

The Peninsula Collaboration for Health Operational Research & Development

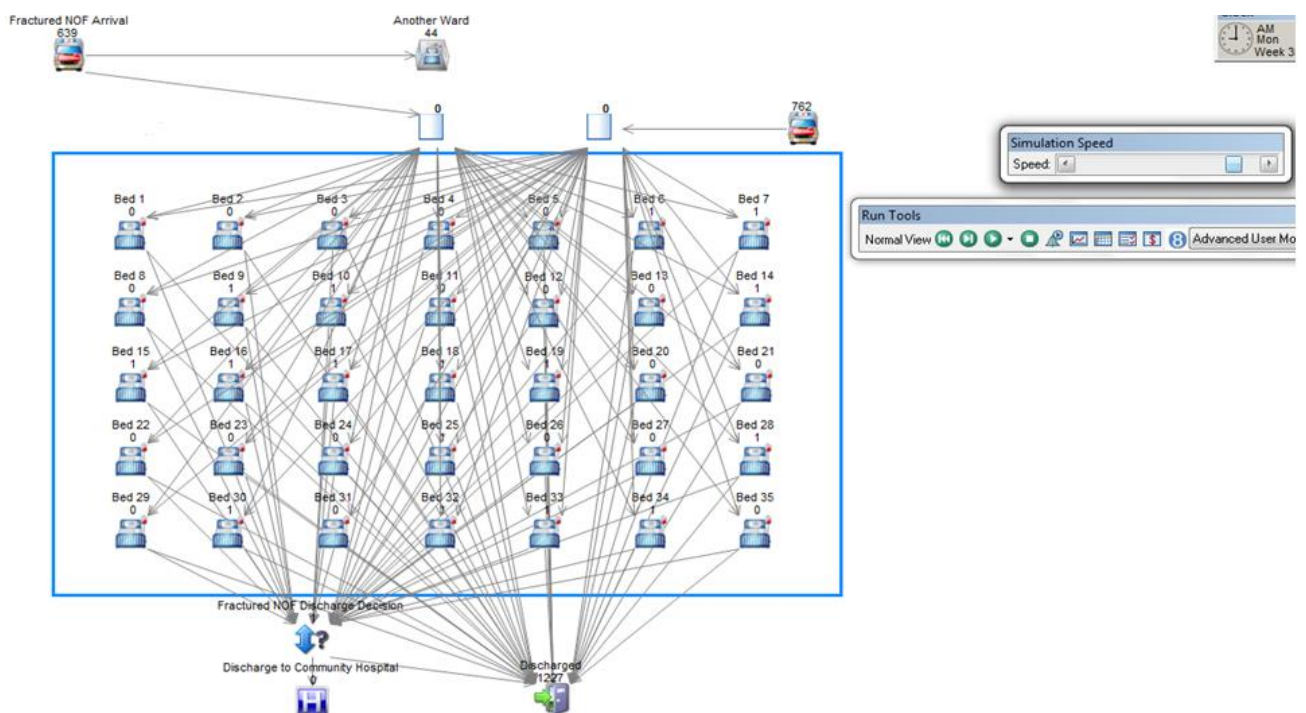
Is it operationally practicable for fractured neck of femur patients to remain in an acute hospital during their rehabilitation?

Summary:

Fractured neck of femur patients are typically treated in an acute hospital, and then discharged to a community hospital for their rehabilitation after their surgery. Unfortunately, most patients tend to have long lengths of stay in Community Hospitals, and elderly patients have an increased risk of developing comorbidities during this stay. A local acute hospital wanted to pilot a programme in which fractured neck of femur patients remained in the acute hospital for the duration of their rehabilitation, as they believed that the overall time spent in hospital (“super spell”) could be reduced for these patients. PenCHORD were asked to build a simulation model to assess the practicability of retaining fractured neck of femur patients in the acute trauma ward for the duration of their rehabilitation, assuming varying reductions in “super spell” length.

Method:

We built a simulation model of the acute hospital ward, incorporating real data about patients using this ward (both fractured neck of femur and other patients). We then explored various scenarios in



the model to predict the impact on bed occupancy within the ward. Specifically, we explored the impact of fractured neck of femur patients remaining in the acute hospital for the duration of their rehabilitation, assuming 8 day, 4 day and no reductions to overall length of stay. We also explored how the predictions would change if five beds that had recently been removed were reinstated.

Outputs:

The model predicted that retaining fractured neck of femur patients in the acute ward for the duration of their rehabilitation would result in operationally unfeasible bed occupancy levels, even assuming significant reductions in overall length of stay, and even if five beds were reinstated in the ward.

Current bed stock (35 Beds)

Current	- 8 day LOS	- 4.5 day LOS	- 0 day LOS
85.91%	97.49%	99.58%	100%

Prior bed stock (40 Beds)

Current	- 8 day LOS	- 4.5 day LOS	- 0 day LOS
79.02%	94.24%	97.81%	99.76%

Evaluation and Impact:

The hospital had already begun to pilot the programme before the project had been completed. Based on these results, the hospital ceased the pilot programme to avoid significant bed occupancy issues.

Contact and more information:

For more information about this project, please contact Dr Daniel Chalk (PenCHORD Research Fellow) d.chalk@exeter.ac.uk

Publications:

Chalk, D. and Pitt, M. "Fractured neck of femur patients: Rehabilitation and the acute hospital." British Journal of Healthcare Management 21.3 (2015): 146-151.