

The Paris-TBI study: patterns of post-acute health care utilization after a severe TBI

Philippe Azouvi

AP-HP, Hôpital Raymond Poincaré, Garches,
EA 4047, Université de Versailles Saint Quentin, France

PariS-TBI study

- Prospective longitudinal study of patients with severe TBI in the Parisian area
- With special emphasis on:
 - Care pathways and health care resource utilization
 - Outcome assessment (impairments, activity, participation and quality of life)
 - Informal care (relative's burden)

Study design

➤ Inclusion criteria

- By mobile emergency services
- Severe TBI: GCS score ≤ 8 before admission
- Accident within the Parisian area
- Age ≥ 15 years

➤ Inclusions: July 2005-April 2007

➤ One-year outcome (telephone interview)

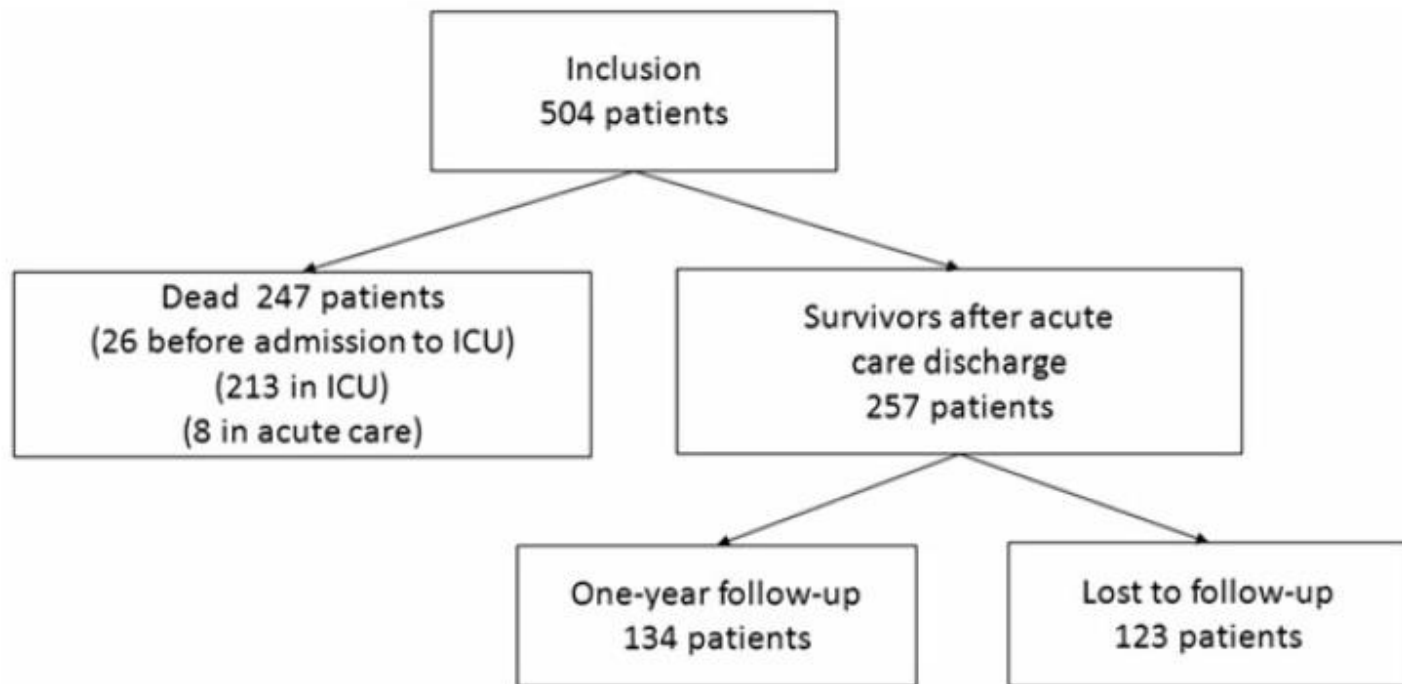
➤ 4-year outcome (face to face interview)

➤ 8-year outcome (ongoing)

ORIGINAL ARTICLE

Predictive factors for 1-year outcome of a cohort of patients with severe traumatic brain injury (TBI): Results from the Paris-TBI study

C. Jourdan^{1,2,3}, V. Bosserelle^{4,5}, S. Azerad^{4,5}, I. Ghout⁵, E. Bayen^{3,6,7}, P. Aegerter^{2,5}, J. J. Weiss⁴, J. Mateo⁸, T. Lescot⁹, B. Vigué¹⁰, K. Tazarourte¹¹, P. Pradat-Diehl^{3,6,7}, P. Azouvi^{1,2,3}, & the members of the steering committee of the Paris-TBI study

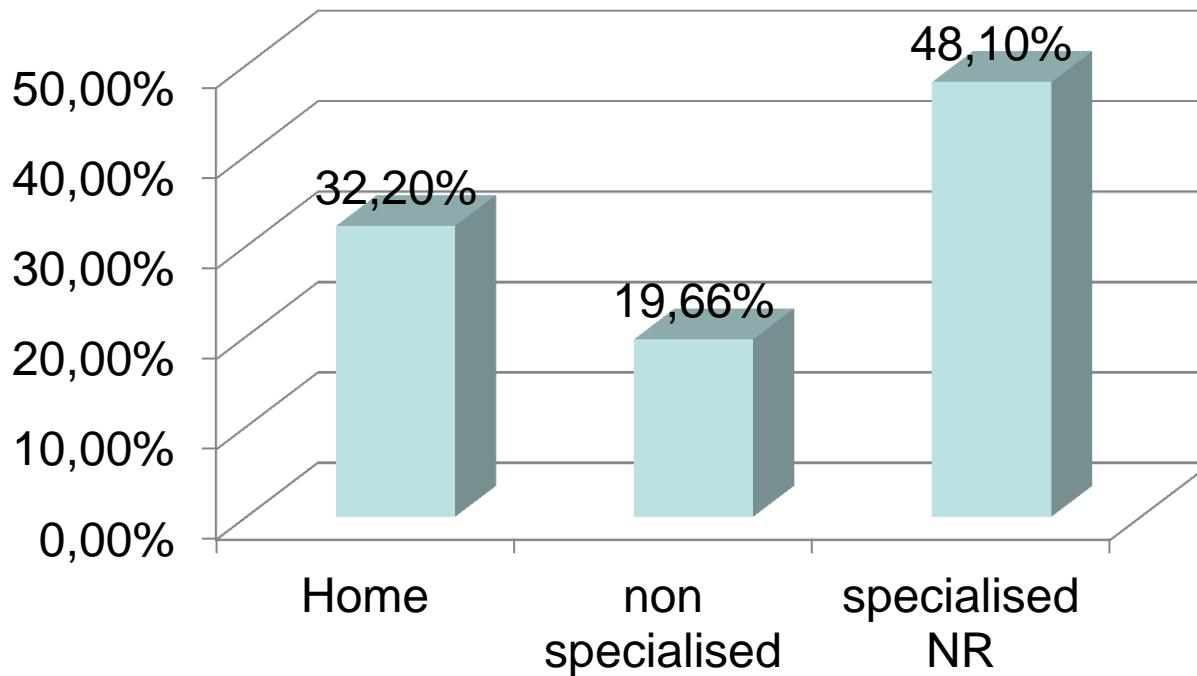


Referral to rehabilitation after the acute phase

Jourdan et al., NNR 2013

Referral to Rehabilitation After Severe Traumatic Brain Injury: Results From the Paris-TBI Study

Claire Jourdan, MD^{1,2,3}, Eleonore Bayen, MD^{3,4}, Vanessa Bosserelle, MA^{5,6}, Sylvie Azerad, PharmD^{5,6}, François Genet, MD¹, Christophe Fermanian, MS⁶, Philippe Aegerter, MD, PhD^{2,6}, Pascale Pradat-Diehl, MD, PhD^{3,4}, Jean-Jacques Weiss, MD⁵, and Philippe Azouvi, MD, PhD^{1,2,3}, and the Members of the Steering Committee of the Paris-TBI Study



Logistic regression model: rehabilitation vs. home discharge (n=149)

Variable	Adjusted Odds ratio
Glasgow Coma Scale	0.94 [0.77-1.16]
Time to follow command	1.05 [1.0-1.11]
Disability at discharge from intensive care	0.49 [0.29-0.82] **
Home environment: living alone vs. not	0.49 [0.21-1.17]
Alcohol history: yes	0.32 [0.11-0.93] *
Last unit of acute care: non-specialized medical	0.08 [0.01-0.41] **

Jourdan et al., NNR 2013

Logistic model: specialised vs. non-specialised rehabilitation (n=136)

Variable		Adjusted Odds ratio
GCS		0.98 [0.76-1.26]
Age		0.99 [0.95-1.04]
Alcohol abuse		0.35 [0.08-1.62]
Professional level	Higher/lower managers	Reference
	White/blue collar workers	0.16 [0.03-0.85] *
	Self-employed	0.19 [0.01-3.27]
	Non-active	0.14 [0.02-0.92] *
	Retired	0.09 [0.01-0.84] *
	Students	0.35 [0.08-1.62]

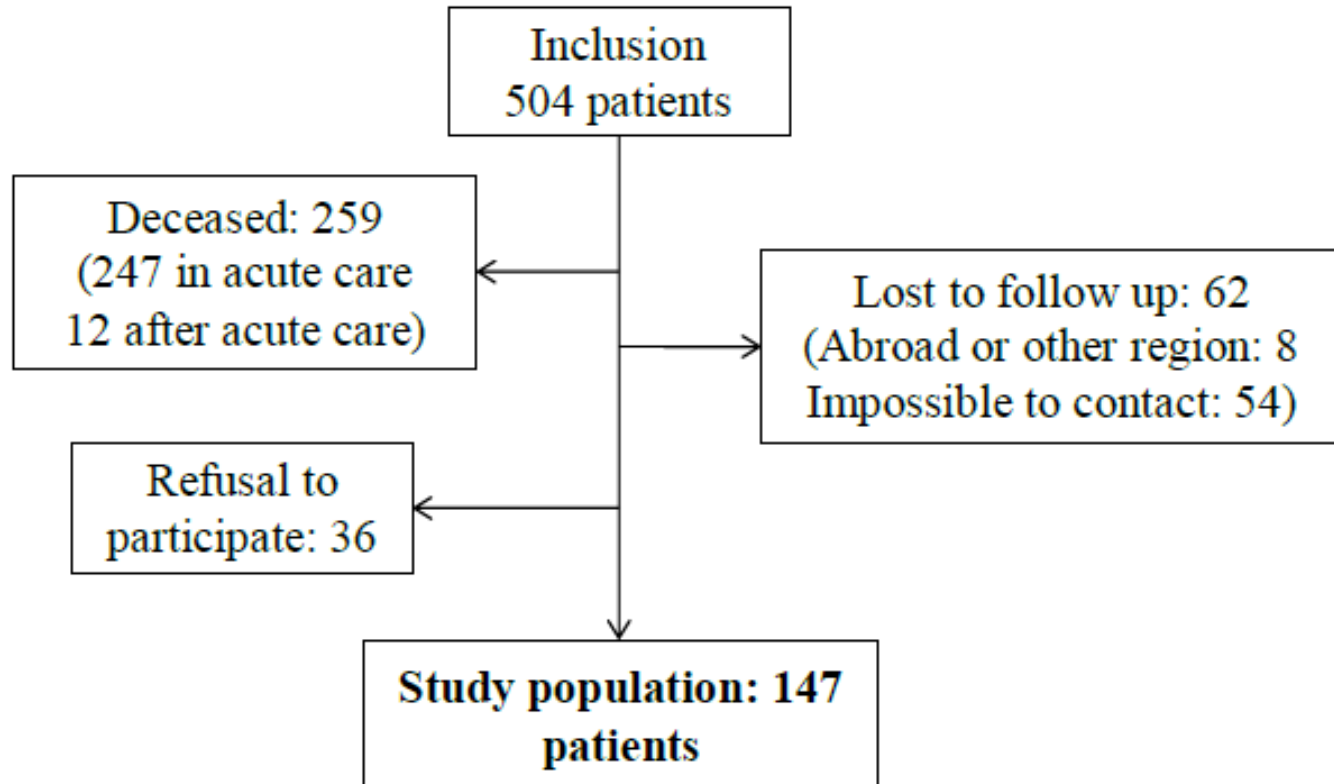
Discharge destination was only in part based on clinical needs

- Pre-injury low professional status, and alcohol abuse were associated with discharge to home or to a non-specialised rehabilitation facility
- Raising concerns about
 - Bias in medical decision-making
 - Inequality in access to care

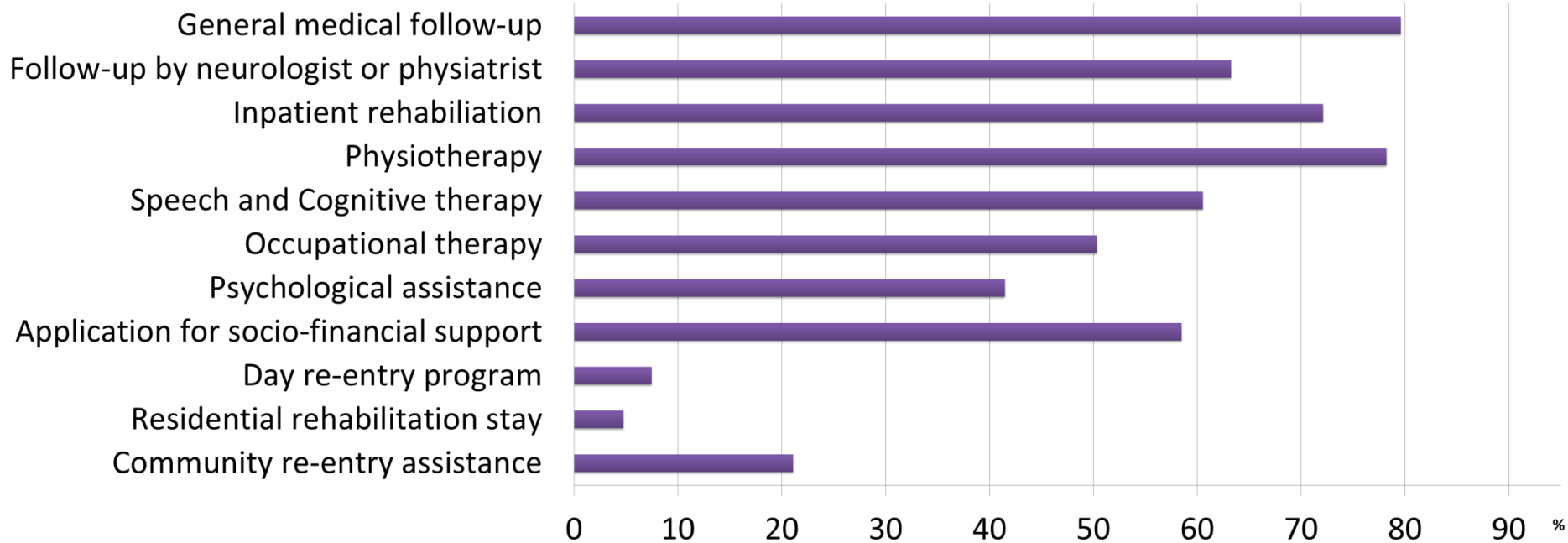
Utilization of health care resources up to 4 years after the acute phase

Jourdan et al., Brain Injury 2015

4-year study flow-chart

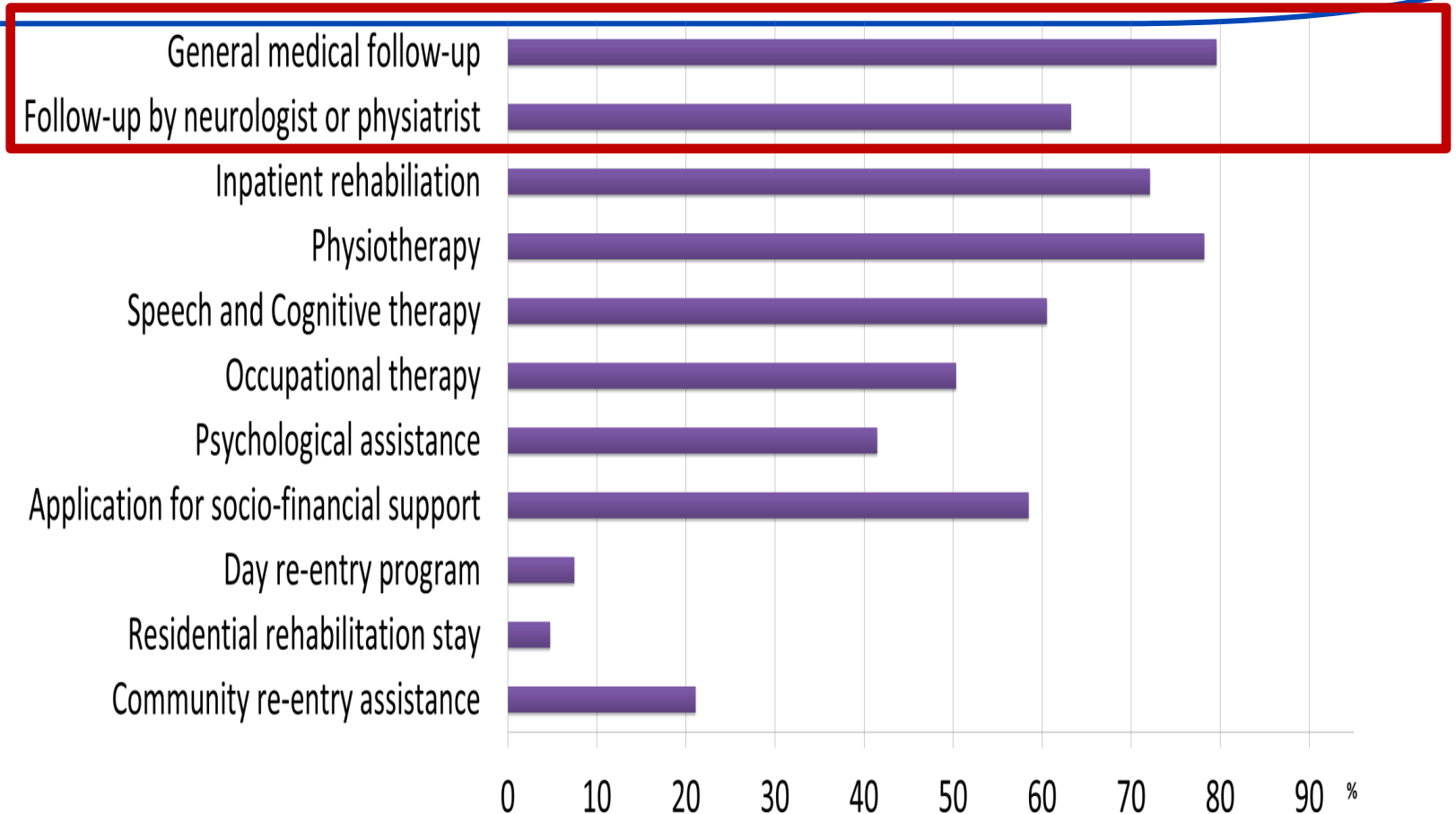


Utilization of health care resources up to 4 years post-injury (Jourdan et al., 2015)



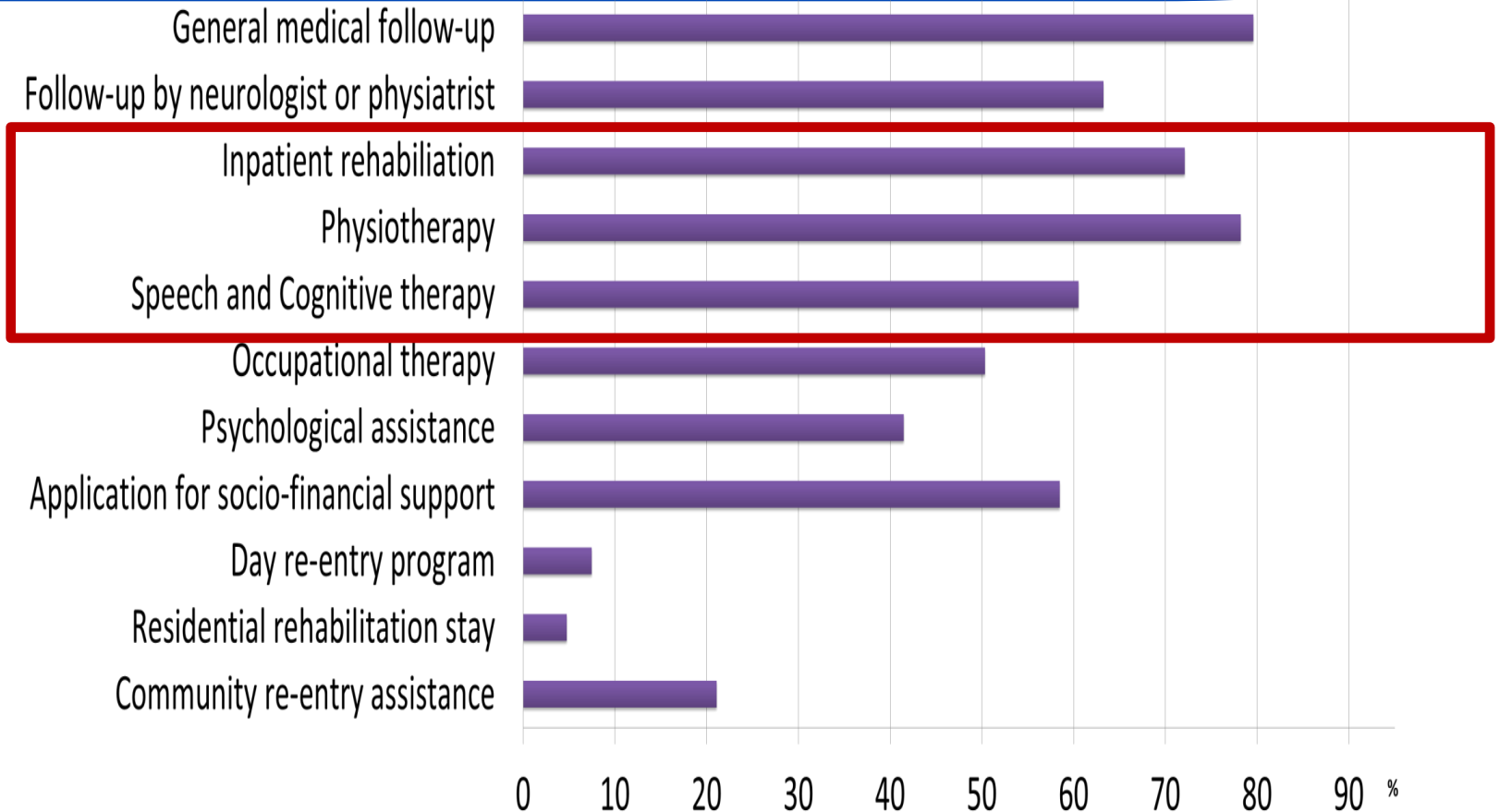
Jourdan et al., Brain Injury, 2015

Post-acute care from injury to four-year



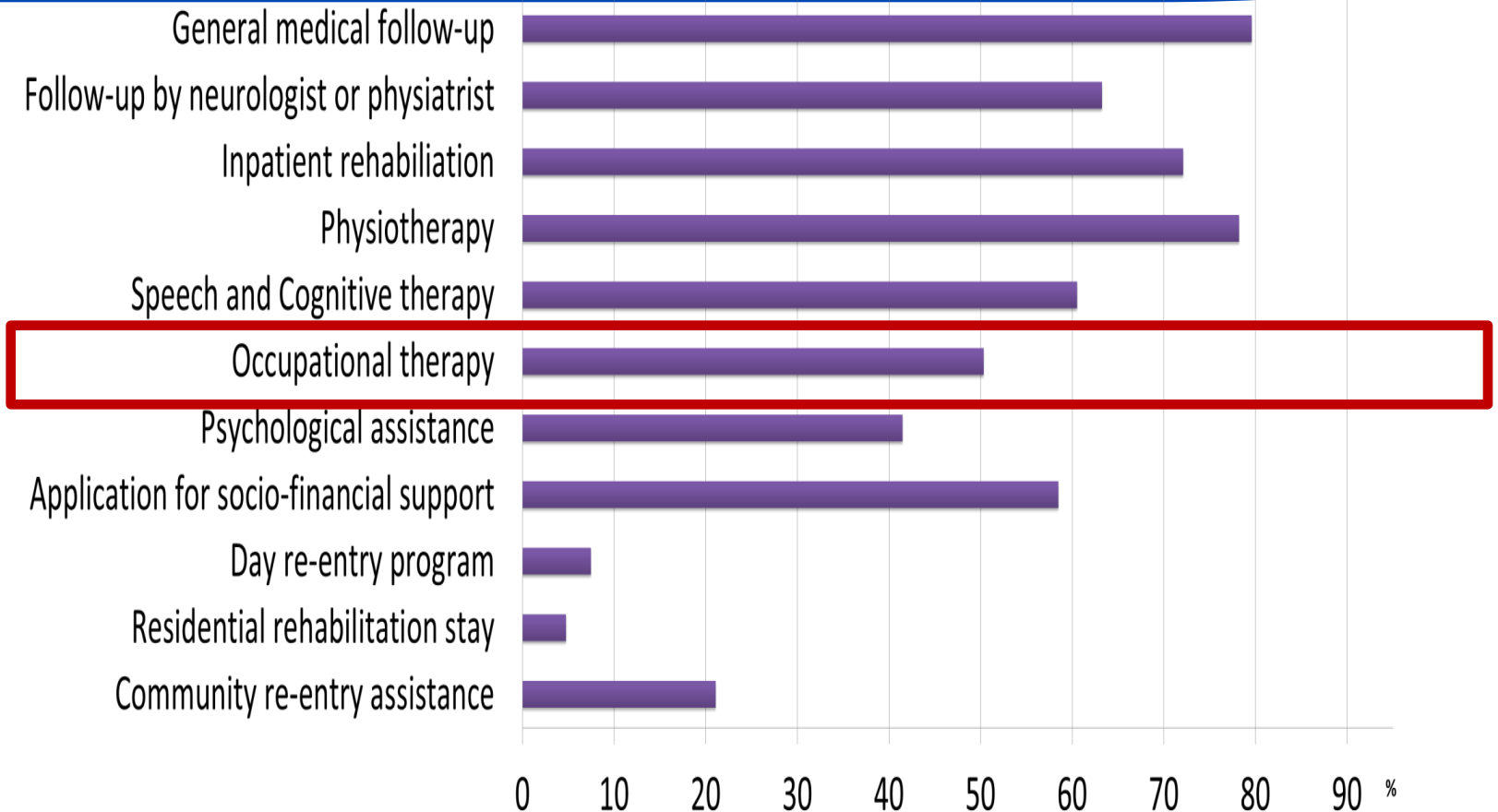
**High rates of medical services
... but 63% specialist follow-up only**

Post-acute care from injury to four-year



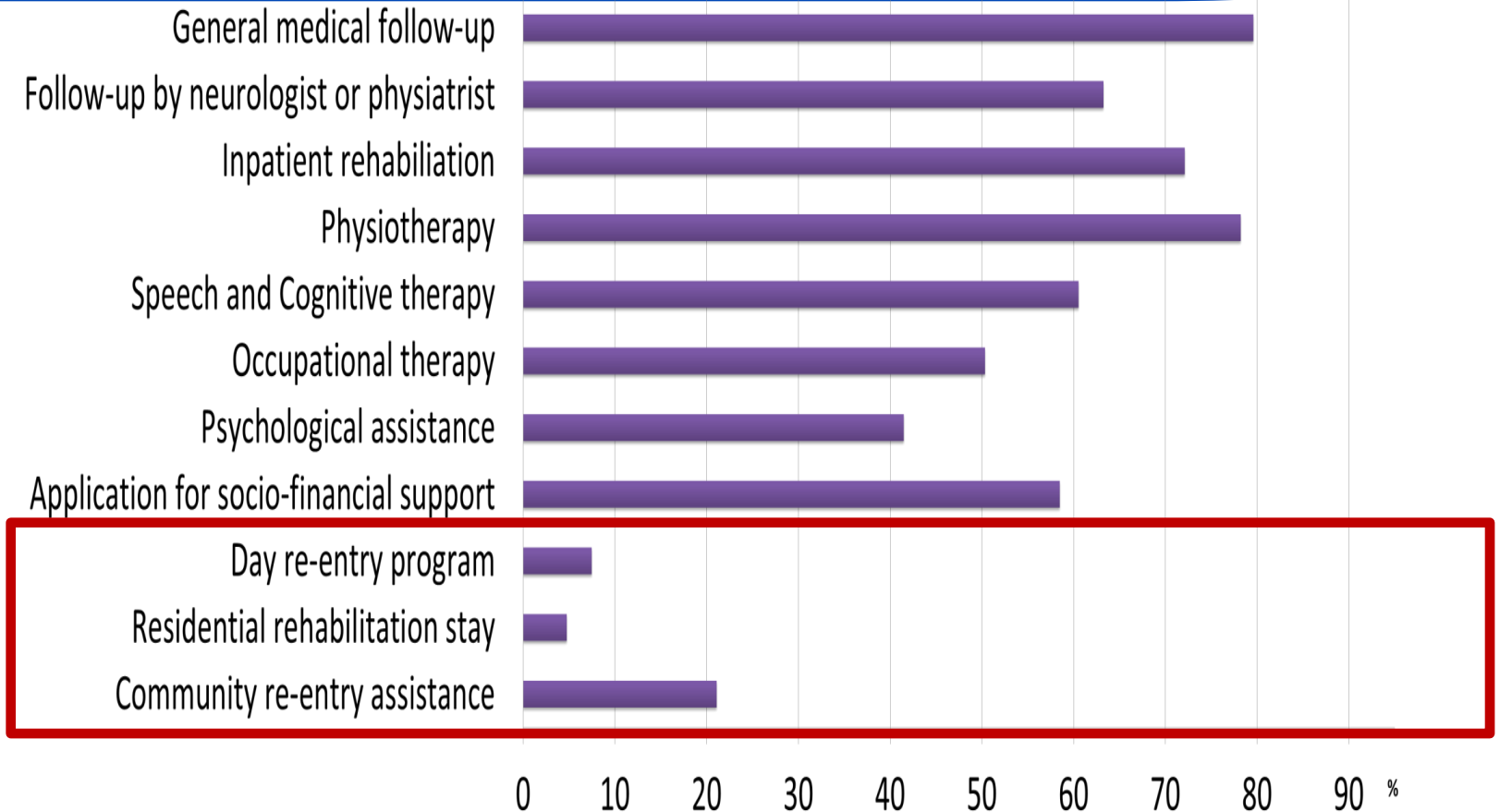
High rates of rehabilitation services

Post-acute care from injury to four-year



**But lower rates of occupational therapy
(not reimbursed as ambulatory care)**

Post-acute care from injury to four-year



Low rates of re-entry services

Utilization of health care resources after the acute care: summary

- Care provision was mostly focused on reduction of impairments (mainly motor impairments), rather than on activity limitations, participation and community re-entry
- These results again suggest that resource utilization is determined at least in part by factors other than clinical needs

1-year to 4-year follow-up: Multivariate logistic model for improvement in GOSE (n = 25) versus stability or worsening (n = 56) *

Explanatory variables for improvement in GOSE	Adjusted Odds Ratio [CI _{95%}]	Wald test p-value
Community re-entry support	4.87 [1.15 - 20.63]	0.03
Age upon injury (years) ¹	1.04 [0.99 - 1.09]	0.08
Pre-injury alcohol abuse (yes)	0.05 [0 - 0.76]	0.03
Time to follow command (days) ¹	0.98 [0.93 - 1.03]	0.4
HAD – anxiety	1.01 [0.86 - 1.2]	0.9
HAD – depression	0.8 [0.64 - 0.99]	0.04

Jourdan et al., Brain Injury, under revision

Acknowledgements

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The Paris-TBI steering committee



Claire Jourdan



Eleonore Bayen



Sylvie Azerad



Emmanuelle Darnoux



Alexis Ruet



Claire Vallat



Pascale Pradat

And also Idir Ghout, Bernard Vigue, Karim Tazarourte, Joachim Mattéo, Vanessa Bosserelle, Valérie Millox, Jean-Jacques Weiss, Philippe Aegerter

Thank you for your attention