Recovery through work measurement framework

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Contents

Introduction **3**

Rationale for the recovery through work measurement framework **3**

Recovery through work is a key object of the Legislation **4**

Evidence **4**

Coordinated multi-domain intervention 4

Personal domain 5

Workplace domain 5

Insurance and compensation domain 6

Healthcare domain 6

Stakeholder consultation **7**

Outcome measures (lag indicators) 7

Lead indicators 7

Safe Work Australia's National RTW Strategy and measurement framework **7**

Recovery through work measurement framework **8**

Indicators of recovery through work **9**

Lead Indicators 9

Lag Indicators 9

Recover through work outcome measures cube 9

Designing measures/indicators **10**

Principles **10**

Data and information sources **10**

Setting the parameters of the measure **10**

Purpose 10

Measurement selection 10

Parameters (for a full description of parameters refer to appendix 1) 10

Catalogue of measures **11**

Application **12**

Reporting performance 12

Glossary **13**

Appendix 1: Parameters **16**

Appendix 2: Catalogue of lead and lag indicators and rationale for use **18**

Introduction

The Recovery through work measurement framework (the framework) outlines a multifaceted approach to measure recovery, as it relates to work, for all people injured on the roads or in the workplace.

This includes measuring the journey of people who, after sustaining an injury, stay at work (SAW) to recover, those who leave work and later return to work (RTW) and those that seek new employment opportunities during and/or following their recovery.

The framework reflects the complexity of the recovery process and the many factors that interact to influence a worker's recovery through work. It includes:

- lead indicators (modifiable factors that influence whether work outcomes are achieved)
- lag indicators (work outcomes)
- technical details used for designing metrics (parameters) of each measure.

The framework prioritises the most important modifiable factors when designing the new measures. These new measures will enable proactive identification and evaluation of:

- emerging trends
- potential risks and opportunities for improvement across the personal injury schemes
- performance of the scheme
- performance of the entities SIRA regulates, specifically insurer performance using both lead and lag recovery through work indicators
- matters for regulatory response
- the impact of regulatory efforts to improve system outcomes such as the recovery through work strategy.

All measures in the framework are based on current evidence of modifiable factors that influence an injured person's recovery at work, including both lead and lag indicators.

Rationale for the Recovery through work measurement framework

SIRA's approach to recovery through work measurement is based on:

- recovery through work obligations in NSW personal injury insurance legislation
- evidence of modifiable factors that positively influence recovery through work
- stakeholder feedback on the issues that most influence recovery through work
- Safe Work Australia National Return to Work Strategy 2020-2030 and measurement framework.

Recovery through work is a key object of the Legislation

The objective of the workers compensation system is set out in section 3 of the Workplace Injury Management and Workers Compensation Act 1998. It is "to establish a workplace injury management and workers compensation system with the following objectives:

a) to assist in securing the health, safety and welfare of workers and in particular preventing work-related injury

b) to provide -

- prompt treatment of injuries
- effective and proactive management of injuries
- necessary medical and vocational rehabilitation following injuries, in order to assist injured workers
- and to promote their return to work as soon as possible

c) to provide injured workers and their dependants with income support during incapacity, payment for permanent impairment or death, and payment for reasonable treatment and other related expenses

d) to be fair, affordable, and financially viable

e) to ensure contributions by employers are commensurate with the risks faced, taking into account strategies and performance in injury prevention, injury management, and return to work

f) to deliver the above objectives efficiently and effectively."

Similarly, section 1.3, Division 1.1 of the Motor Accident Injuries Act 2017, outlines its objectives in relation to return to work. They are (in part):

a) "to encourage early and appropriate treatment and care to achieve optimum recovery of persons from injuries sustained in motor accidents and to maximise their return to work or other activities

b) that participants in the third-party insurance scheme have shared and integrated roles with the overall aim of benefiting all members of the motoring public by keeping the overall costs of the scheme within reasonable bounds so as to keep premiums affordable and of promoting the recovery and return to work or other activities of those injured in motor accidents."

Evidence

Return to work outcomes are influenced by many factors. Measuring modifiable factors act as indicators of RTW performance.

The following provides an evidence summary of the modifiable factors that contribute to positive recovery at work outcomes[1].

Coordinated multi-domain intervention

Evidence indicates that there are multiple factors across four key domains - personal, workplace, healthcare, insurance and compensation - that work together to influence RTW

[1] SIRA 2020, Reversing the Trend- Improving RTW outcomes in NSW, retrieved May 2021.

outcomes for an individual worker. This is based on the Sherbrooke Model of Work Disability[2] developed specifically for RTW research and practice in the context of Australian workers compensation systems[3].

There is strong evidence that interventions across at least two domains significantly reduce time away from work following an injury[4]. Coordination and collaboration between all stakeholders involved in supporting the worker to recover at work is necessary to align expectations, develop a common goal and plan, and optimise outcomes.

RTW improves when the process is planned and the actions of the worker, the workplace and external parties are coordinated.

Personal domain

The personal domain includes biological, psychological, behavioural and social factors as they relate to the worker. Modifiable personal factors known to influence RTW include:

- self-efficacy – workers with greater belief in their ability to achieve goals have better RTW
- recovery expectations – workers with stronger expectations of recovery have better RTW
- perceived work ability – lower perceived work ability is associated with worse RTW outcomes
- pain catastrophising – workers who describe a pain experience in exaggerated terms, ruminate on or feel helpless, or avoid situations, have worse RTW outcomes
- concern about making a claim – a positive response from a worker's supervisor is associated with a durable or sustainable RTW[3].
- Worker perception of whether their experience with their employer was positive during the RTW process is one of the most significant influences on RTW outcomes[5].

Workplace domain

The workplace domain considers the working environment, relationships, design, support systems and how a workplace accommodates RTW.

Modifiable factors in the workplace domain include:

- provision of early workplace contact and support (positive workplace culture)
- timely injury notification
- RTW planning
- provision of suitable employment to recover at work
- RTW programs
- promoting the health benefits of good work
- setting expectations of recovery amongst staff and injured workers.

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[2] Loisel P, Durand MJ, Berthelette D, Vezina N, Baril R, Gagnon D, Lariviere C, Tremblay C. Disability prevention—new paradigm for the management of occupational back pain. *Dis Manage Health Outcomes* 2001; 9: 351–360.

[3] Collie, A., Lane, T., Di Donato, M., and Iles, R. August 2018. Barriers and enablers to RTW: literature review. *Insurance Work and Health Group, Monash University:* Melbourne Australia.

[4] Cullen K.L., Irvin E., Collie A., et al. Feb 2017. Effectiveness of workplace interventions in RTW for musculoskeletal, pain-related and mental health conditions: an update of the evidence. *Journal of Occupational Rehabilitation.*

[5] Wyatt, M. and Lane, T. 2017. *RTW: a comparison of psychological claims and physical injury claims - analysis of the RTW Survey results*. Commissioned by Safe Work Australia.

Early contact with the worker after injury provides the opportunity to demonstrate genuine concern, understand their situation and circumstances, and identify options for appropriate support including recovery at work.

Insurance and compensation domain

This domain includes claims agents, insurers, regulatory authorities and other government and non-government agencies. There is moderate to strong evidence for RTW factors considered readily modifiable in the insurance and compensation system domain including administrative timeframes and perceived insurer experience. The modifiable factors include:

- prompt liability decisions and prompt benefit payments (early intervention)
- disputation rate
- current injury management (recovery) plan (tailored, person centred planning)
- perceived injustice
- biopsychosocial approach
- worker empowerment (ownership)
- aligned expectations
- positive experience with the insurer[3].

Current evidence-informed claims management frameworks promote a tailored, person-centric claims management approach characterised by a *biopsychosocial approach* to understand the workers' circumstances, identify barriers to desired outcomes and provide appropriate support for the worker as well as the worker having ownership of RTW goals and outcomes.

Healthcare domain

The healthcare domain includes the provision of treatment and rehabilitation to facilitate recovery from injury. The following modifiable factors in the healthcare domain have moderate to strong evidence of an influence on RTW:

- evidence based medical utilisation (a high level of medical intervention is associated with a negative influence on RTW outcome[6])
- psychological counselling and treatment utilisation
- encourage evidence-based views about health and work (simple messages delivered in a clinical environment[7])
- RTW focused treatment
- application of the clinical framework (including using the biopsychosocial approach, setting goals and active participation and empowering the worker to manage their own injury)
- positive contact between the employer and treatment provider.

[6] Collie, A., Lane, T., Di Donato, M. and Iles, R. August 2018. Barriers and enablers to RTW: literature review. *Insurance Work and Health Group, Monash University*: Melbourne, Australia.
[7] Royal Australasian College of Physicians (RACP). *The role of General Practitioners*. retrieved September 2020 from: https://www.racp.edu.au/advocacy/division-faculty-and-chapter-priorities/faculty-of-occupational-environmental-medicine/health-benefits-of-good-work

Stakeholder consultation

During 2020 SIRA sought stakeholder feedback about measuring RTW via responses to a discussion paper and virtual roundtable sessions.

Outcome measures (lag indicators)

Feedback included consensus as to the merits of measuring work participation using outcome measures (lag indicators) based on 'work status code'.

Lead indicators

Key factors (lead indicators) identified by stakeholders for influencing RTW outcomes included:

- PERSONAL FACTORS - worker's experience with the claims process, nature of injury and related aspects, worker's financial background, experience and skills, psychosocial factors and support structures
- WORKPLACE FACTORS - interactions between the worker and employer (particularly with psychological injury claims), availability of suitable work, workplace culture and environment
- CLAIMS MANAGEMENT FACTORS - triaging/risk classification of claims, effective injury/case management, liability acceptance and timeliness of claim decisions, disputes leading to the involvement of lawyers in the claims process
- HEALTH AND RELATED FACTORS - nominated treating doctors setting expectations of recovery, effective use of workplace rehabilitation and other providers.

The consultation findings are closely aligned to the evidence and demonstrate the multifactorial aspects of RTW. RTW cannot be measured using a single measure.

Safe Work Australia's National RTW Strategy and measurement framework

The Safe Work Australia (SWA) National RTW measurement framework outlines how SWA will measure the success of the National Return to Work Strategy 2020-2030.

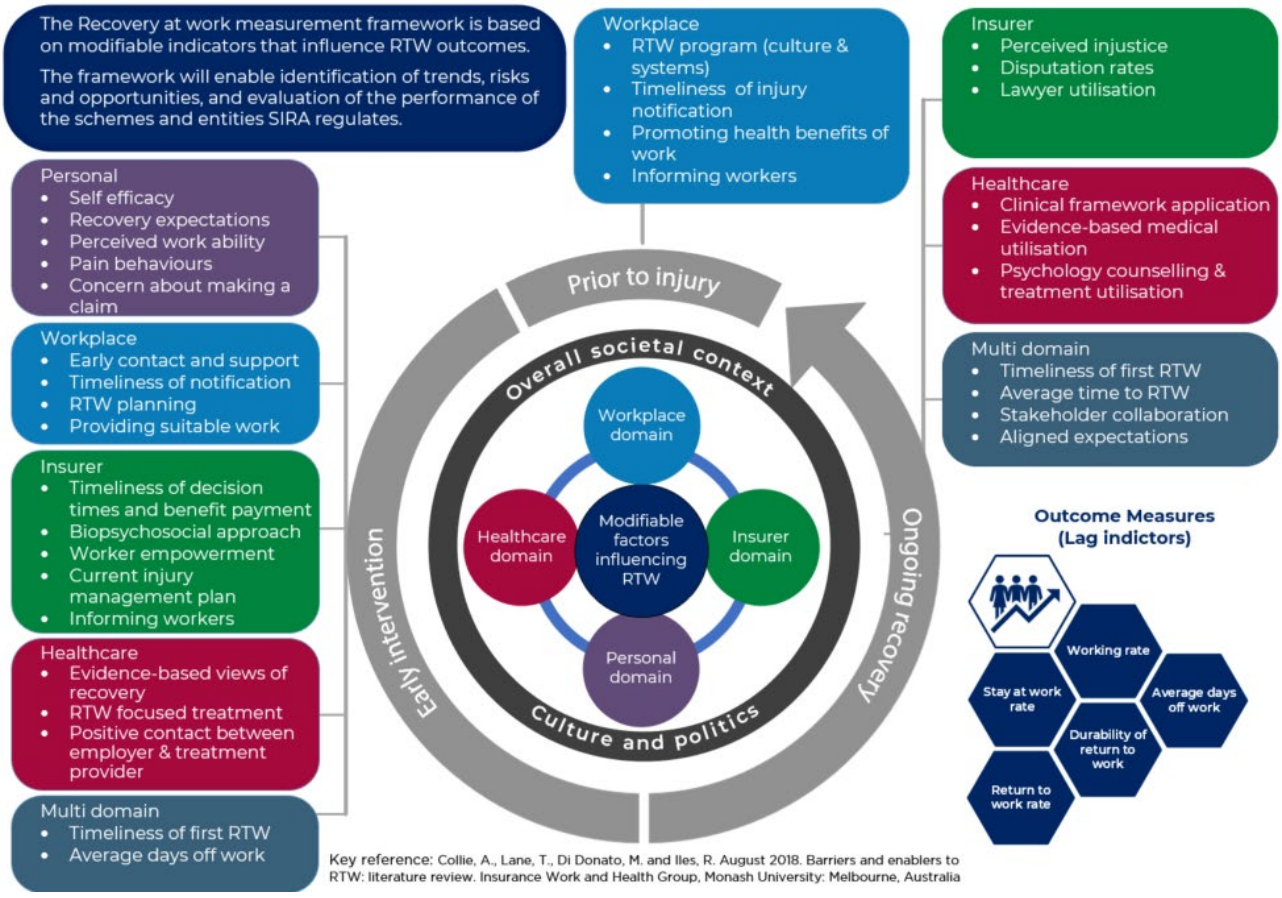
SIRA's measurement framework is aligned with the national framework and the evidence SWA used to develop its framework.

Recovery through work measurement framework

Figure 1 provides a summary of the Recovery through work measurement framework. It includes:

- A person's injury **journey** – the journey is broken into three phases: prior to injury, early intervention, and ongoing recovery
- **Lead indicators** are linked to the phases in the person's injury journey. The lead indicators are based on modifiable factors that influence RTW and grouped into relevant **domains**; personal, workplace, insurance or healthcare domain
- In the bottom right-hand corner is a list of the **outcome measures** (or lag indicators).

Figure 1. Summary of the framework



Indicators of recovery through work

SIRA's Recovery through work measurement framework reflects the complexity of the recovery process and the many factors that interact to influence a worker's recovery at work. All measures in the framework are based on the current evidence of modifiable factors that influence an injured person's recovery at work, including both lead and lag indicators.

Lead Indicators

Evidence indicates that there are multiple factors across four key domains - personal, workplace, healthcare, insurance and compensation - that work together to influence RTW outcomes for an individual worker. These factors form the basis of the lead indicators. Lead indicators are dynamic factors that can inform opportunities for intervention and influence whether recovery and RTW outcomes are achieved. Success in improving leading indicators will contribute to improvements in recovery through work outcomes.

Lag Indicators

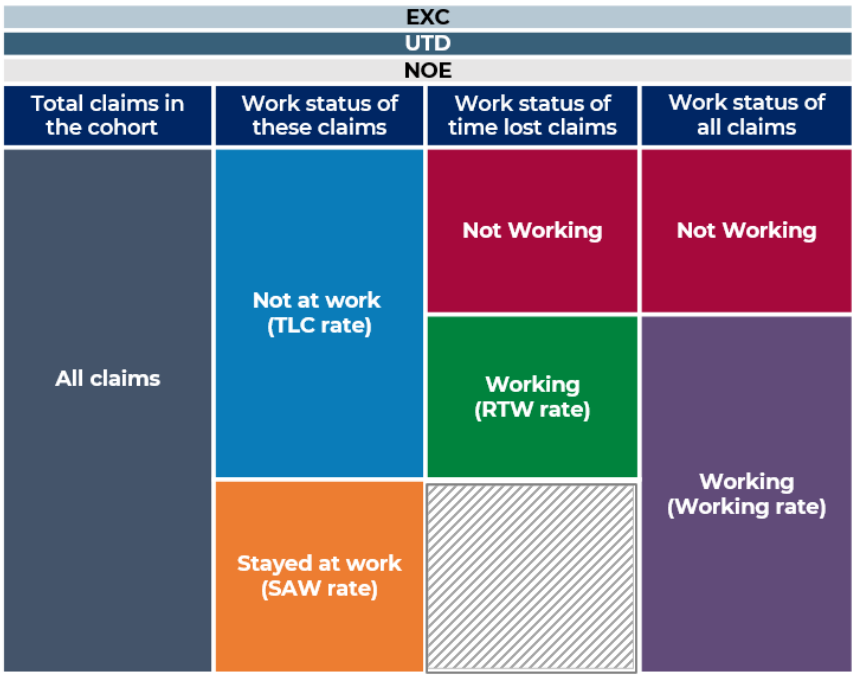
Lag indicators are observable factors that change after a variable has been applied. They can be easy to measure but are harder to effect change. Lag indicators (work outcome measures) are derived from claims data and are based on the work status code field.

A visual representation of the lag indicators is presented in the Recovery through work outcome measures cube in Figure 2.

Recover through work outcome measures cube

The cube in Figure 2 contextualises a person's compensable journey. It includes those who stay at work (SAW) after sustaining an injury, those who leave work initially and later RTW, as well as those who have not returned to work.

Figure 2. Recovery through work cube



Cube glossary:

EXC: Excluded claims - retired or deceased workers, cases reasonably excused or disputed

UTD: Unable to determine - data missing or incomplete

NOE: Not old enough - the claim has not matured enough to have a rating

SAW rate: Stay at work rate - percentage of workers who did not take time off work

TLC rate: Time lost claims rate - percentage of workers who took at least 1 day off work

RTW rate: Return to work rate - percentage of workers who had taken time off work (at least 1 day) and are working

Working rate: percentage of workers who either stayed at work or took time off and are now working

Designing measures/indicators

Principles

The following principles are used when designing a measure:

1. use a suite of measures – there is no single measure of RTW
2. ensure measures are comparable, practical, and understandable
3. use evidence-based modifiable factors that influence RTW
4. use available data and/or data that could be reasonably collected, for example a sample
5. support regulatory requirements and functions
6. support achievement of the objectives of the Acts
7. accommodate and/or reflect changes in the operating environment.

Data and information sources

The recovery through work measures are derived from the following data sources:

- customer enquiries - enquiries received by SIRA and IRO call centres
- customer complaints - complaints received by SIRA and IRO call centres
- disputes data - disputes lodged with the Personal Injury Commission
- claims data - claims data submitted to SIRA by workers compensation insurers on a monthly basis and by CTP insurers on a daily basis
- stakeholder insights - insights gained from SIRA's meetings with stakeholders
- case reviews/audits - regulatory reviews and audits to understand compliance with the legislation and performance against SIRA's expectations
- surveys - to learn about customers' experience of the personal injury schemes:
    - SWA conducts every two years a national RTW survey of workers with a worker's compensation claim. The survey uses self-reported measures of RTW through a telephone survey. Approximately 800 workers are sourced from NSW
    - SIRA conducts an injured person survey across both schemes and will undertake a survey of employer's experience of the workers compensation system
- evidence reviews - rapid reviews by research partners as a way of synthesising evidence.

Setting the parameters of the measure

Purpose

Clarify the reason for measuring an activity, payment or process and the expected outcome.

Measurement selection

Determine which suite of measures will provide the best information to address the purpose.

Parameters (for a full description of parameters refer to appendix 1)

Consider the parameters for each measure selected, such as:

1. Cohort(s)

Define the group of claims to which the measure will be applied. This usually represents the denominator of the measure.

2. Data currency (reporting period)

Data currency describes the recency of the data.

3. Measurement point/period (reference period)

The measurement period is the point/period at which the metric is being measured.

4. Exposure period

The exposure period is the start and end date of the cohort being measured. The exposure period varies depending on the time series.

5. Time series

The time series selected may be either rolling or fixed.

Rolling RTW calculation

Claims in the rolling cohort will vary at each reporting month for each measure. As the reporting month moves forward by one month, the rolling period drops the claims in its oldest month and adds the claims in the new month.

Fixed RTW calculation

Fixed cohort tracks how the outcomes for the same group of claims change as time passes.

> The challenge when selecting a time series is managing the compromise between a rapid approach and a reliable approach. The rapid approach (rolling time series) provides visibility of indicative trends as they are emerging, whereas the fixed series approach reduces the volatility and shows average performance over a longer time period.

6. Development period

The development period is the period at the end of the exposure period. It is added for the purpose of recording whether the activity (for example RTW) has occurred for each of the claims in the exposure period.

The development period is equal to the measurement period.

7. Lag period

The lag period refers to the period in which the data is submitted, compared to the period for which the activity occurred.

> Recasting is the updating of measurement results for previous months due to late reported information or reported to SIRA during the lag period.

Catalogue of measures

Appendix 2 is a catalogue of recovery through work measures. All the measures (both lead indicators and outcome measures) are based on the factors from the evidence that are modifiable.

Selection of the chosen measure or package of measures from this catalogue are made based on how the measures are intended to be used, that is the purpose.

Application

These new measures will enable SIRA to proactively identify:

- emerging trends, and potential risks and opportunities for improvement across the personal injury schemes, leading to regulatory action
- the impact of regulatory efforts to improve system outcomes
- performance of the scheme and the entities SIRA regulates, specifically insurer performance.

As data sources expand (such as injured person and employer survey data) more and more metrics will be available for these regulatory activities.

Application to performance

Existing SIRA external reports and insurer performance dashboards will progressively be updated with the new lag indicators (outcome-based measures) including:

- Stay at work rates
- Return to work rates
- Working rates, and
- Average days off work (WC only).

The following lead indicators are a priority and will be included in insurer comparative reports and supervision dashboards in the future:

- Timeliness of injury notification/lodgement (claim data)
- Insurer decision times (claim data)
- Disputation rates (claims, PIC data)
- Current Injury Management Plan (IMP)/ Recovery plan (claim data)
- Timeliness of statutory benefit payment (claim data)
- Positive experience with the insurer (SIRA survey data)
- Perceived injustice (SIRA survey data).

The information gained from these new lead and lag recovery through work metrics allows for stronger supervision conversations and performance improvement activity.

Glossary

Term	Definition
1987 Act	*Workers Compensation Act 1987*
1998 Act	*Workplace Injury Management and Workers Compensation Act 1998*
Biopsychosocial approach	An approach to health and illness that takes into account environmental, social and individual (psychological) influences, in addition to biological factors[8].
Cohort	Defines the group of claims to which the measure will be applied, that is the denominator. The cohort may be broken up into factors for further comparison such as region, injury type, insurer type, industry type, size of business.
CTP	Compulsory Third Party
Current returned to work rate	The current returned to work rate is derived from the SafeWork Australia biennial survey. It is the proportion of workers who were working at the time the survey was undertaken.
Data currency	The reporting period/data currency describes how recent the data is, for example June 2020.
Development period	The development period is the period at the end of the exposure period. It is added for the purpose of recording whether the activity (for example RTW) has occurred for each of the claims in the exposure period. The development period is equal to the measurement period. For example, measurements at 13 weeks need another 13 weeks at the end of the exposure period to capture the data.
Durability of RTW rate	Durable RTW rate is WSC based and derived from claim data. This rate indicates the percentage of workers who have returned to work in any capacity for at least three consecutive months.
Evidenced-based treatment	Treatments chosen based on the best available evidence and the clinician's expert judgement, in consultation with the person on claim.
Exposure period	The exposure period is the start and end date of the cohort being measured. The exposure period varies depending on the time series, 12 months (for 12 months rolling) or three months (for three months rolling) or a fixed 12-month period.
Fixed cohort	The fixed RTW calculation is based on a consistent sample of workers. This measure uses a fixed time period to follow the same injured worker's journey to RTW across 4, 13, 26, 52 and 104 weeks. In its Workers Compensation System Annual Performance Report, SIRA uses a fixed 12-month period.

[8] SuperFriend, (undated) Action Area 1: Management Practices for Psychological Claims , retrieved May 2021.

Term	Definition
Injury management plan	A written plan developed by the insurer in consultation with the worker and other stakeholders, to identify the actions of all parties in helping the worker recover from their injury and recover at/return to work enabling stakeholders to work together to establish a goal with the worker, as well as define the activities, agreed actions and follow-up points required to achieve this goal[9].
Injury management program	Co-ordinated and managed program that integrates all aspects of injury management (including treatment, rehabilitation, retraining, claims management and employment management practices) for the purpose of achieving optimal results in terms of timely, safe and durable return to work for injured workers[10].
Lead indicator	A predictive measure of 'inputs' or factors that influence whether recovery and RTW outcomes are achieved. Improving leading indicators can inform opportunities for intervention and contribute to improving RTW outcomes. These are dynamic and may be difficult to measure.
Lag indicator	An 'output' or outcome that provides useful information about the effectiveness of a process, such as recovery and RTW performance outcomes. These are easy to measure but hard to change.
Lag period	The lag period refers to the period in which the data is submitted, compared to the period for which the activity occurred.
Measurement period	The reference period is the point at which the metric is being measured. For example, the RTW rate will be measured at 4, 13, 26 and 52-week points.
NSW	New South Wales
RTW rate	The RTW rate is WSC based and derived from claims data. It indicates the percentage of workers who have been off work for at least one day (with Date Ceased Work) and returned to work with the same or different employer at full or current work capacity. This measure is viewed at 4, 13, 26, 52 and 104 weeks. Claims can be grouped into cohorts of different time periods based on date of report, to provide both short term and longer-term analysis (for example 1, 3, 6, 12 months).
Returned to work rate	The returned to work rate is derived from the SafeWork Australia biennial survey. It is the proportion of workers who had reported during the survey that they had returned to work for any period of time at some stage since their first day off work.
RTW status code (RTWSC)	Equivalent data field to the WSC work status (WC) for the CTP scheme.

[9] SIRA Claims management guide, https://www.sira.nsw.gov.au/workers-compensation-claims-guide/understanding-the-claims-journey/recovery-at-work/injury-management-plans , retrieved May 2021.
[10] Section 42 of the 1998 Workplace Injury Management and Workers Compensation Act , retrieved May 2021.

Term	Definition
Rolling cohort	The rolling RTW calculation offers a way of measuring RTW averages over multiple consecutive time periods. This is an approach that helps to gauge the overall direction of a series of monthly data because it smooths out the effects of month-to-month changes and can be used to analyse almost any type of monthly data. In its monthly WC dashboard reports and the Workers Compensation System Annual Performance Reports, SIRA uses a rolling 12-month period. A three-month rolling period provides a rapid headline measure that smooths out monthly variation.
SIRA	State Insurance Regulatory Authority
Stay at work (SAW) rate	The SAW rate is work status code based and derived from claims data. It indicates the percentage of workers who have made a claim but have not ceased working as a result of their work-related injury/illness. SAW includes workers who may be at work on reduced hours, or modified duties. This measure is viewed at 4, 13, 26, 52 and 104 weeks. Claims can be grouped into cohorts of different time periods based on date of report, to provide both short term and longer-term analysis (for example 1, 3, 6, 12 months).
Worker	People eligible for weekly payment benefits are referred to as a worker regardless of the scheme in which their claim was made.
Working rate	The working rate is Work Status Code (WSC) based and derived from claims data. It draws on data from two measures: the RTW rate and the SAW rate. The working rate is the percentage of workers who are at work at 4, 13, 26, 52 and 104 weeks. This includes workers who have had at least one day off work and have subsequently returned to work as well as workers who stayed at work.
WC	Workers Compensation
Work Status Code (WSC)	WSC is used by insurers and workplace rehabilitation providers to record the current work status of a worker. This primarily relates to whether a worker is working or not working. WSC can be broken down into 14 subcategories to define the true level of work participation.

Appendix 1: Parameters

Consider the parameters for each measure selected:

1. Cohort(s)

Define the group of claims to which the measure will be applied. This usually represents the denominator of the measure. For example, the cohort could include claims from the date of injury (DOI), date entered insurer's system (DEIS), date of first health service or earners as relevant in the CTP scheme.

In addition, the cohort may be broken up into factors for further comparison such as region, injury type, insurer type, industry type, size of business. These elements will be selected based on the purpose.

2. Data currency (reporting period)

Data currency describes the recency of the data. For example, the information is provided from data as at June 2020.

3. Measurement point/period (reference period)

The measurement period is the point/period at which the metric is being measured. For example, the RTW rate will be measured at 4, 13, 26 and 52-week points, and will include all claims that returned to work from the start of the period to the point of measurement.

4. Exposure period

The exposure period is the start and end date of the cohort being measured. The exposure period varies depending on the time series, 12-months (for 12-months rolling) or three months (for three-months rolling) or a fixed 12-month period.

5. Time series

The time series selected may be either rolling or fixed.

<u>Rolling RTW calculation</u>

The group of claims in the rolling cohort will vary at each reporting month for each measure. As the reporting month moves forward by one month, the rolling period drops the claims in its oldest month and adds the claims in the new month.

The rolling RTW calculation offers a way of measuring RTW averages over multiple consecutive time periods.

In its monthly WC dashboard reports and the Workers Compensation System Annual Performance Reports SIRA uses a rolling 12-month period as depicted in Figure 3. A longer rolling time series provides a smoother trend over time.

Figure 3. Rolling RTW calculation example

Blue with an 'S' represents the sample cohort period and grey with a 'D' represents the development period

Measured at the same point in time e.g. as at April 2020	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20
4 weeks development period						S	S	S	S	S	S	S	S	S	S	S	S	D
13 weeks development period				S	S	S	S	S	S	S	S	S	S	S	S	D	D	D
26 weeks development period	S	S	S	S	S	S	S	S	S	S	S	D	D	D	D	D	D	D

This measure offers a reduced time lag (compared to fixed RTW calculation). However, the 4, 13 and 26-week measures are not comparable, because they are based on different cohorts of workers.

Fixed RTW calculation

Analysis using a fixed cohort tracks how the outcomes for the same group of claims change as time passes. When using a fixed cohort care needs to be taken to ensure enough time is allowed for development, otherwise the results may be misleading and incomplete.

This measure uses a fixed time period to follow the same injured worker's journey to RTW across 4, 13, 26, 52 and 104-weeks.

In its Workers Compensation System Annual Performance Report SIRA uses a fixed 12-month period as depicted in Figure 4.

Figure 4. Fixed RTW calculation example

Blue with an 'S' represents the sample cohort period and grey with a 'D' represents the development period

Measured at different points in time	Jul 18	Aug 18	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19
4 weeks development period, as at 31st July	S	S	S	S	S	S	S	S	S	S	S	D					
13 weeks development period, as at 30 Sept	S	S	S	S	S	S	S	S	S	S	S	D	D	D			
26 weeks development period, as at 31st Dec	S	S	S	S	S	S	S	S	S	S	S	D	D	D	D	D	D

Fixed RTW cohort reporting however produces inherent time lags for the 13- and 26-week calculations, that is a further nine weeks is required for the 13-week calculation and a further 22 weeks is required for the 26-weeks calculation. In addition, the four-week measure is already subject to approximately one to two months lag due to data submission and processing time frames.

The challenge when selecting a time series is managing the compromise between a rapid approach and a reliable approach. The rapid approach (rolling time series) provides visibility of indicative trends as they are emerging, whereas the fixed series approach reduces the volatility and shows average performance over a longer time period.

6. Development period

The development period is the period at the end of the exposure period. It is added for the purpose of recording whether the activity (for example RTW) has occurred for each of the claims in the exposure period.

The development period is equal to the measurement period. For example, measurements at 13-weeks need another 13 weeks at the end of the exposure period to capture the data.

7. Lag period

The lag period refers to the period in which the data is submitted, compared to the period for which the activity occurred. For example, a change in work status may have occurred in April but is first reported in July.

Appendix 2: Catalogue of lead and lag indicators and rationale for use

Outcome based/Lag indicators

Measure	Description	Rationale/evidence
RTW rate (claim data)	Work status code based. The percentage of workers who have been off work for at least one day and returned to work in any capacity.	Return to work is one of the primary performance measures. Absence beyond 13 weeks indicates chronicity and increased claim complexity.
Durability of RTW rate (claim data)	Work status code based. The percentage of workers who have returned to work in any capacity for at least three consecutive months.	Durable return to work is one of the primary performance measures.
Stay at work rate (SAW) (claim data)	Work status code based. The percentage of workers who have made a claim but have not ceased working as a result of their work-related injury/illness. Includes workers who may be at work on reduced hours, or modified duties.	Staying at work to recover is associated with better recovery and return to work outcomes.
Working rate (claim data)	Work status based. Draws on data from two measures – the RTW rate and the SAW rate. Includes workers who have had at least one day off work and have subsequently returned to work as well as workers who have not ceased work.	Drawing on the data from the RTW and SAW rates give a total measure of injured people at work after sustaining an injury/illness.
Average days off work (claim data)	Average duration of weekly payments (paid in the first six months) = the average number of days of weekly payments paid to workers in the first six months of their injury.	Provides further insights when combined with the RTW rate as it provides the average number of days of weekly payments paid to workers in the first six months of their injury.

Measure	Description	Rationale/evidence
	Uses work hours lost and injury quarter to calculate average days.	
Returned to work rate (survey data)	The returned to work rate is derived from the SafeWork Australia biennial survey. It is the proportion of workers who had reported during the survey that they had returned to work for any period of time at some stage since their first day off work.	Return to work is one of the primary performance measures. Absence indicates chronicity and increased claim complexity.
Current returned to work rate (survey data)	The current returned to work rate is derived from the SafeWork Australia biennial survey. It is the proportion of workers who were working at the time the survey was undertaken.	Return to work is one of the primary performance measures. Absence indicates chronicity and increased claim complexity.
Average time to RTW (claim data)	The average duration (in weeks) from the Date of injury (DOI)/Date ceased work (DCW) to the date of returning to work. This measure can be grouped into bands or displayed as an average.	Encouraging and accommodating workers to remain in the workforce and stay active while recovering facilitates shorter recovery times and prevents or reduces disability.

Lead indicators - Personal domain

Measure	Description	Rationale/evidence
Self-efficacy (SIRA survey data)	For future consideration.	Workers with higher self-efficacy – a greater belief in their ability to achieve goals – are likely to have better RTW outcomes.
Recovery expectations (SIRA survey data)	For future consideration.	Workers with stronger expectations of recovery have better RTW outcomes.

Measure	Description	Rationale/evidence
Pain behaviour (SIRA survey data)	For future consideration.	Workers describing pain experience in exaggerated terms (pain catastrophising) or who avoid pain related situations (fear avoidance) have worse RTW outcomes.
Perceived work ability (SWA survey - every two years)	Additional source: SIRA injured person survey.	Workers who perceive their ability to function in the workplace as lower are associated with less positive RTW outcomes.
Concern about making a claim (SWA survey - every two years)	Additional source: SIRA injured person survey.	Concern about making a claim is associated with a negative influence on RTW outcomes. A positive response from a worker's supervisor is associated with a durable RTW. **Stakeholder feedback** – worker's experience with claims process.
Expectations of recovery	Possible solution for future consideration: SIRA employer survey.	Workers with stronger expectations of recovery at work following injury are associated with better RTW outcomes.

Lead indicators – Workplace domain

Measure	Description	Rationale/evidence
Timeliness of injury notification (claim data)	Mean time in days between DOI and date of claim notification.	Early notification of injury enables early intervention and support and is associated with improved RTW outcomes.
Providing suitable work (claim data)	For future consideration.	Recovery at work and early return to good work can help recovery and prevent secondary complications associated with time away from the workplace.

Measure	Description	Rationale/evidence
Early contact and support (SWA survey - every two years)	Additional source: SIRA injured person survey.	Early contact with the worker following injury. Better RTW outcomes are achieved when workplaces engage with workers early and provide support immediately following notification. **Stakeholder feedback** – interactions between worker and employer.
RTW planning (SWA survey - every two years)	Additional source: SIRA injured person survey and employer survey.	RTW planning. RTW outcomes improve when the RTW process is planned, and the actions of all parties are coordinated. A written RTW plan significantly increases the likelihood of RTW.
RTW program	Possible solution for future consideration: SIRA employer survey, inspectors assess during site visits.	Positive workplace culture, leadership and effective systems to prepare for, respond to and manage work-related injuries can significantly influence RTW outcomes. **Stakeholder feedback** - workplace culture and environment.
Promoting the health benefits of good work	Possible solution for future consideration: SIRA employer survey.	Good RTW outcomes are more likely when individuals understand and are supported to access the benefits of good work.
Informing workers	Possible solution for future consideration: SIRA employer survey, inspectors assess during site visits.	Ensuring workers understand their rights and responsibilities. Equipping and supporting workers to take an active role in their recovery may positively influence their response to injury (increased self-efficacy).

Lead indicators – Insurer domain

Measure	Description	Rationale/evidence
Insurer decision times (claim data)	Mean time in days between date of notification and date first liability decision made regarding weekly payments and medical payments.	The time taken for insurers to make claims decisions is linked to the duration of time off work and is an indicator of early intervention.
Disputation rates (claim, PIC data)	Percentage of workers with difference of opinion with the claim decision either via internal reviews or disputes lodged with the Personal Injury Commission.	Disputes or differences of opinion with the insurer are linked to poorer experiences and therefore RTW outcomes.
Current Injury Management Plan (IMP)/ Recovery plan (claim data)	Percentage of workers with a significant injury with a current IMP. Additional solution: file review of the quality of the IMP.	Evidence of tailored intervention and effective planning that identifies and addresses risks to recovery based on known influences on RTW.
Perceived injustice (SIRA survey data)	Procedural justice is about the fairness of the procedures used to determine the outcomes. Informational justice is about receiving accurate and timely information about the rationale for decisions. Interpersonal justice relates to whether workers were treated with respect and sensitivity.	A worker's experience of the claims process can influence RTW outcomes.
Timeliness of benefit payment (claim data)	Current in CTP - to be designed in WC. Medical payments – DOI to date of first treatment (other than GP codes). Weekly payments– DOI to date of first weekly payment.	Payment delays are linked with less positive worker perceptions of their claims experience which is associated with a negative influence on RTW

Positive experience with the insurer (SIRA survey data)	The quality of a worker's interactions with the insurer is a key influencer of RTW outcomes – to be designed.	RTW rates for workers reporting positive experience with the insurer case manager is significantly higher than for those workers who report negative experience.
Lawyer utilisation (claim data)	Lawyer utilisation to be designed.	Lawyer involvement is associated with less positive RTW outcomes.
Bio - psychosocial approach	Possible solution for future consideration: insurer file review.	Tailored, person-centric claims management using a biopsychosocial approach to understand the worker, their circumstances, goals, barriers and strengths (interconnection between biological, psychological and socio-environmental factors).
Worker empowerment	Possible solution for future consideration: SIRA injured person survey.	The worker having ownership of RTW goals and outcomes. Equipping and supporting workers to take an active role in their recovery may positively influence their response to injury (increased self-efficacy).

Lead indicators - Health domain

Measure	Description	Rationale/evidence
Evidence - based medical utilisation (claim data)	To be developed as per the health outcomes framework and reporting dashboard.	In this context, medical utilisation should be viewed as a risk factor for an individual, where a higher level of medical intervention is associated with a negative influence on RTW. This factor must be assessed in the context of the person, their psychosocial context, and their injury (including severity).
Psychology and counselling treatment (claim data)	To be developed as per the health outcomes framework and reporting dashboard.	Work focused cognitive behavioural therapy can reduce lost time for workers with a mental health condition (compared to traditional CBT intervention which has no effect on reducing lost time)

Measure	Description	Rationale/evidence
Encourage evidence-based views of recovery (SWA survey - every two years)	Additional source: SIRA injured person survey.	Treatment providers are well placed to educate workers that recovery at work is in their best interest. **Stakeholder feedback** – Nominated treating doctors set expectations of recovery.
RTW focused treatment (SWA survey - every two years)	Additional source: SIRA injured person survey, use linked to RTW rate (claims data).	Treatment with RTW focus improves RTW outcomes. **Stakeholder feedback** – use of workplace rehabilitation and other providers.
Clinical framework application (SWA survey - every two years)	Additional source: SIRA injured person survey, insurer file review.	Allied health practitioners use a biopsychosocial approach, set goals relating to function, participation and RTW, and empower the worker to manage their own injury.
Contact between employer and treatment provider	Possible solution for future consideration: SIRA injured person survey, insurer file review, employer survey.	RTW is improved by contact between healthcare provider and the workplace.

Lead indicators - Multi domain

Measure	Description	Rationale/evidence
Timeliness of first RTW (claim data)	Work status code based. Duration between date ceased work and first date resumed work in any capacity.	Duration between date ceased work and first date resumed work in any capacity is linked to RTW. Early return to good work can assist recovery and prevent secondary complications associated with time

Measure	Description	Rationale/evidence
		away from the workplace. The longer a worker is off work the less likely they are to return.
Stakeholder collaboration	Possible solution for future consideration: SIRA injured person survey, employer survey, insurer file review.	Collaboration between stakeholders. RTW outcomes improve when the RTW process is planned, and the actions of all parties are coordinated. Interventions coordinated across at least two domains (personal, workplace, insurance and compensation, and healthcare) reduce time away from work following injury.
Aligned expectations (SWA survey - every two years)	Additional source: SIRA injured person survey and employer survey.	Setting positive recovery expectations that are aligned with everyone throughout the process leads to better RTW. **Stakeholder feedback** - injury/case management.

Disclaimer

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