

Ownership and Organizational Characteristics Associated with Nursing Home to Emergency Department (ED) Transfers in One Large Health Region in *British Columbia, Canada*

Research Team

Investigators: Margaret J McGregor, Jennifer Baumbusch, Riyadh B. Abu-Laban, Kimberlyn M McGrail, Dug Andrusiek, Judith Globerman, Shannon Berg

Research collaborators (part 1): Michelle B Cox, Kia Salomons, Jan Volker, Lisa Ronald, Penny Brasher

Research collaborators (part 2): Michelle B Cox, Lisa Ronald, Michael Schulzer, Lisa Kuramoto

Others who have provided invaluable input: Stirling Bryan, Linda Rose

Nursing Home to Emergency Department (ED) Resident Transfers

Primary Study Goal (part 1):

To examine population ED transfer rates by facility ownership (for-profit, non-profit and public) characteristics

Second Study Goal (part 2):

- a) To examine the distribution of other facility organizational characteristics, previously found in the literature to reduce hospital utilization, across ownership groups
and
- b) Explore the association of these characteristics with facility ED transfer rates

Why ownership?

- because care outcomes in publicly-funded nursing homes in both the US and Canada vary by whether a facility is for-profit, non-profit or publicly-owned,

However....

- we don't have a very deep understanding of the mechanisms by which ownership affects outcomes

And....

- with the aging population, even with a drastic change in home care policy, most provinces will likely require more nursing home beds, so the issue has increasing policy relevance

Why Emergency Department (ED) Resident Transfers?

Nursing home residents are medically/ functionally complex

- 'Stretcher time' disproportionate to number of visits

ED transfers result hospital admissions

- Negative implications for further decline and quality of life
- Substantial numbers of hospitalizations may be futile and costly
- Emerging evidence: treatment in place => better outcomes

Nursing Home to Emergency Department (ED) Resident Transfers

Methods

- Retrospective observational cohort study

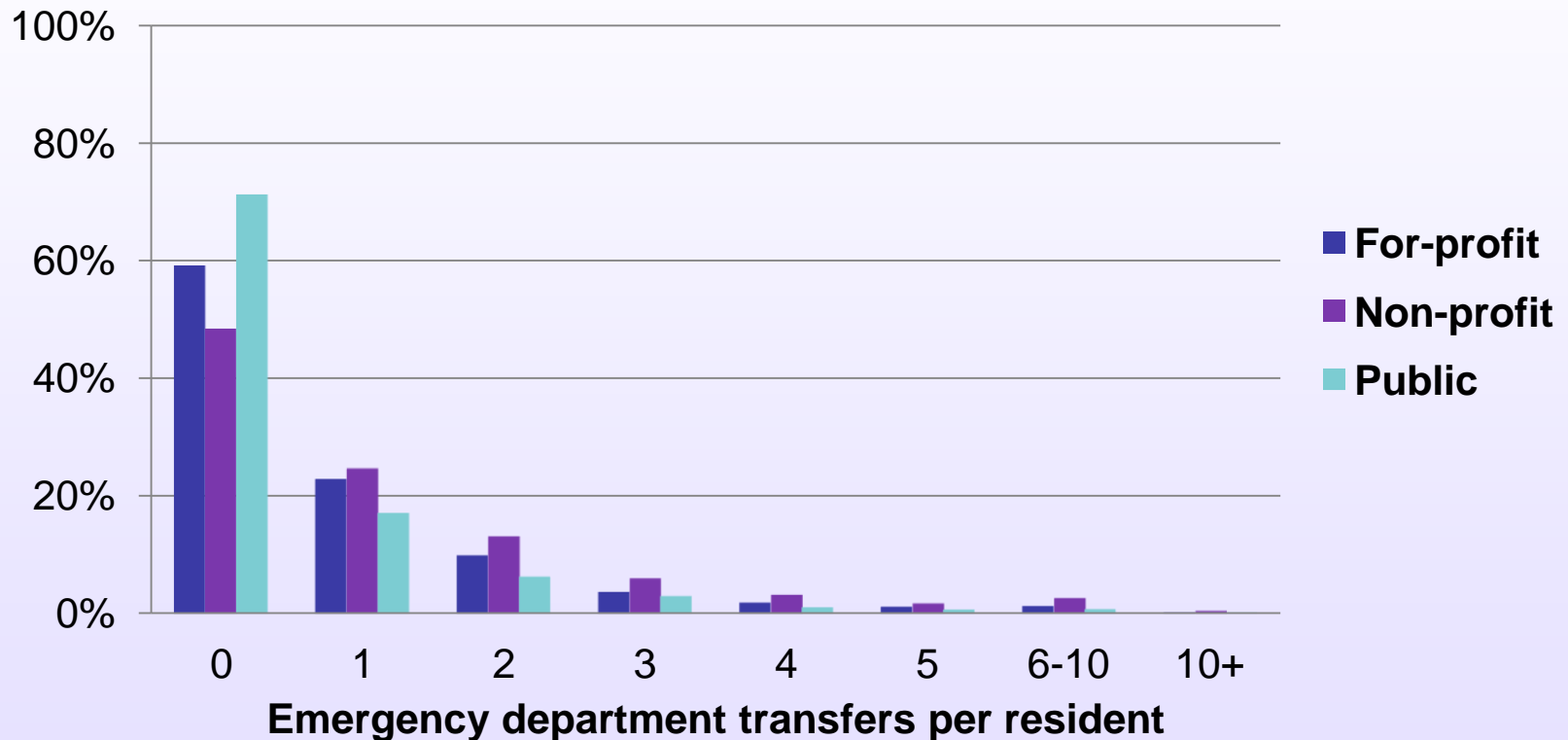
Part 1:

- Secondary administrative data on all residents admitted to 48 nursing homes in Vancouver Coastal linked to ED transfers over three years
- Calculated population rates of ED transfers by facility ownership (for-profit, non-profit, and public) and examined
- The association of ownership and transfer rates (random effects Poisson regression) over three years, adjusted for age and sex

Results: Part 1

- 13,140 residents
- 10,710 transfers
- Facility transfer rates ranged from 22 to 100 transfers per 100 resident years, representing almost 5-fold difference between facilities
- Crude rate per 100 resident years: For-profit = 69, Non-profit = 70, Public = 51

Distribution of ED transfers per resident by facility ownership April 1st 2005 - March 31st 2008



***Poisson regression, incident rate ratios (IRR) for
effect of ownership on ED transfer rates
April 1st 2005 - March 31st 2008***

	Adjusted (for sex and age) IRR (95% CI)
Public vs. for-profit	0.65 (0.59, 0.71)
Public vs. non-profit	0.68 (0.62, 0.74)

For-profit vs. non-profit
 $p=0.38$

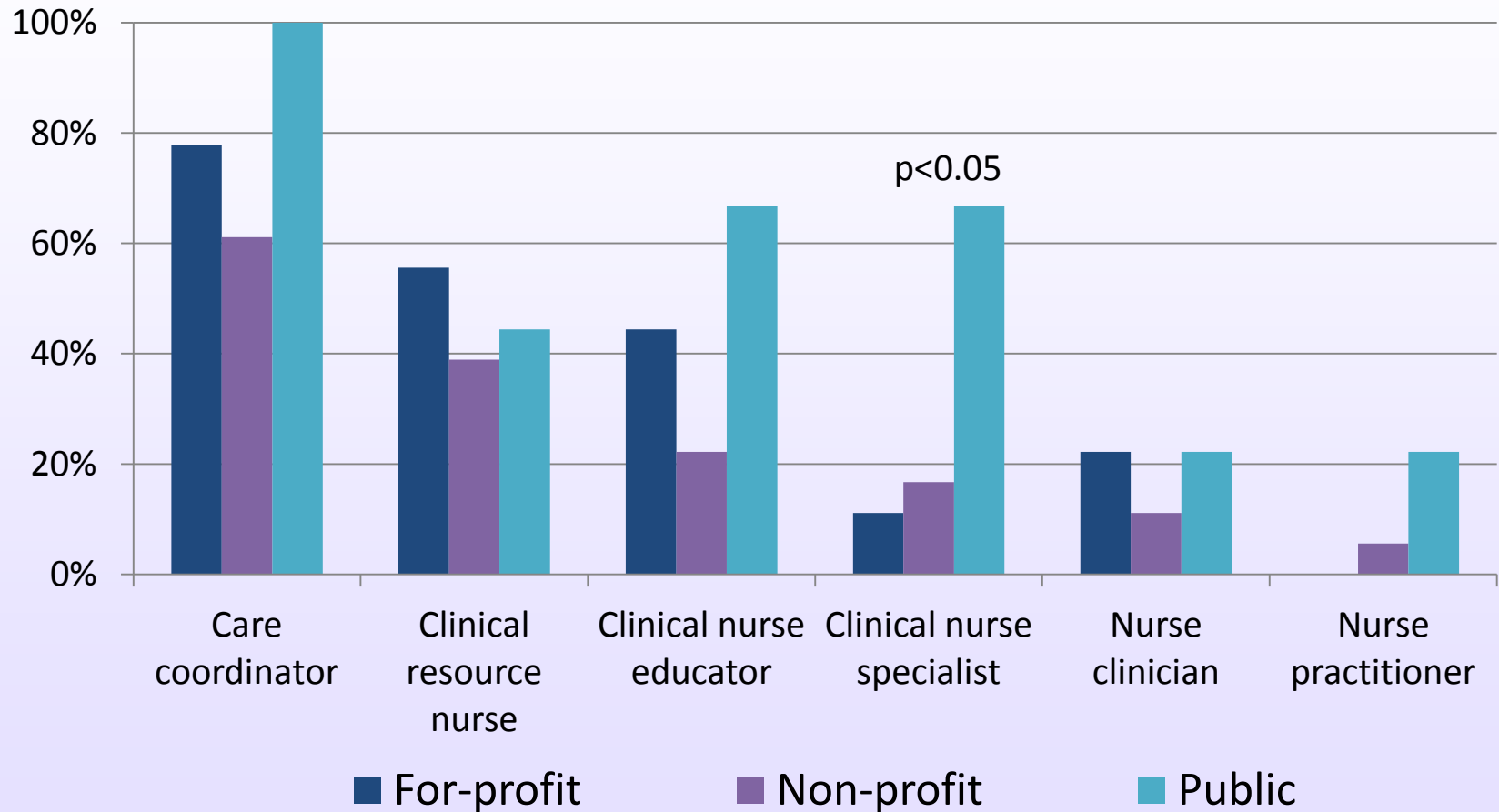
Nursing Home to Emergency Department (ED) Resident Transfers

Methods: Part 2

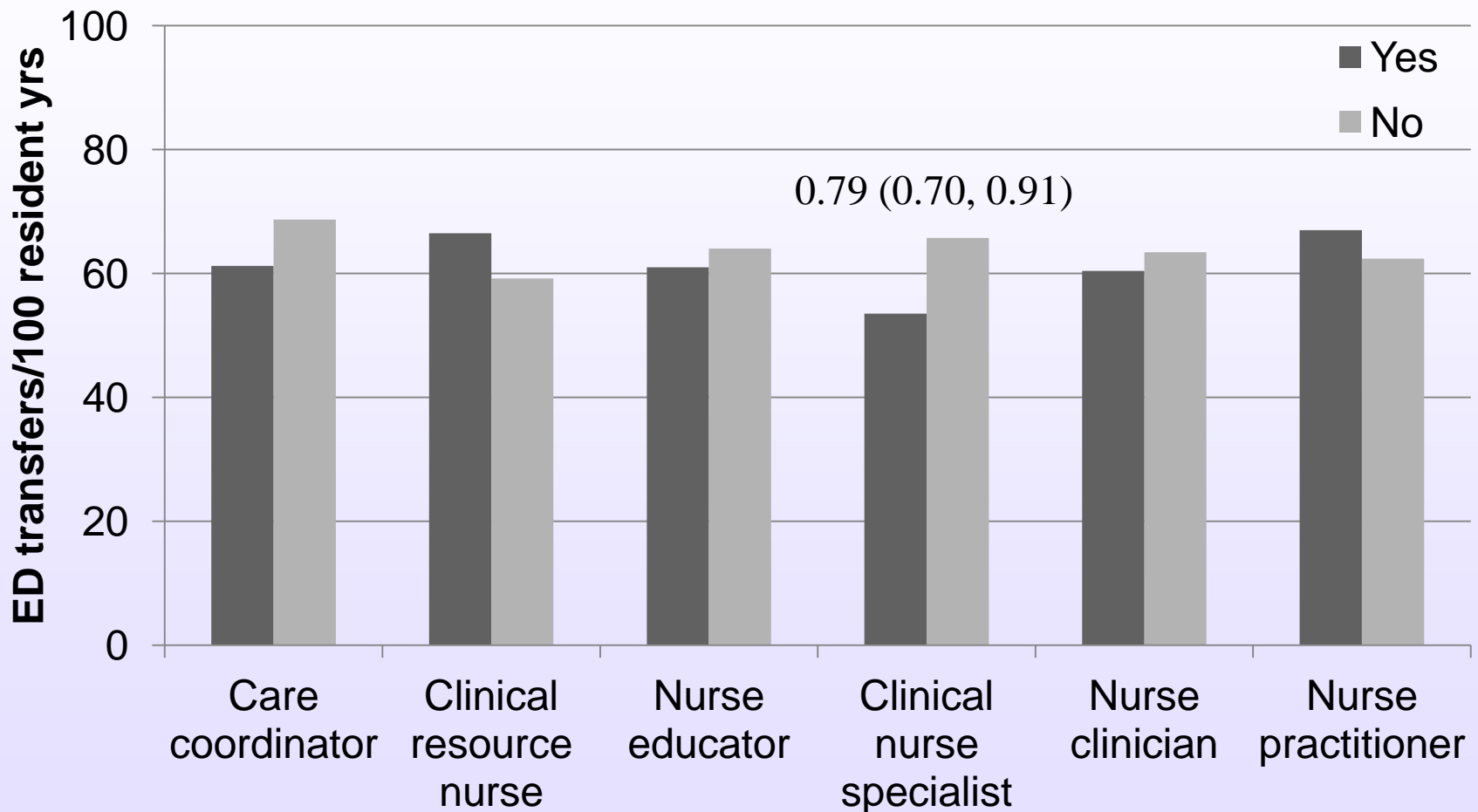
- Linked final year of ED transfer admin data facility organizational characteristics (presence of specialized nursing & allied health staff, staff levels & organization, physician access, etc.) gathered from a cross-sectional survey and explored the
 - a) How are organizational characteristics distributed across facility ownership groups? - descriptiveand
 - b) How are these characteristics associated with ED transfer rates – univariate regression analysis adjusted for age and sex

Distribution of specialized nursing staff by facility ownership

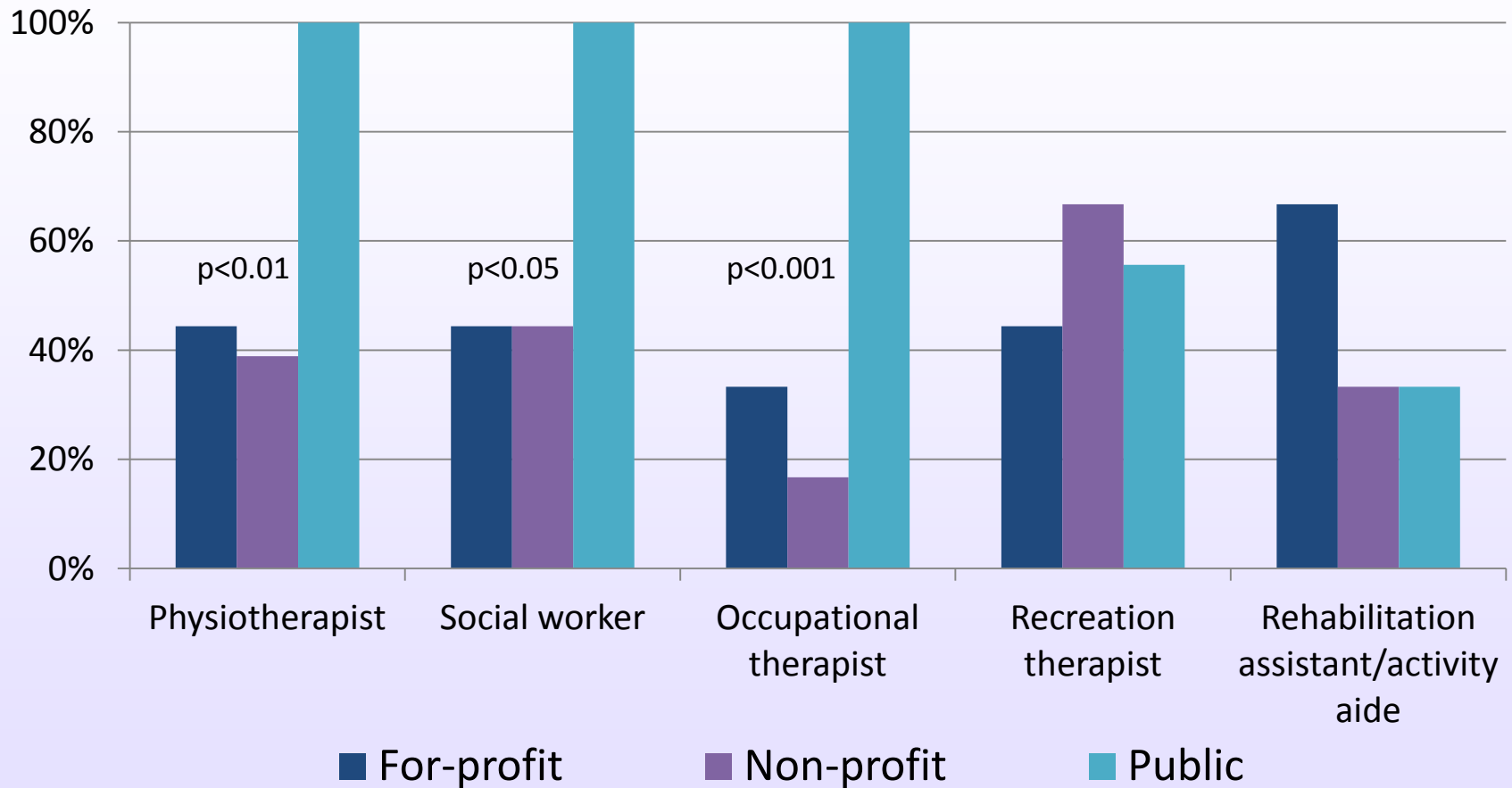
Jan 1st 2008 – Dec 31st 2008



Crude ED transfer rates and adjusted IRR for facilities employing specialized nursing staff Jan 1st 2008 – Dec 31st 2008

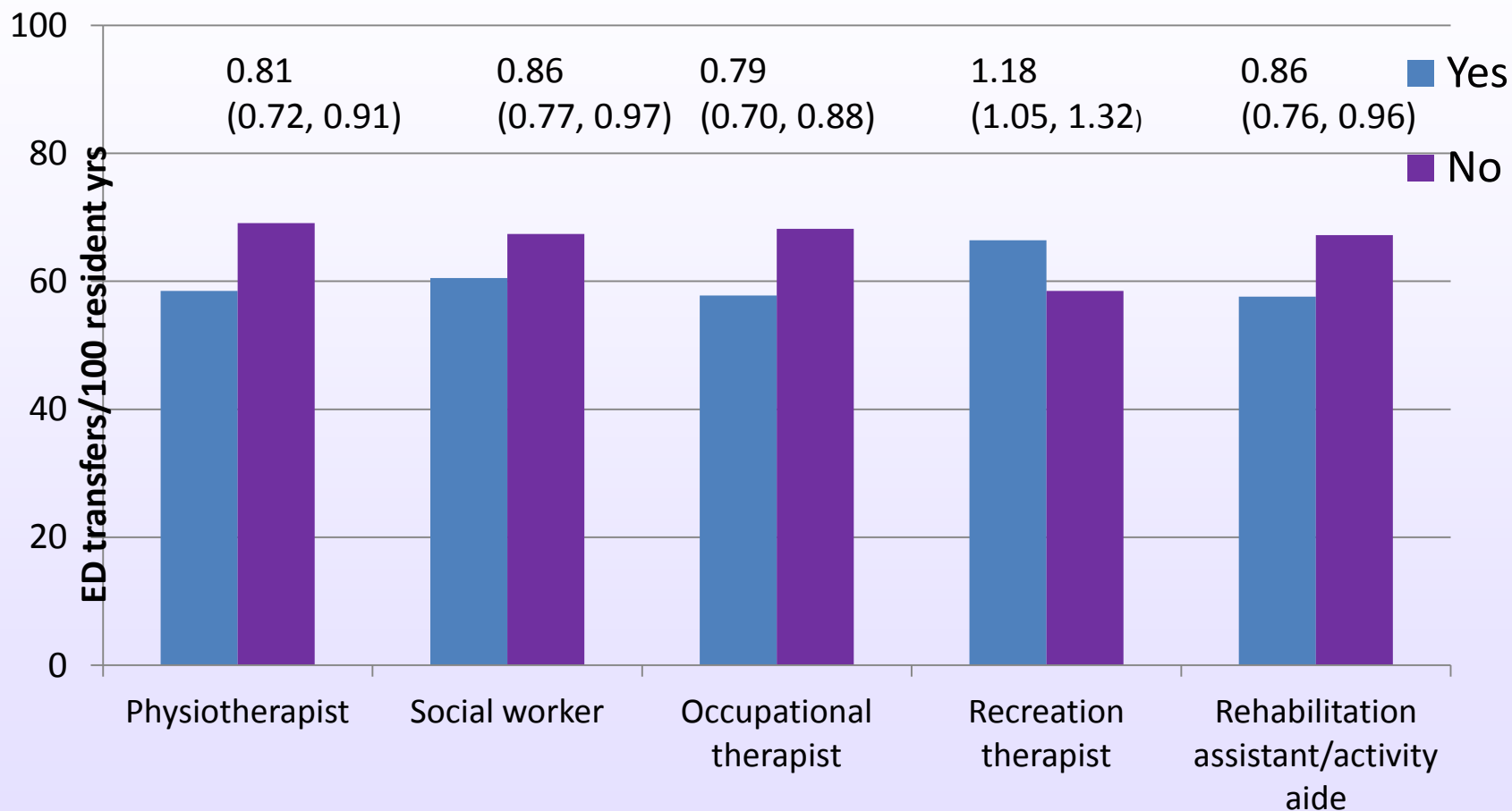


Distribution of allied health staff by facility ownership Jan 1st 2008 – Dec 31st 2008



ED transfer rates and adjusted IRR for facilities employing allied health staff

Jan 1st 2008 – Dec 31st 2008



Distribution of nursing hours

	For-profit	Non-profit	Public	p-value
Mean RN hours per resident day (SD)	0.61 (0.19)	0.58 (0.18)	0.68 (0.27)	0.530
Mean total direct care nursing hours per resident day (SD)	3.03 (0.27)	2.90 (0.53)	3.76 (0.92)	0.006
Care aides regularly attend annual care conferences, n (%)	5 (55.6)	8 (44.4)	3 (33.3)	0.626
Facility has contracted-out nursing staff, n (%)	5 (55.6)	2 (11.1)	0	0.009

Incident rate ratios of nursing measures and ED transfers

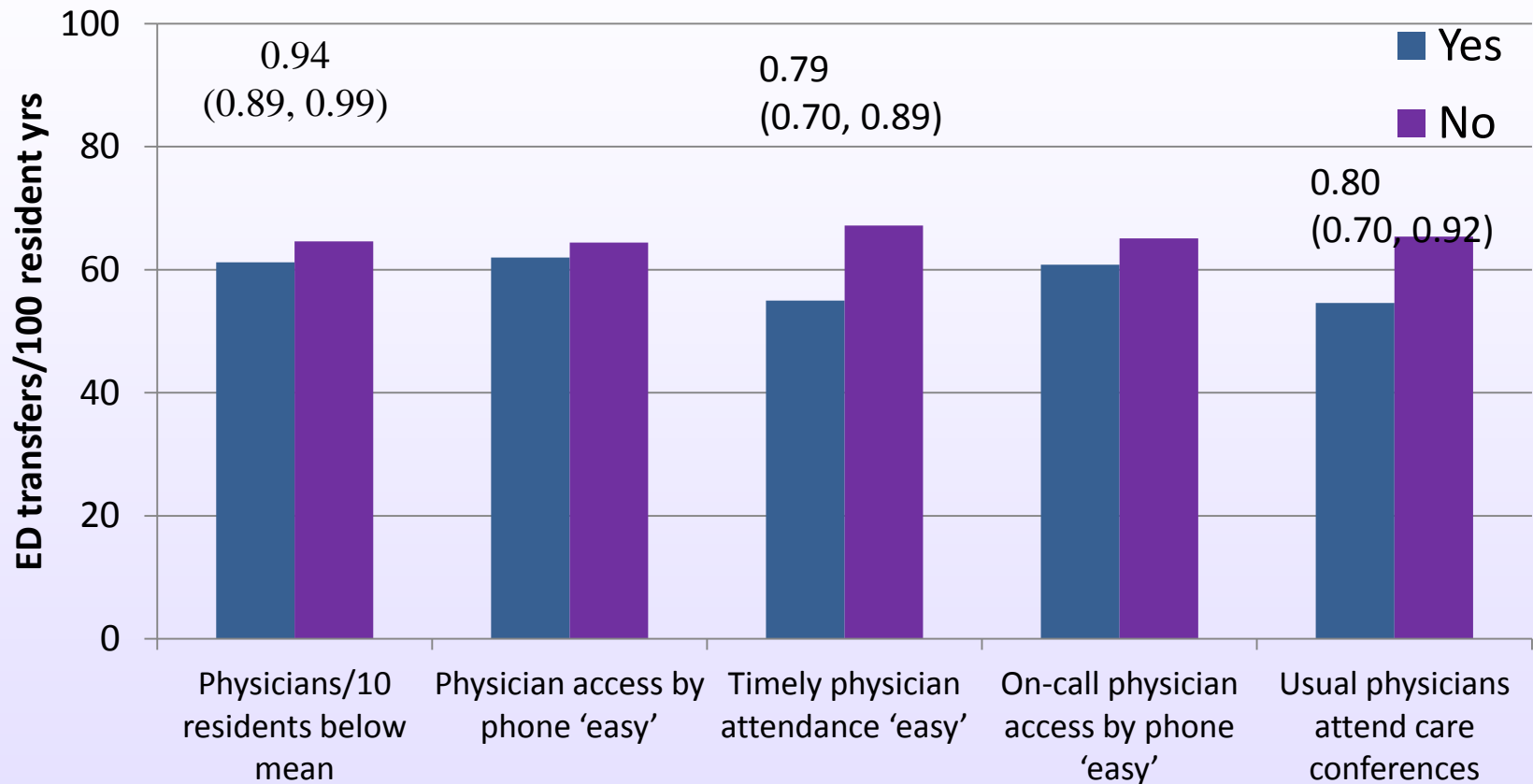
Jan 1st 2008 – Dec 31st 2008

	Adjusted (for sex and age) IRR (95% CI)
RN hprd at or above mean	0.68 (0.51, 0.90)
Total direct care nursing hprd at or above mean	0.86 (0.78, 0.94)
Care aides regularly attend annual care conferences	1.42 (1.27, 1.59)
Facility has contracted-out nursing staff	0.96 (0.83, 1.10)

- No significant variation in distribution of physician access variables by ownership

Crude ED transfer rates for measures of physician access

Jan 1st 2008 – Dec 31st 2008



Conclusions

- Publicly-owned facilities demonstrated lower rates of ED transfers compared to for-profit and non-profit facilities
- Higher total direct care nursing staff and employment of allied health staff, disproportionately present in public facilities, may contribute to a lower rate of ED transfers seen in these facilities
- Other characteristics unrelated to ownership also matter
 - physician access, activity aides

Thanks for Listening!

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