


 Council on Licensure, Enforcement and Regulation


2009 Annual Conference
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An Analysis of Discipline Matters in Ontario Nurses: 1999-2009


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Promoting Regulatory Excellence

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Overview

1. Introduction
2. Research question
3. Methodology
4. Findings & Limitations
5. Discussion

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College of Nurses of Ontario

Entitled to practise:


- Registered Nurses 113,690
- Registered Practical Nurses 35,517
- Nurse Practitioners 1387

Data collection:

- Initial registration
- Annual membership renewal






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Research: Nurses with Disciplinary Action

- States: Arizona (1987); Texas (1996); Colorado (1998); Kentucky (1999); Louisiana (1999); Missouri (2008)
- National Council State Boards of Nursing (2007) (2009)
- No published Canadian studies

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Research Question

Are there risk factors associated with disciplinary action in Ontario nurses?

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Methodology

Retrospective

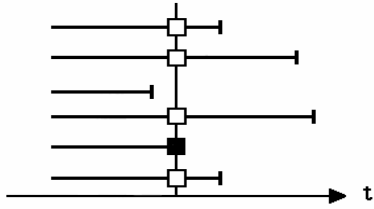
- Case = event has occurred
- Control= event has not occurred
- Measure of incidence and associated risk factors


Nested Case-Control

- Select all cases within defined time period
- Sample controls from "risk sets" defined by cases
- Compare cases and controls on risk factors of interest

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Risk Sets



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Cases and Controls

Cases: Nurses with disciplinary action between July 1, 1999 and June 20, 2009

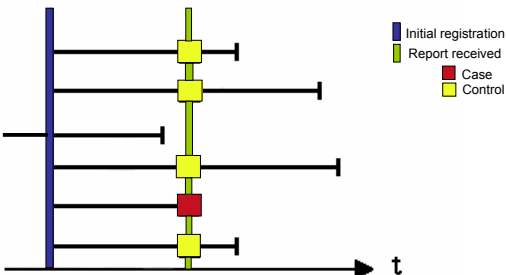
Controls: Nurses without disciplinary action who were practising nursing in Ontario

Exclusion criteria:


- Disciplinary action prior to study period
- Misconduct did not occur in a practice setting

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Disciplinary Action Risk Set



Initial registration
Report received
Case
Control

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Final Data Set: 257 Cases / 2,570 Controls


Nurse type: RN / RPN

Age

Gender: Male / Female

Sector: Hospital, Long-Term Care, Community, Other


Initial Nursing Education:
Ontario, Outside Canada, Other Canadian Jurisdiction

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Risk Analysis

Eye Colour	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
Blue	25	2.0	<0.05	1.0	3.0
Green	75	0.5	<0.001	.25	1.0
Brown (R)	200	1			

- Risk associated with blue eye colour is twice the risk associated with brown eye colour
- Risk associated with green eye colour is half the risk associated with brown eye colour

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Risk Analysis

Bivariate

- Estimate risk for each individual factor
- Does not control for other risk factors

Multivariate


- Estimate risk for several factors at once
- Controls for other risk factors and allows testing for interactions

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Bivariate Analysis: Nurse Type

Nurse Type	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
RPN	742	1.91	<0.001	1.47	2.50
RN (ref)	2,085				


- Risk of discipline associated with RPN category is twice the risk associated with RN category

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Bivariate Analysis: Gender

Gender	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
Male	188	5.64	<0.001	3.97	8.01
Female (ref)	2,639				


- Risk of discipline associated with males is more than five times the risk associated with females

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Bivariate Analysis: Age

Age Group	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
60 or over	92	2.41	0.123	0.79	7.39
50 to 59	573	5.58	<0.001	3.04	10.24
40 to 49	880	3.18	<0.001	1.79	5.65
30 to 39	872	2.34	0.003	1.34	4.08
18 to 29 (ref)	410				


- Greatest risk associated with 50 to 59 age group, followed by 40 to 49 age group, then 30 to 39 age group
- Risk no different from reference for 60 or over group

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Bivariate Analysis: Sector

Sector	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
Long-Term Care	439	1.37	0.072	0.97	1.94
Community	395	1.52	0.017	1.08	2.13
Other	368	0.28	<0.001	0.15	0.54
Hospital (ref)	1,625				


- As compared to Hospital:
 - ↑ risk associated with Community
 - ↓ risk associated with Other

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Bivariate Analysis: Initial Nursing Education


Location	N	Risk	Sig	95% CI for Risk	
				Lower	Upper
Outside Canada	277	1.33	0.528	0.90	1.98
Other Cdn.jur.	186	0.83	0.154	0.48	1.47
Ontario (ref)	2,364				

- No significant risk associated with location of initial nursing education

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Multivariate Analysis

Risk Factor	Level	Risk	Sig	95% CI for Risk	
				Lower	Upper
Nurse Type	RPN	1.70	<0.001	1.27	2.28
	RN (ref)				
Gender	Male	5.71	<0.001	3.95	8.26
	Female (ref)				
Age Group	60 or over	1.78	0.318	0.57	5.51
	50 to 59	4.29	<0.001	2.28	8.07
	40 to 49	2.55	0.002	1.41	4.61
	30 to 39	1.88	0.028	1.07	3.30
	18 to 29 (ref)				
Sector	Long-Term Care	1.14	0.483	0.78	1.67
	Community	1.67	0.005	1.17	2.39
	Other	0.27	<0.001	0.14	0.52
	Hospital (ref)				

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Comparison of Bivariate & Multivariate

Risk Factor	Level	Risk (BV)	Risk (MV)	% Change
Nurse Type	RPN	1.91	1.70	-11.1
	RN (ref)			
Gender	Male	5.64	5.71	1.3
	Female (ref)			
Age Group	60 or over	2.41	1.78	-26.2
	50 to 59	5.58	4.29	-23.2
	40 to 49	3.18	2.55	-19.8
	30 to 39	2.34	1.88	-19.6
	18 to 29 (ref)			
Sector	Long-Term Care	1.37	1.14	-16.6
	Community	1.52	1.67	10.4
	Other	0.28	0.27	-6.4
	Hospital (ref)			

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Limitations


- Non-linearity in age
- Time-dependency: changing sectors over time
- Potentially important explanatory variables not included
- Analyzed first-time discipline matters only (incidence)

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Discussion

Gender

- Results are consistent with prior research: Males > females
- No significant change in risk associated with males when account for other risk factors: type; sector; age
- Are there other factors that might impact risk associated with males?

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Discussion


LPNs > RNs

- Results are consistent with prior research
- Are there other factors that might impact risk associated with RPNs?

Age

- Results are inconsistent
- Requires further study

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