



ISCRR

Institute for Safety, Compensation
and Recovery Research

The individual, family and societal impacts of injury

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 - WorkSafe Victoria
 - Transport Accident Commission
 - Comcare
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Outline

- Some injury outcome assessment frameworks
- The individual, family and societal impacts of injury: a systematic meta-review.
- Conclusions and implications

Impact of work injury on family members

TABLE II. Incidence of One or More Hospitalizations 3 Months After and 3 Months Before Occupational Injury (Percent of Families)^a

	All injured workers	Non-severely injured workers	Severely injured workers
After injury (percent)	1.91	1.82	2.38
Before injury (percent)	1.50	1.48	1.62
Absolute difference	0.41	0.34	0.76
Percentage difference	27.33	22.97	46.91
Number of observations	18,411	15,514	2,897

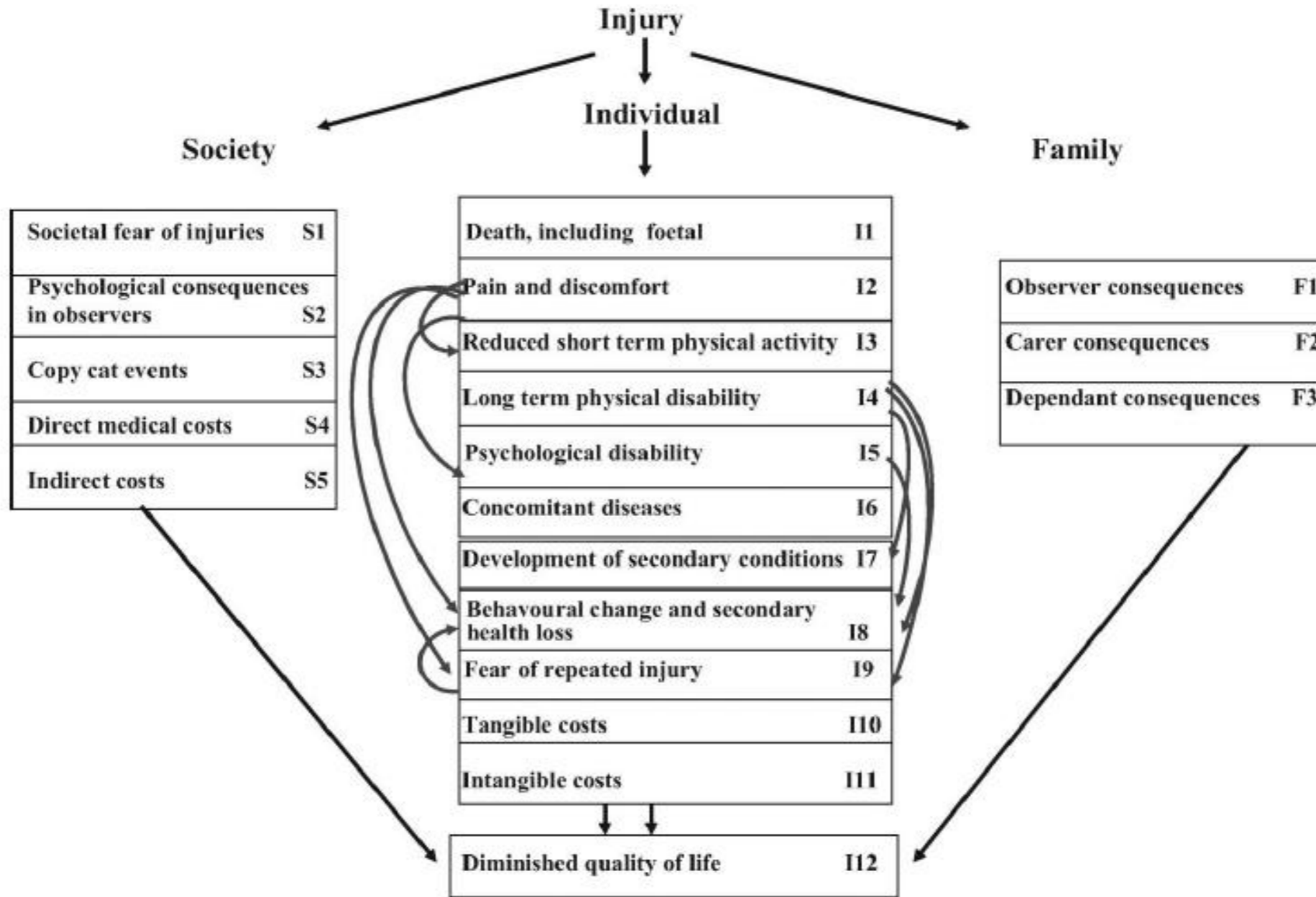
^aAmong families with hospitalizations, 11.9% (before) and 12.5% (after) had more than one hospitalization.

TABLE III. Conditional Logistic Regression Results: Odds of One or More Family Hospitalizations 3 Months After Versus 3 Months Before Occupational Injury

	All injured workers	Non-severely injured workers	Severely injured workers
Odds ratio	1.31	1.26	1.56
Z-score	3.17	2.47	2.18
$P > z $	0.002	0.013	0.029
95% confidence interval	1.11–1.55	1.05–1.52	1.05–2.34
Number of observations (families) ^a	1,340	1,088	212

^aIn the conditional logistic regression analysis only families with change in hospitalization status before and after injury are considered.

List of All Deficits (LOAD) framework



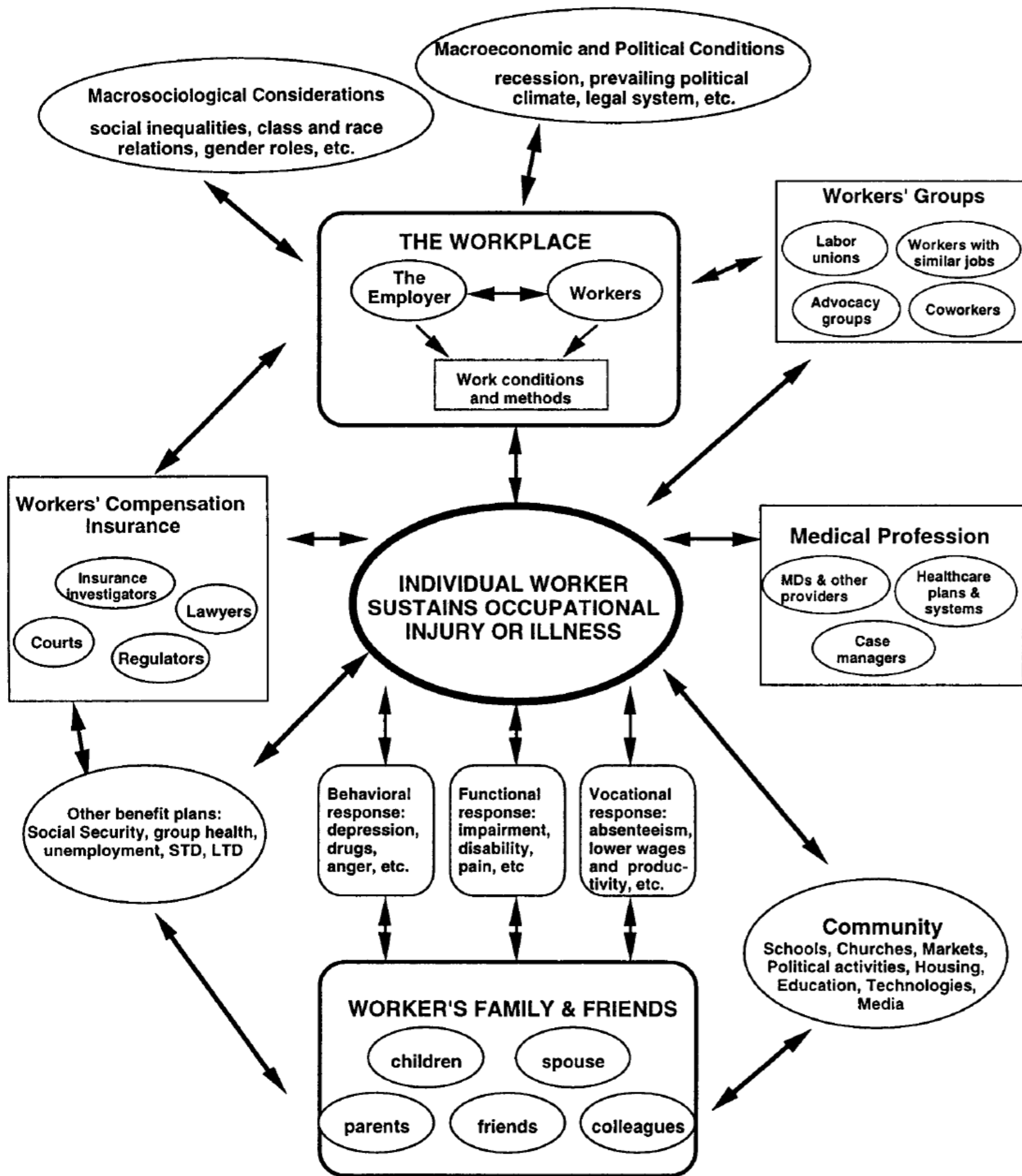
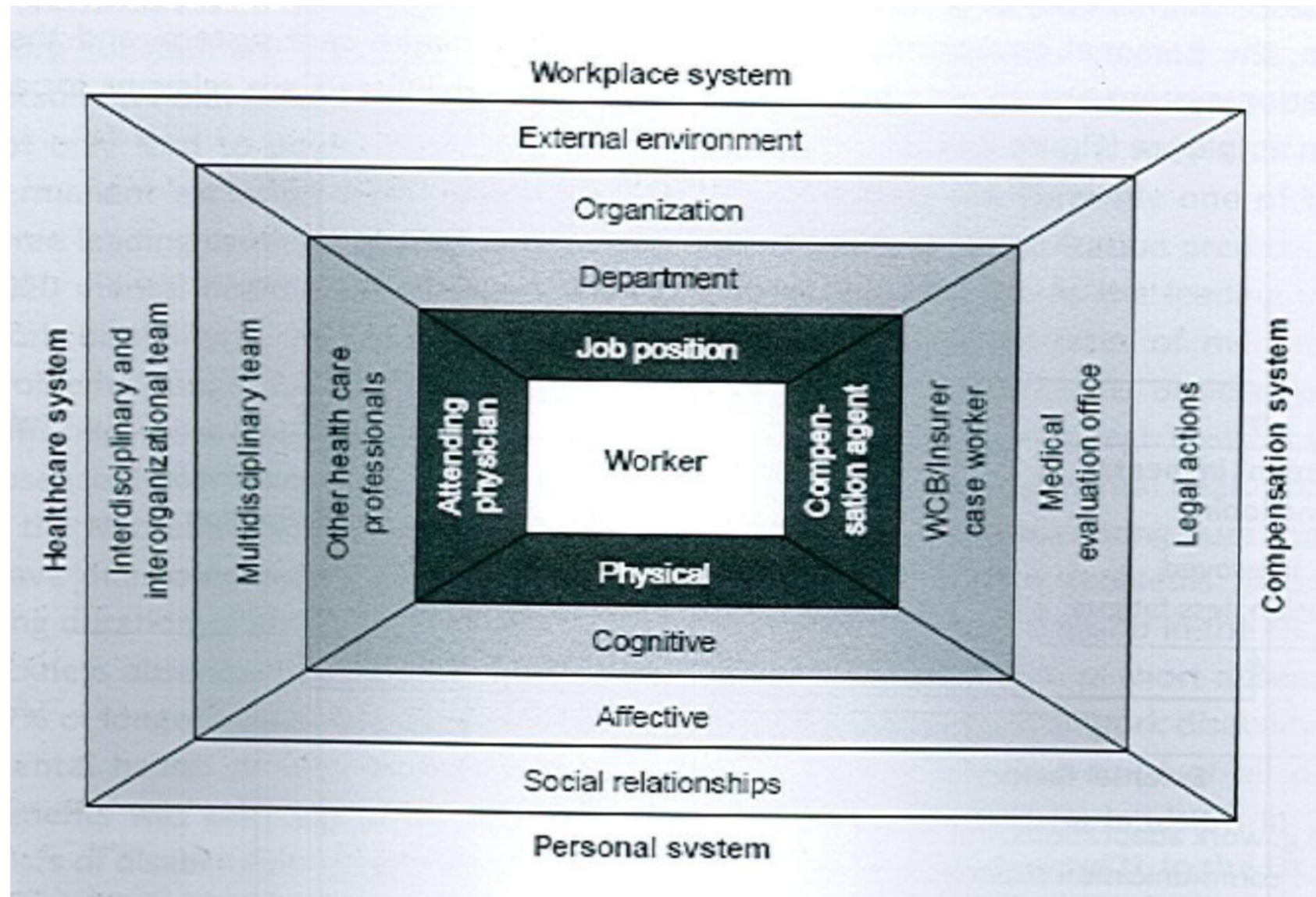
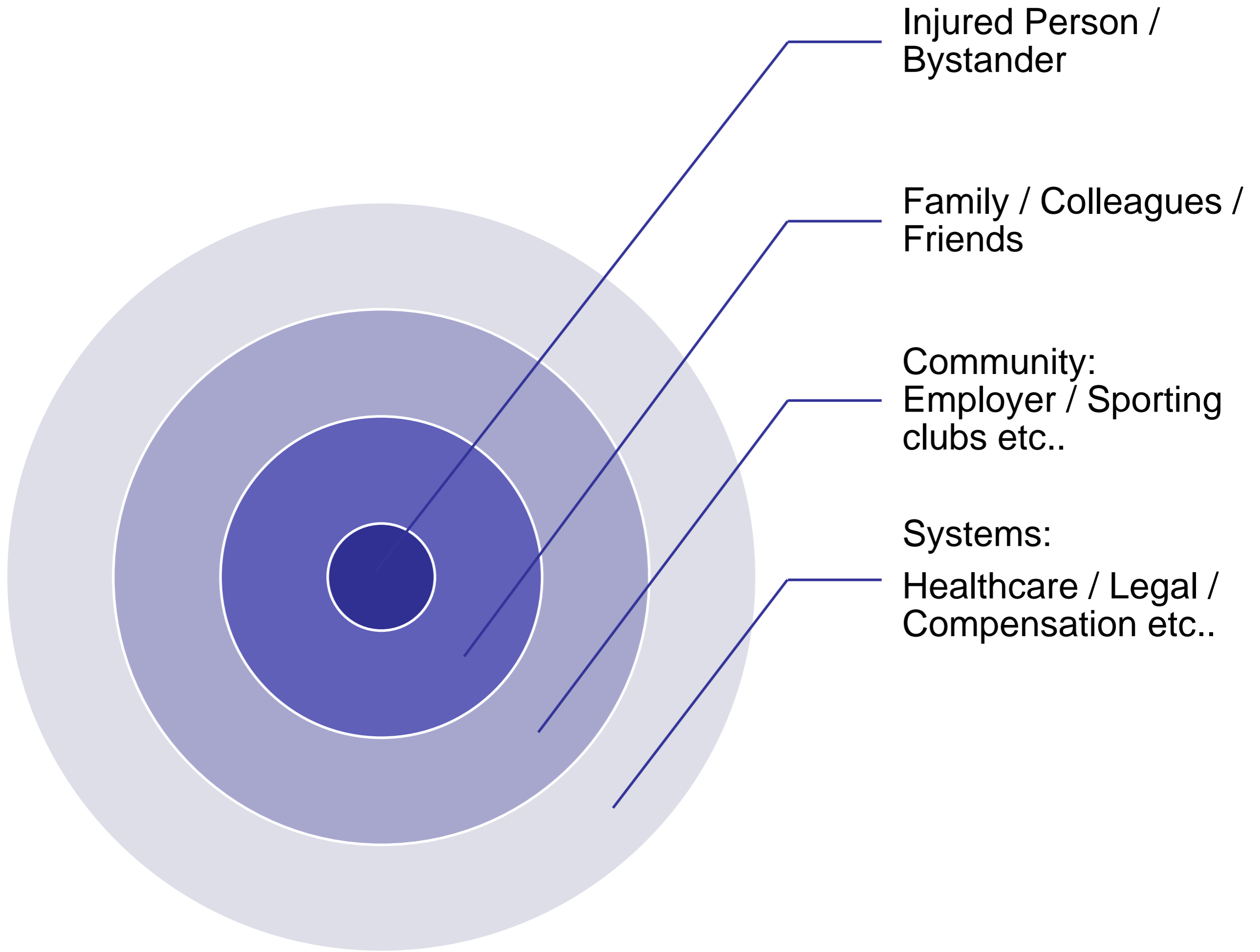


FIGURE 1. The social context of occupational injuries and illnesses.

Dembe A (2001). Am J Ind Med.

Sherbrooke model





Background

- Estimates of the burden of injury are based almost entirely on knowledge of the impact on the injured person.
- Very limited understanding of the impacts of injury on individuals and groups connected to the injured person (family members, carers, compensation systems, healthcare providers).
- Effective policy development requires understanding of the full burden of injury.

ARC industry linkage project

Title: Determining the individual, community and societal impact of compensable injury in Australia (2011 to 2014: \$548k)

Phase	Description	Status
1	Review of injury outcomes literature	Complete
2	Qualitative interviews with injured persons, employers, compensation scheme personnel, healthcare practitioners, family members	Data collection complete
3	Series of detailed case to examine in depth the impacts of injury on those involved in compensation systems	Planned

Objectives

1. To summarise the published research literature in the field of injury outcomes using a meta-review methodology.
2. To develop and describe an injury outcome framework that captures impacts of injury at the level of the individual, the community and society.

Search Strategy

- Databases
 - Medline, Psychinfo, Embase, International Bibliography of Social Sciences (IBSS), Economic Evaluation Database (EED), Cochrane Reviews
- Search terms included “injury”, “systematic review”, “meta-analysis”, “literature review”.

Inclusion / Exclusion

- Inclusion criteria
 - Systematic reviews
 - Narrative reviews
 - Meta-analysis
 - English language
 - Available as full text
 - Adults (18 + years)
 - Jan 1970 – Sept 2011

- Exclusion criteria
 - Non-injury outcomes
 - Primary studies
 - Commentary
 - Paediatric populations (0 to 17 years)
 - If focus was on:
 - treatment effectiveness
 - predictors of outcome
 - psychometric studies

Search process

Stage 1: 3178 potentially relevant studies were identified through database searches: Medline (n=1699), Psychinfo (n=572), Embase (n =729), IBSS (n = 55), EED (n=123)

Stage 2: Initial abstract screening = 3009 studies excluded (no injury outcome reported, injury prevention focused, evaluation of medical trials/treatments, non-review paper).

Stage 3: Second abstract screening = 94 further studies excluded because:
Predictors/prognostics of (n=21), Paediatric populations (n=4), Evaluations of rehabilitation programs (n=5), Treatments for injury (n=21), Conceptual/epidemiology reviews (n=9), Non-review paper (n=9), Non-injury related reviews (n=11), Psychometric evaluation (n=14)

Stage 4: 75 full-text studies retrieved and screened. 17 excluded including 5 duplicates and 12 studies failing screening criteria.

Stage 5: 20 additional eligible studies identified through hand searching of reference lists.

Stage 6: Data extraction from 78 studies meeting screening criteria.

Stage 7: Synthesis of extracted data. Development of injury outcomes framework.

Data Extraction

- Publication details
- Study population
- Injury type (e.g., burns, brain injury, musculoskeletal injury)
- Mechanism of injury (e.g., trauma, work-related)
- Study design (systematic review, meta-analysis, narrative review)
- Injury outcomes reported (e.g., mortality, quality of life, psychological).
- Number of primary studies identified.

Definitions

- Individual level outcomes were considered to be those characteristics of injury directly experienced by an injured person.
- Community level outcomes were considered to be impacts on individuals in personal contact with the injured person (e.g., parents, dependents, spouses, carers, work colleagues) before and after the injury.
- Societal level outcomes were considered to be impacts on the social and/or economic organisation of the broader community and groups in society with whom the injured person interacts (e.g., employer), or those groups in society that play a role in the injured rehabilitation and recovery from injury (e.g., healthcare providers, injury compensation personnel).

Levels of impact

- Specific injury outcomes = first order impacts.
- Logical groupings of related outcomes = second order impacts.
 - Arrived at by consensus between two reviewers.

Results

- 78 studies included:
 - 33 systematic reviews
 - 16 meta-analyses
 - 26 narrative reviews
 - 3 systematic reviews / meta-analyses
- Of the studies
 - 70 (83%) focussed on injured person / individual domain
 - 9 (11%) focussed on community domain
 - 5 (6%) focussed on societal domain

Injured person impacts

- N= 70 studies
- Cognition (N=18), Psychological health (N=15), Mortality (N=12), Psychosocial function (e.g., QoL, ADL N=9), Physical functioning (N=7), Return to work (N=7), Sexual function (N=6), Emotion (N=4), Pain (N=3), Onset of a neurological condition (N=3), Hyper-metabolism (N=2), Driving (N=2), Fertility (N=2), Menstruation (N=1), Disease onset (N=1)
- ICF domains
 - Body Function (N=62)
 - Body Structure (N=0)
 - Activity (N= 9)
 - Participation (N=9)
 - + Mortality (N=12)

Community impacts

- N=9 studies
- Traumatic Brain Injury (N=8)
 - Family members experiences
 - Other primary care-givers experiences
 - Marital relationships
- Work injury (N=1)
 - Employers and co-workers experiences

Societal impacts

- N=5 studies
- Economic costs of falls in the elderly (N=3)
- Health service utilisation of TBI and SCI (N=1)
- Health care practitioners and injury compensation personnel experiences of work-related injury (N=1)

Summary – 1st order impacts

Individual level impacts

Body Function

Participation

Activity

Mortality

Community level impacts

Family

Carers

Workplace

Societal impacts

Economy

Healthcare system

Compensation system

Summary – 2nd order impacts (individual domain)

Body Function

Cognition

Psychological Health

Physical function

Sexual function

Emotion

Pain

Disease onset

Hypermetabolism

Menstruation

Activity

Activities of Daily Living

Health-related Quality of Life

Driving ability

Participation

Employment / Return to work

Mortality

Summary

- We know quite a lot about the function, activity and participation of the injured person
 - Some injuries / conditions poorly studied
- We know very little about the impact of injury beyond the injured person.
- Next steps:
 - Focus on compensable injury (work and transport)
 - Add published primary studies
 - Describe impacts on family, employers & compensation schemes (qual studies)

So what?

- What is the economic and non-economic impact of work injury on the employer?
- What is the impact of brain injury on the family and the provision of informal care?
- What is the impact on case managers of interactions with injured persons?
- How does disruption to social networks impact on return to work?

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