



**FACULTEIT ECONOMIE
EN BEDRIJFSKUNDE**

**TWEEKERKENSTRAAT 2
B-9000 GENT**
Tel. : 32 - (0)9 – 264.34.61
Fax. : 32 - (0)9 – 264.35.92

WORKING PAPER

Reconstructing Nurse Schedules: Managerial Insights and Policy Decisions

Mario Vanhoucke ¹

Broos Maenhout ²

June 2009

2009/591

¹ Faculty of Economics and Business Administration, Ghent University, Gent, Belgium

Operations & Technology Management Centre, Vlerick Leuven Gent Management School, Gent, Belgium
broos.maenhout@ugent.be • mario.vanhoucke@ugent.be

² Faculty of Economics and Business Administration, Ghent University, Gent, Belgium

ABSTRACT

Managing nursing personnel properly is of critical importance as these resources comprise a vast share of the hospital's operational costs. The organizational support and the managerial policy decisions on the scheduling level are important determinants for the nurses' working conditions and the related quality of care. In this paper, we use a decision support system to gain insights and understanding in the consequences and outcomes of various personnel re-rostering policy decisions and strategies. We explore the boundaries of the time horizon and the nurse staffing size to consider for the nurse re-rostering problem based on computational experiments in a real-life problem environment.

Keywords: *Manpower planning; Resource allocation; Hospitals*