y vs. N)

Training Model

Jul 2014 to June 2015

Statistically Significant Predictor Variables

Worker Rep (Y vs. N)	0.596	The odds of being employed are 30.4% lower for workers with a worker rep compared to those without.
Age at Injury (2.5 years)	0.946	For every increase of 2.5 years in age, the odds of being employed are reduced by 5.4% .
SEB Hourly Wage (\$2.50)	1.129	For every increase of \$2.50 in SEB hourly wage, the odds of being employed increase by 12.9% .
Months to Plan Approval (3 months)	0.913	For every increase of 3 months in time to plan approval, the odds of being employed are reduced by 8.7% .
NEL PI % (5%)	0.905	For every increase of 5% in the NEL PI%, the odds of being employed are reduced by 9.5% .
Training Funding (Public vs. Private)	0.587	The odds of being employed are 41.3% lower for workers who completed private training compared to those who completed public training.
College <1 Year (Y vs. N)	1.435	The odds of being employed are 43.5% higher for workers that completed a College/Vocational Program of less than 1 year compared to those who did not.
SS (Y vs. N)	0.502	The odds of being employed are 49.8% lower for workers that completed SS compared to those that did not.

Training Model

Jul 2015 to June 2016

- **Workers who received training (N=803; 363 Employable & 440 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)
 - Computer (Y vs. N)
 - ESL (Y vs. N)
 - LBS (Y vs. N)
 - Academic Upgrading (Y vs. N)
 - Specialized Services (Y vs. N)

Training Model

Jul 2015 to June 2016

■ Workers who received training (N=803; 363 Employable & 440 Employed)

■ Predictor variables

- Gender (F vs. M)
- Interpreter Request (Y vs. N)
- Reactivation (Y vs. N)
- Worker Rep (Y vs. N)
- High Impact Injury (Y vs. N)
- Recurrence (Y vs. N)
- Prior RTWS Referral (Y vs. N)
- Age at Injury (unit change of 2.5 years)
- SEB Hourly Wage (unit change of \$2.50)
- Months to Referral (unit change of 3 months)
- Months to Plan Approval (unit change of 3 months)
- NEL PI % (unit change of 5%)
- ISU
- Training Funding (private vs. public)
- University (Y vs. N)
- College 1+ (Y vs. N)
- College <1 (Y vs. N)
- Computer (Y vs. N)
- ESL (Y vs. N)
- LBS (Y vs. N)
- Academic Upgrading (Y vs. N)
- Specialized Services (Y vs. N)

Training Model

Jul 2015 to June 2016

Statistically Significant Predictor Variables

Interpreter Request (Y vs. N)	0.365	The odds of being employed are 63.5% lower for workers with an interpreter request compared to those without.
Age at Injury (2.5 years)	0.916	For every increase of 2.5 years in age, the odds of being employed are reduced by 8.4% .
SEB Hourly Wage (\$2.50)	1.085	For every increase of \$2.50 in SEB hourly wage, the odds of being employed increase by 8.5% .
College 1+ Years (Y vs. N)	1.930	The odds of being employed are 93% higher for workers that completed a College/Vocational Program of 1 year or longer compared to those who did not.

What's changed year to year?

Training Models 2014/15 vs. 2015/16

Statistically Significant Variable	2014/15 Odd Ratio	2015/16 Odds Ratio	Year to Year Change
Interpreter Request (Y vs. N)	N/A	0.246	Not previously statistically significant
Worker Rep (Y vs. N)	0.596	N/A	No longer statistically significant
Age at Injury (2.5 years)	0.946	0.916	Likelihood of being employed decreased by 3%
SEB Hourly Wage (\$2.50)	1.129	1.085	Likelihood of being employed decreased by 4.4%
Months to Plan Approval (3 months)	0.913	N/A	No longer statistically significant
NEL PI % (5%)	0.905	N/A	No longer statistically significant
Training Funding (Public vs. Private)	0.587	N/A	No longer statistically significant

What's changed year to year? (cont.)

Training Models 2014/15 vs. 2015/16

Statistically Significant Variable	2014/15 Odd Ratio	2015/16 Odds Ratio	Year to Year Change
College 1+ Years (Y vs. N)	N/A	1.930	Not previously statistically significant
College <1 Year (Y vs. N)	1.435	N/A	No longer statistically significant
SS (Y vs. N)	0.502	N/A	No longer statistically significant

Formal Training Model

Jul 2014 to June 2015

- **Workers who received Formal Vocational Training (codes 100, 110, 111)**
- **N=803 (331 Employable & 472 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)

Formal Training Model

Jul 2014 to June 2015

- **Workers who received Formal Vocational Training (codes 100, 110, 111)**
- **N=803 (331 Employable & 472 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)

Formal Training Model

Jul 2014 to June 2015

Statistically Significant Predictor Variables

Worker Rep (Y vs. N)	0.574	The odds of being employed are 32.6% lower for workers with a worker rep compared to those without.
Age at Injury (2.5 years)	0.941	For every increase of 2.5 years in age, the odds of being employed are reduced by 5.9% .
SEB Hourly Wage (\$2.50)	1.13	For every increase of \$2.50 in SEB hourly wage, the odds of being employed increase by 13% .
NEL PI % (5%)	0.88	For every increase of 5% in the NEL PI%, the odds of being employed are reduced by 12% .
Training Funding (Public vs. Private)	0.508	The odds of being employed are 49.2% lower for workers who completed private training compared to those who completed public training.

Formal Training Model

Jul 2015 to June 2016

- **Workers who received Formal Vocational Training (codes 100, 110, 111)**
- **N=579 (223 Employable & 356 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)

Formal Training Model

Jul 2015 to June 2016

- **Workers who received Formal Vocational Training (codes 100, 110, 111)**
- **N=579 (223 Employable & 356 Employed)**
- **Predictor variables**
 - Gender (F vs. M)
 - Interpreter Request (Y vs. N)
 - Reactivation (Y vs. N)
 - Worker Rep (Y vs. N)
 - High Impact Injury (Y vs. N)
 - Recurrence (Y vs. N)
 - Prior RTWS Referral (Y vs. N)
 - Age at Injury (unit change of 2.5 years)
 - SEB Hourly Wage (unit change of \$2.50)
 - Months to Referral (unit change of 3 months)
 - Months to Plan Approval (unit change of 3 months)
 - NEL PI % (unit change of 5%)
 - ISU
 - Training Funding (private vs. public)
 - University (Y vs. N)
 - College 1+ (Y vs. N)
 - College <1 (Y vs. N)

Formal Training Model

Jul 2015 to June 2016

Statistically Significant Predictor Variables

Age at Injury (2.5 years)	0.927	For every increase of 2.5 years in age, the odds of being employed are reduced by 7.3% .
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What's changed year to year?

Formal Training Models 2014/15 vs. 2015/16

Statistically Significant Variable	2014/15 Odd Ratio	2015/16 Odds Ratio	Year to Year Change
Worker Rep (Y vs. N)	0.574	N/A	No longer statistically significant
Age at Injury (2.5 years)	0.941	0.927	Likelihood of being employed decreased by 1.4%
SEB Hourly Wage (\$2.50)	1.13	N/A	No longer statistically significant
NEL PI % (5%)	0.88	N/A	No longer statistically significant
Training Funding (Public vs. Private)	0.508	N/A	No longer statistically significant