



NATIONAL
RETURN ²⁰²⁰⁻²⁰³⁰
TO WORK
STRATEGY



Methodology for the Measurement Framework

Rationale and technical details underpinning the Measurement Framework

Also see the **Measurement Framework** which outlines the approach to measuring the success of the *National Return to Work Strategy 2020-2030*

The Measurement Model

Return to work is a complex process in which many factors at the individual, organisational and system levels interact to influence a worker's recovery, absence from work and the durability of their return to work.

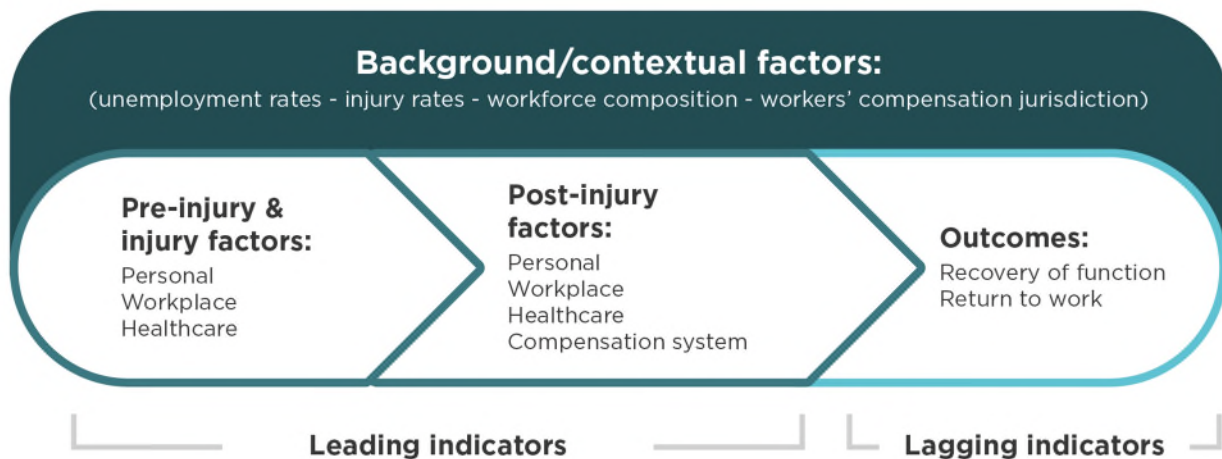
The measurement model (**Figure 1**) reflects this complexity. It seeks to determine the most important areas in which data should be collected to develop a comprehensive view of national return to work performance for the purpose of measuring the Strategy's success.

The model is derived from a range of accepted scientific models in injury epidemiology and occupational health and includes lagging indicators (recovery and return to work outcomes) and leading indicators (factors that influence whether recovery and return to work outcomes are achieved).

An important feature of the model is that it covers the four domains of the worker, workplace (employer), healthcare and compensation system (insurer). A positive return to work outcome involves all domains working well together.

While assessing lagging indicators is important for determining the ultimate success of the Strategy in improving return to work outcomes, it is also important to measure leading indicators to inform opportunities for intervention in the short to medium term. Success in improving the leading indicators will contribute to improvements in return to work outcomes.

Figure 1. Measurement framework model, [National Return to Work Strategy 2020-2030](#) (p.42)



Selecting good performance measures

There are many ways, and no one right way, of measuring return to work performance. The measurement model provides a basis for determining what makes a good measure.

Tables 1 and 2 set out the criteria used to identify and select national measures for inclusion in the framework.

Table 1. Guiding criteria for individual measures

Criteria	Explanation
Strategic	The measure supports the Strategy's vision and assesses a component of one of the three strategic outcomes in the Strategy.
Modifiable	The measure can be influenced through actions described in the Strategy, within the ten-year time period.
Rational	The measure assesses one of the four domains of the measurement model and is a lagging or leading indicator.
Good Quality	The measure meets commonly accepted measurement standards, including being reliable, valid, understandable, specific, sensitive and relevant.
Available	Data on the measure must be collected, or able to be collected, across multiple workers' compensation jurisdictions, and ideally nationally.

No single measure will provide a comprehensive view of progress towards achieving the strategic outcomes in the Strategy. A range of measures are required. The following features of the measurement suite ensure that collectively, they meet their purpose.

Table 2. Guiding criteria for measurement suite

Criteria	Explanation
Holistic	The suite of measures should cover multiple components of the measurement model. That is, they should include a mix of leading and lagging indicators; pre-injury, post-injury and outcomes indicators, and indicators across the four domains.
Focused	There should not be an extensive list of measures. Having too many measures makes it difficult to focus attention on the most important areas for improvement. Having too few runs the risk of missing important changes in performance.
Mixed Sources	Measures should be derived from a mix of data sources to provide multiple perspectives on performance. This can include both quantitative and qualitative data collected from workers, employers, insurers, and others involved in the Australian return to work processes.
Effort - Reward	The effort involved in collating, analysing and reporting on data should be minimised where possible. This means that data should already be collected, or able to be collected, on a regular basis for the majority of measures. Collecting additional data from new sources may be warranted if they provide novel information not otherwise available.

National data sources

Australia has multiple data sources with national coverage that pertain to workers' compensation or work-related injury, and that provide information on the lagging or leading indicators of return to work. The two primary data sources that are routinely collected, have national coverage and provide information across multiple domains of the measurement model are the [National Data Set for Compensation-based Statistics \(NDS\)](#) and the [National Return to Work Survey \(NRTWS\)](#).

In addition, there are data sources under development that may provide valuable additional information in the future. There are also gaps in national data that, if addressed, may provide further valuable information for monitoring performance. More information can be found on **pages 10 and 11**.

National performance measures

The national performance measures are 'descriptive statistics'. This is a term given to the analysis of data that helps describe or summarise data in a meaningful way. The framework involves the use of descriptive statistics in a way that we can observe patterns emerging from the data, for example changes in national performance measures over time. Descriptive statistics are very useful for monitoring trends, and they provide a method of presenting data in a meaningful way, which allows easy interpretation of the data.

Tables 3 and 4 provide a rationale for each measure selected for inclusion in the framework. The title given to each measure (e.g. 'timely return to work') has been guided by the Strategy's vision and strategic outcomes. These titles are general descriptors and are not intended to be value judgements.

On occasion, it may be valuable to supplement regular reporting of national performance measures with more detailed investigation on specific topics. This may occur, for instance, where a measure suggests a rapid deterioration or improvement in performance, or where Safe Work Australia or other return to work stakeholders independently identify topics requiring further investigation.

National performance objectives

In addition to providing a rationale for each measure selected for the framework, **Tables 3 and 4** also provide initial performance objectives for each measure. The objectives indicate the direction and scope of positive change for each measure.

Substantial care is required when setting performance objectives for the selected measures. There is a growing body of evidence indicating that performance goal setting can have unintended, negative consequences. These can include a narrow focus that neglects focus on non-measured areas, potential for unethical behaviour and distortion of risk preferences. These risks may be exacerbated when there are a small number of objectives, or single objectives.

The potential for negative behaviour can be reduced by having a range of performance objectives across multiple measures, and by avoiding very specific targets that may drive behaviour to a pre-determined outcome. It is possible to describe a performance objective without setting a specific 'target', by defining the direction of a positive change in performance and the scope for that change to occur. We can also identify the stakeholders with the most ability to lead a positive change.

The ability of the return to work stakeholders to influence the national measures will vary according to the nature of the measure. Some are best addressed by insurers or claims management organisations, some by employers and others by healthcare providers. In some cases, notably with the lagging indicators, multiple stakeholders will need to act for national performance to change.

Table 3. National performance measures and objectives: lagging indicators (recovery and return to work outcomes)

Measure	Data source	Domain	Metric (data item selected to identify and indicate change against corresponding measure)	Rationale	Performance objective	
					Direction of change	Scope for change
Timely return to work*	NDS	Multiple	Rate of accepted claims with time loss at 13 weeks, 26 weeks and 52 weeks	<ul style="list-style-type: none"> Many workers' compensation authorities use this as a performance measure Absence beyond 3 months indicates injury chronicity and increased claim complexity Historical performance trends can be calculated 	Decrease	Small
Safe return to work*	NRTWS	Multiple	Percentage of workers who had returned to work and required additional time off	<ul style="list-style-type: none"> Assesses key strategic outcome of safety in return to work Indicates return to work that is too early, not properly accommodated, or potential re-injury / symptom exacerbation, noting that not all multiple attempts at return to work are indicative of issues or failures in the process Historical trend data available 	Decrease	Moderate
Durable return to work*	NRTWS	Multiple	Percentage of workers with time loss claims back at work for at least 3 months	<ul style="list-style-type: none"> Considered a key national return to work outcome measure Reported consistently for > 10 years Historical trend data available 	Increase	Small
General health (Recovery)	NRTWS	Multiple	Percentage of all workers with good to excellent self-rated health	<ul style="list-style-type: none"> Assesses key strategic outcome of health and recovery which is linked to return to work Uses a validated general health screening scale Provides additional information on health state beyond return to work status Baseline data available from 2018 	Increase	Moderate
Work role functioning (Recovery)	NRTWS	Multiple	Average Work Role Functioning Questionnaire score in workers who had returned to work	<ul style="list-style-type: none"> Assesses key strategic outcome of recovery of function Uses validated scale - the Work Role Functioning Questionnaire Provides additional information on function beyond Durable return to work rate Provides an estimate of whether workers have returned at full or partial capacity See NRTWS 2018 questionnaire – question JP9, page 15 	Increase	Moderate
Stay at work**	NDS	Multiple	Rate of claims that do not involve time loss	<ul style="list-style-type: none"> Already in use as measure of stay at work in some jurisdictions Indicates workers continuing to work while recovering from injury Can be influenced by modification of leading indicators e.g. workplace accommodation Historical trend data available 	Increase	Moderate

Footnote: At the time of publishing, there is an absence of reliable national data for some listed measures. Future data development may result in the inclusion of alternative measures and/or metrics in the framework as noted below:

* These measures reflect the Strategy's vision and combined provide a general indication of 'good work' in Strategic Outcome 1.

** 'Stay at work' data is not routinely and consistently collected at this time.

Table 4. National performance measures and objectives: leading indicators (factors influencing recovery and return to work outcomes)

Measure	Data source	Domain	Metric (data item selected to identify and indicate change against corresponding measure)	Rationale	Performance objective	
					Direction of change	Scope for change
Insurer decision time	NDS	Insurer	Mean time in days between claim receipt by insurer and insurer decision to accept claim	<ul style="list-style-type: none"> Strong evidence that insurer decision time is a leading indicator of return to work. Workers experience delays as negative and fast decisions as positive. Historical trend data available. 	Decrease	Moderate
Perceived fairness	NRTWS	Insurer	Average score on the perceived justice of the compensation process scale for all workers	<ul style="list-style-type: none"> Strong evidence that fairness/justice is a leading indicator of return to work. Uses validated scale. Baseline data available from 2018 NRTWS. See NRTWS 2018 questionnaire - question WC5, page 21 	Increase	Moderate
Work-focussed healthcare	NRTWS	Healthcare	Average score on work-focussed healthcare questions for all workers	<ul style="list-style-type: none"> Strong evidence that work-focused healthcare supports return to work. Captures information on main healthcare practitioner, not only GPs. Baseline data available from 2018 NRTWS. See NRTWS 2018 questionnaire - question HL3b, page 26. 	Increase	Small to Moderate
Healthcare stress	NRTWS	Healthcare	Percentage of all workers reporting that they had stressful interactions with a healthcare provider	<ul style="list-style-type: none"> Stressful healthcare interactions have been linked with slower return to work. Analysis of NRTWS shows link between workers perception of stress in healthcare encounters and return to work. Baseline data available from 2018 NRTWS. 	Decrease	Moderate
Employer response*	NRTWS	Employer	Percentage of all workers agreeing that their employer supported them following their injury (score based on 6 questions about the employer's attitudes and behaviours)	<ul style="list-style-type: none"> Strong evidence that positive employer response can facilitate return to work. Analysis of NRTWS shows link between employer response questions and return to work outcomes. Historical trend data available in NRTWS from 2013. 	Increase	Large
Employer contact*	NRTWS	Employer	Percentage of all workers reporting contact from their employer since their injury	<ul style="list-style-type: none"> Employers maintain appropriate contact with workers throughout the return to work process 	Increase	Large
Return to work planning*	NRTWS	Employer	Percentage of workers reporting that they had a return to work plan	<ul style="list-style-type: none"> Return to work planning is an accepted good practice in all jurisdictions. Evidence shows return to work plans influence duration of time off work. Historical trend data available in NRTWS from 2013. 	Increase	Large
Workplace accommodations*	NRTWS	Employer	Percentage of workers who had returned to work reporting that they returned with modified hours or modified duties	<ul style="list-style-type: none"> Workplace accommodations are a powerful return to work intervention. Baseline data available from 2018 NRTWS. 	Increase	Moderate to Large
Return to work self-efficacy	NRTWS	Worker	Average score of all workers on the return to work self-efficacy scale	<ul style="list-style-type: none"> Return to work self-efficacy is a predictor of return to work. Uses validated scale. Baseline data available from 2018 NRTWS. See NRTWS 2018 questionnaire, questions PP4, PP5 (page 29) and JP4 (page 13). 	Increase	Small to Moderate

Footnote: Future data developmental work may result in the inclusion of additional measures and/or alternative metrics in the framework as noted below:

* Selected measures related to employers are based on the worker's perspective of their employer's actions, captured through the NRTWS.

Research underpinning national performance measures

There is a sound evidence base for the national performance measures. Some of the lagging indicators have been selected primarily because they are generally accepted to be markers of return to work performance, and have been tracked and reported for many years. Other outcomes are relatively new in the Australian context but are routinely collected in work injury rehabilitation systems internationally, such as the Work Role Functioning Questionnaire.

The leading indicators selected all have studies conducted in Australia or elsewhere that show links between the indicator and a return to work outcome. For example, there is now strong evidence that a worker's experiences during the return to work process can have a profound impact on the speed and durability of return to work.

Table 5 provides a selection of citations for each of the national performance measures and explains briefly the findings of each citation. This is not intended to be an exhaustive list, but rather a demonstration that there is sound evidence supporting the use of the national performance measures selected for inclusion in the measurement framework.

Table 5. Selection of research on national performance measures

Performance Measure	Citation/s	Summary
Timely return to work	Safe Work Australia. Comparative Performance Monitoring Report 20th Edition 2018 Dec. Canberra, Australia.	Latest CPM report tracking, among other markers, the frequency and incidence rates of long-term claims, defined as > 12 weeks or more duration.
Safe return to work	Collie A, Simpson PM, Cameron PA, et al. Patterns and Predictors of Return to Work After Major Trauma: A Prospective, Population-based Registry Study. <i>Ann Surg.</i> 2019 May;269(5):972-978. Ruseckaite R, Collie A. The incidence and impact of recurrent workplace injury and disease: a cohort study of WorkSafe Victoria, Australia compensation claims. <i>BMJ Open.</i> 2013 Mar 1;3(3).	Demonstrates that self-report survey data can be used to differentiate between groups of people who return to work and who have delayed or failed attempts to return to work. Shows that many injured workers experience recurrent workplace injury and disease following an initial workers' compensation claim, and suggests this is an important marker of rehabilitation effectiveness.
Durable return to work	Social Research Centre. National Return to Work Survey – Headline Measures Report. 2018 Oct. Melbourne, Victoria, Australia.	Latest NRTWS summary report showing long time series of reporting the durable return to work outcome as one of the primary national performance measures.
General health (recovery)	Royal Australasian College of Physicians. Realising the Health Benefits of Work: A Position Statement. 2011 Oct. Rueda S, Chambers L, Wilson M, Mustard C, Rourke SB, Bayoumi A, Raboud J, Lavis J. Association of returning to work with better health in working-aged adults: a systematic review. <i>Am J Public Health.</i> 2012 Mar;102(3):541-56.	Reports strong link between work and health and summarised international evidence in the field. Demonstrates the connection between better health and returning to work through review of quality international studies.
Work role functioning (recovery)	Abma F, Bjorner JB, Amick BC 3rd, Bültmann U. Two valid and reliable work role functioning questionnaire short versions were developed: WRFQ 5 and WRFQ 10. <i>J Clin Epidemiol.</i> 2019 Jan;105:101-111	Study describing the development of the 5-item version of the Work Role Functioning Questionnaire, from the initial longer 27 item version. The 5-item version is included in the NRTWS.
Stay at work	de Vries HJ, Reneman MF, Groothoff JW, Geertzen JH, Brouwer S. Workers who stay at work despite chronic nonspecific musculoskeletal pain: do they differ from workers with sick leave? <i>J Occup Rehabil.</i> 2012 Dec;22(4):489-502	Shows that workers with musculoskeletal pain but who stay at work have different psychosocial characteristics than those with similar conditions who take time away from work.
Insurer decision time	Gray SE, Lane TJ, Sheehan L, et al. Association between workers' compensation claim processing times and work disability duration: Analysis of population level claims data. <i>Health Policy.</i> 2019 Oct;123(10):982-991 Cocker F, Sim MR, Kelsall H, et al. The Association Between Time Taken to Report, Lodge, and Start Wage Replacement and Return-to-Work Outcomes. <i>J Occup Environ Med.</i> 2018 Jul;60(7):622-630.	Demonstrates a link between the time taken for insurers to make claims decisions and duration of time off work, after accounting statistically for injury type, demographic and employer factors. Demonstrates a link between various time points early in the compensation claim process and return to work outcomes, after accounting statistically for injury type, demographic and employer factors.
Perceived fairness	Franche RL, Severin CN, Lee H et al. Perceived Justice of Compensation Process for Return-to-Work: Development and Validation of a Scale. <i>Psychological Injury and Law.</i> 2009. 2(3):225-237 Collie A, Sheehan L, Lane TJ, et al. Injured worker experiences of insurance claim processes and return to work: a national, cross-sectional study. <i>BMC Public Health.</i> 2019 Jul 10;19(1):927	Describes a study validating the perceived justice of the compensation process scale in a workers' compensation cohort. This scale is included in the NRTWS. Demonstrates a link between the injured workers experiences of insurance claims processes and self-reported return to work outcomes, after adjusting statistically for injury, demographic and employer factors, using NRTWS data.

Performance Measure	Citation/s	Summary
Work-focused healthcare	Cullen KL, Irvin E, Collie A, et al. Effectiveness of Workplace Interventions in Return-to-Work for Musculoskeletal, Pain-Related and Mental Health Conditions: An Update of the Evidence and Messages for Practitioners. <i>J Occup Rehabil.</i> 2018 Mar;28(1):1-15	Review of global intervention research that shows work-focussed healthcare is effective at improving return to work outcomes among injured workers with musculoskeletal and mental health conditions.
Healthcare stress	Gray SE, Collie A. Experiences of Healthcare in Australia's Workers' Compensation Schemes: A Cross-Sectional Study. <i>J Occup Environ Med.</i> 2019 Nov 15. Lane TJ, Lilley R, Black O, et al. Health Care Provider Communication and the Duration of Time Loss Among Injured Workers: A Prospective Cohort Study. <i>Med Care.</i> 2019 Sep;57(9):718-722.	Shows a link between stressful healthcare interactions and poorer return to work outcomes, after adjusting for injury, demographic and employer factors. Uses NRTWS data. Demonstrates that healthcare provider communication is a significant predictor of time off work, and that stressful healthcare encounters are associated with longer periods of time off work.
Employer response	Gray SE, Sheehan LR, Lane TJ, et al. Concerns About Claiming, Post claim Support, and Return to Work Planning: The Workplace's Impact on Return to Work. <i>J Occup Environ Med.</i> 2019 Apr;61(4):e139-e145. Jetha A, LaMontagne AD, Lilley R, et al. Workplace Social System and Sustained Return-to-Work: A Study of Supervisor and Co-worker Supportiveness and Injury Reaction. <i>J Occup Rehabil.</i> 2018 Sep;28(3):486-494.	Uses NRTWS data to demonstrate that supportive workplaces and good workplace support are linked with better return to work outcomes. Study in an Australian injured worker sample showing that positive supervisor and workplace response to injury is predictive of better return to work outcomes.
Employer contact	Hepburn CG1, Kelloway EK, Franche RL. Early employer response to workplace injury: what injured workers perceive as fair and why these perceptions matter. <i>J Occup Health Psychol.</i> 2010 Oct;15(4):409-20.	Study shows that early contact by the employer after worker injury is associated with worker's perceiving the return to work process as fairer.
Return to work planning	Gray SE, Sheehan LR, Lane TJ, et al. Concerns About Claiming, Postclaim Support, and Return to Work Planning: The Workplace's Impact on Return to Work. <i>J Occup Environ Med.</i> 2019 Apr;61(4):e139-e145.	Shows that having and return to work plan is linked with better self-reported return to work outcomes, after accounting for a range of worker, injury, and employer factors.
Workplace accommodations	Franché RL, Cullen K, Clarke J, et al. Workplace-based return-to-work interventions: a systematic review of the quantitative literature. <i>J Occup Rehabil.</i> 2005 Dec;15(4):607-31. Review.	Review of workplace intervention literature which shows there is strong evidence that workplace accommodation is linked with better return to work outcomes.
Return to work self-efficacy	Black O, Keegel T, Sim MR, et al. The Effect of Self-Efficacy on Return-to-Work Outcomes for Workers with Psychological or Upper-Body Musculoskeletal Injuries: A Review of the Literature. <i>J Occup Rehabil.</i> 2018 Mar;28(1):16-27. Black O, Sim MR, Collie A, et al. Differences Over Time in the Prognostic Effect of Return to Work Self-Efficacy on a Sustained Return to Work. <i>J Occup Rehabil.</i> 2019 Sep;29(3):660-667.	Review of global self-efficacy literature which shows that better worker return to work self-efficacy is linked with improved return to work outcomes. Study in an Australian injured worker cohort showing a link between return to work self-efficacy and later return to work.

Primary Data Sources

National Data Set for Compensation-based statistics (NDS)

The [NDS](#) includes administrative workers' compensation claim data at case-level. This is a minimum data set that allows for a combination of variables across disparate sources. The NDS includes all compensated work-related injuries and diseases that are either (1) covered by jurisdictional workers' compensation authorities; or (2) managed by self-insured employers who are regulated by the jurisdiction. Each case is updated for up to six years. These data are compiled annually by Safe Work Australia with updates for the financial year (July to June). The NDS has served as the basis for a considerable amount of research, and it contains variables that are used commonly by workers' compensation authorities for jurisdiction-specific performance monitoring.

As the NDS is amalgamated from the various jurisdictions, there are often inter-jurisdictional differences in quality and coding interpretations. For instance, while all jurisdictions use the [Type of Occurrence Classification System \(TOOCS\)](#), this is not applied consistently between them and one jurisdiction continues to use a prior version of TOOCS.

National Return to Work Survey (NRTWS)

The [NRTWS](#) is a national survey of approximately 5,000 injured workers with accepted workers' compensation claims who took at least one day of compensated time off work. The survey is administered every two years with the most recent iteration in 2018. Prior to 2014, it was administered annually. Data are collected across the majority of jurisdictions, although South Australia did not participate in the 2018 iteration of the survey.

The NRTWS was recently restructured to align it with the case management ecological model and include a broader range of leading indicator measures across the healthcare, compensation system and personal domains. This more comprehensive data became available for the first time in mid-2018.

One limitation of the NRTW Survey is that it is conducted biennially on a sample of workers ($n = \sim 5,000$ cases out of a total of more than 200,000 accepted claims per annum); and due to the nature of the survey sampling some biases may be introduced that possibly means it does not represent all Australian workers' compensation claims involving time off work. Advantages of the survey include its use of validated scales assessing relevant return to work outcomes, barriers and enablers. Data collected through the survey have been subjected to rigorous analysis and underpin multiple high-quality research studies.

Data sources under development

Multi-jurisdictional claims database

Monash University, through the Australian Research Council (ARC) and Safe Work Australia funded [COMPensation Policy and Return to Work Effectiveness \(COMPARE\)](#) research project, is developing a Multi-Jurisdictional Claims Database that includes detailed information on payments for health services, rehabilitation services and income payments. Provision of healthcare, occupational rehabilitation and income support are the primary levers that workers' compensation schemes have at their disposal to influence return to work.

Analysis of such data could help to understand, for example, the quality of healthcare being provided to injured workers, which is within the ability of workers' compensation authorities and insurers to influence. At the time of writing the database includes information from five workers' compensation jurisdictions (Victoria, South Australia, Western Australia, Queensland, Comcare) and is undergoing quality assurance prior to use in statistical analysis.

Opportunities for future data development

Employer survey

It is clear that employers play a critical role in return to work and can have a positive or negative influence on return to work. The NRTWS includes a range of indicators assessing the workers' perception of their employer's actions, but there is not a corresponding view from employers of their own involvement in return to work.

Understanding the activities, policy and practice of the nation's employers in return to work would provide an additional valuable view that could support work under the Strategy. An employer survey would supplement the current worker and insurer views collected through the NRTWS and the NDS respectively.

Post-claim data collection

When injured workers exit a compensation scheme, visibility of their progress ceases. This makes it very difficult to determine the ultimate return to work outcome or the long-term impacts of work injury on the worker and the employer. Following up with injured workers months or years after their workers' compensation claim has ceased may provide additional valuable information regarding return to work durability, job/employer stability, physical and mental health, the quality of work the worker has returned to, productivity, and transition into retirement or onto other benefit systems.

Qualitative studies

For some topics, it may be valuable to collect qualitative information from participants in the return to work process. Qualitative studies can provide a detailed understanding of why and how specific effects are occurring. These studies can provide powerful insights into the experiences of people involved in the return to work process, and the impacts of policy and practices on individuals and groups.

Longitudinal studies

Quantitative studies can provide information across large samples and enable statistical testing of links between parts of the return to work and workers' compensation claims processes. Longitudinal studies provide the ability to examine temporal relationships between variables, and thus provide more certainty of causal relationships that may have a positive or negative influence on return to work outcomes.

Linked data

Potential to link existing data sources with other data sources could be explored. For example, linking workers' compensation claims data with Medicare or hospital data may provide a more detailed understanding of the delivery of healthcare to injured workers than is available through analysis of claims data alone. It may also be possible to address the current gap in longitudinal data by linking information from the NRTWS data with jurisdictional claims data, or to collect self-reported follow up data on workers who complete the NRTWS.