

**Working conditions of nurses and
absenteeism: Is there a causal relationship?
An empirical analysis using National Survey
of the Work and Health of Nurses**

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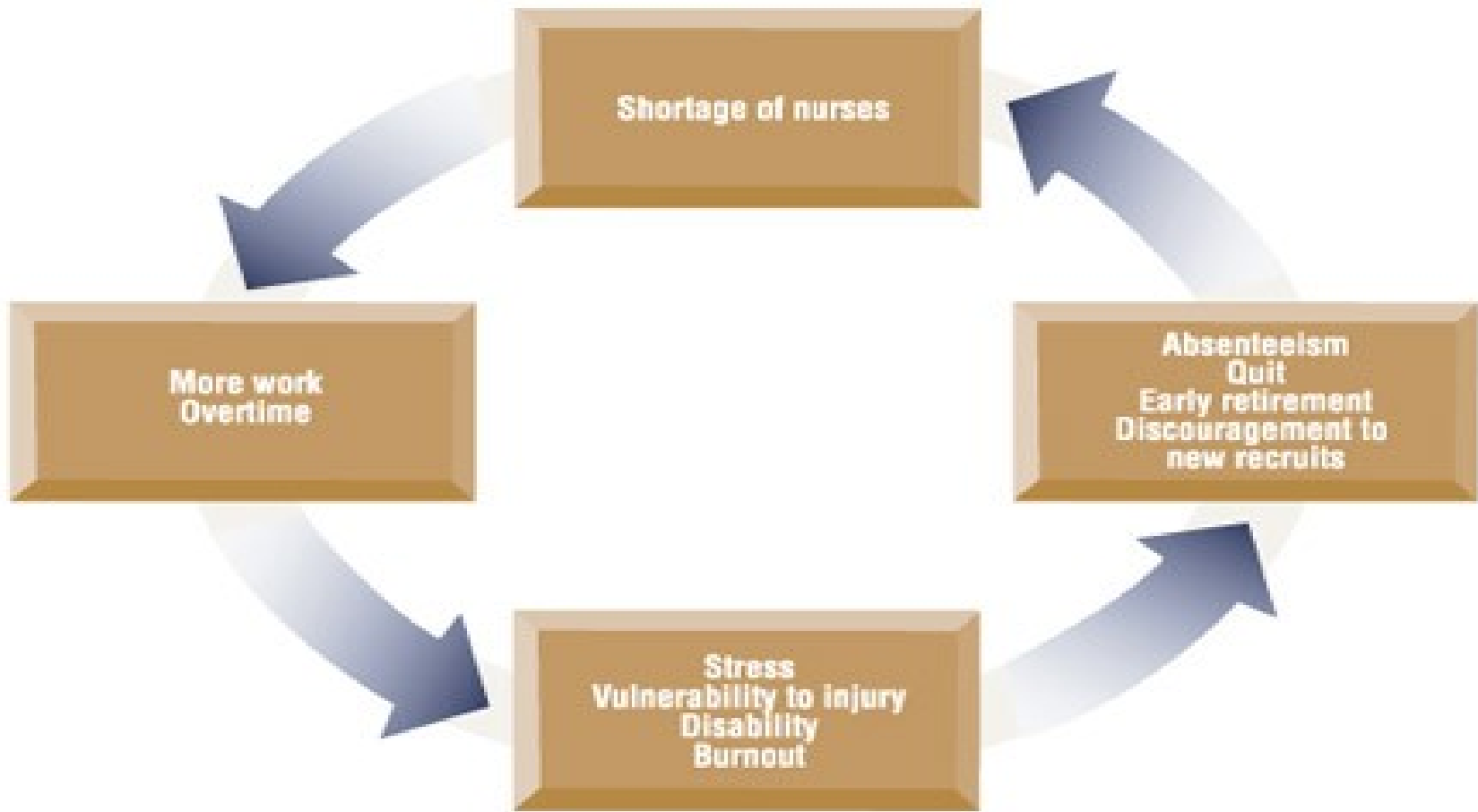
Crowne Plaza Hotel, Ottawa, 4-6 December 2007

Overview

- * Background
- * Objective
- * Data
- * Method
- * Results
- * Policy implications



Background



Source: Basu and Gupta, Health Policy Research Bulletin, Issue 13, February 2007.

Objective

- * Investigate causal relationship between working conditions and illness- and injury-related absenteeism of full-time RNs and LPNs working in direct patient-care and are not self-employed.



Data

- * 2005 National Survey of the Work and Health of Nurses (NSWHN)
- * October 2005 through January 2006
- * Survey population
- * Sample: 18,676 nurses
 - 9,704 RNs
 - 7,265 LPNs
 - 1,707 RPNs
- * Weighted to represent 317,930 nurses



Data (cont'd)

- ✧ Share file

- ✧ 18,348 observations

- ✧ Information on

- workplace characteristics

- workload pressures

- work environment

- physical and mental health

- socio-economic characteristics: age, sex, education, household income



Method

* Negative Binomial Regression Model

- separately for full-time RNs and LPNs
- working in direct patient care
- not self-employed

* Dependent variable: absenteeism

- Days converted into weeks because distribution is
 - highly skewed with over-dispersion
 - not continuous



Method (cont'd)

* Explanatory variables

- work-index autonomy score
- work-index control over practice score
- role overload score
- effort-reward imbalance score
- depression scale score
- dissatisfied being a nurse: “somewhat dissatisfied” or “very dissatisfied”
- work settings: hospital, long-term care, community health facility, other
- shift type: days, evenings, nights, mixed
- shift length: 8 hour, 12 hour, some other, various
- work province
- household income: low, middle, high
- body weight: normal, overweight, obese
- absence of chronic conditions diagnosis
- socio-demographic variables: age, sex, education



Method (cont'd)

* Final sample

- 10 provinces
- Direct patient-care
- Not self-employed
- Full-time
- 3,642 RNs (weighted 170,707)
- 2,992 LPNs (weighted 45,630)



Descriptive Statistics (Summary)

- * Average absenteeism: RNs 1.7 wks, LPNs 2.4 wks
- * Dissatisfied being a nurse: 8% RNs, 6% LPNs
- * Obese: 16% RNs, 22% LPNs
- * Chronic condition diagnosis: 72% RNs, 77% LPNs
- * Household income:
 - Low: 7% RNs, 35% LPNs
 - Middle: 59% RNs, 53% LPNs
 - High: 34% RNs, 11% LPNs



Negative Binomial Regression

(Dependent variable: *absenteeism* (weeks))

Variables	RN [n = 3,642]	LPN [n = 2,992]
	Exp(β)	Exp(β)
Intercept	1.9448*	2.1545*
Work index autonomy score	0.9881	0.9690
Work index control over practice score	0.9944	1.0124
Role overload score	1.0033	1.0280*
Effort-reward imbalance score	0.9708	0.9225**
Depression scale score	1.1986***	1.1877***
Dissatisfied being a nurse	1.0598	1.0153



Negative Binomial Regression (Cont'd)

Variables	RN [n = 3,642]	LPN [n = 2,992]
	Exp(β)	Exp(β)
Newfoundland & Labrador	1.5626***	1.3045
Prince Edward Island	0.9914	0.5748**
Nova Scotia	1.2464	1.1086
New Brunswick	0.8334	1.2046
Quebec	1.9584***	2.1200***
Ontario	Ref.	Ref.
Manitoba	0.6901**	1.0033
Saskatchewan	1.2626	1.1572
Alberta	1.4285*	0.9846
British Columbia	1.2232	1.6177***



Negative Binomial Regression (Cont'd)

Variables	RN [n = 3,642]	LPN [n = 2,992]
	Exp(β)	Exp(β)
Hospital	Ref.	Ref.
Long-term care facility	0.8368	0.7872**
Community health setting	0.8450	0.7523
Other	0.6295**	0.6529**
Normal	Ref.	Ref.
Overweight	1.0772	1.1150
Obese	1.2394	1.5352***
Absence of chronic condition diagnosis	0.4258***	0.4473***
High (Bachelor, Master)	0.8511	1.3892
Low (Certificate, diploma)	Ref.	Ref.
Less than 35	1.0530	0.8013
35 to 44	0.9504	1.1038
45 to 54	Ref.	Ref.



Negative Binomial Regression (Cont'd)

Variables	RN [n = 3,642]	LPN [n = 2,992]
	Exp(β)	Exp(β)
Male	0.5861***	0.6604**
Low (Up to \$59,999) HH income	1.5417*	0.9324
Middle (\$60,000 to \$99,999)	Ref.	Ref.
High (\$100,000 and over)	0.7423***	0.7770
8 hour shift	Ref.	Ref.
12 hour shift	0.7970	1.5143***
Some other shift	1.1756	1.1478
Various shifts	1.3930	1.1059
Days	Ref.	Ref.
Evenings	1.7720*	1.3707
Nights	1.0953	0.6754*
Mixed	1.3425**	1.1465



Policy Implications

- ✧ Improving the working condition is one way to increase the labour supply of nurses via reduction in absenteeism without increasing new admission or new recruits. From purely economic point of view it is desirable because it is less costly and it makes the healthcare delivery system more stable.
- ✧ The evaluation of Health Canada's Healthy Workplace Initiative, a component of the Pan-Canadian Health Human Resource Strategy that has funded 11 provincial projects and four national projects to support health care workplace environments, will help to inform relationships between workplace conditions and absenteeism.
- ✧ The planned repetition of this survey will allow for evaluation of whether any initiative has improved working conditions and reduced absenteeism.



Acknowledgements

We acknowledge the Office of Nursing Policy for their insightful comments on the preliminary draft of the paper. We also thank Sisira Sarma and Anil Gupta for their comments. However, the views expressed in this presentation are those of the authors and do not necessarily represent the view of Health Canada. Any remaining errors are ours.

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