

Magnet4Europe: A randomized controlled trial to improve the work environment in European Hospitals

Simon Dello¹, RN, MSc

Walter Sermeus¹, PhD, Luk Bruyneel¹, PhD, Wilmar Schaufeli², PhD,
Hans De Witte², PhD

¹ Leuven Institute for Healthcare Policy, KU Leuven

² Faculty of Psychology and Educational Sciences, KU Leuven



The Magnet4Europe study has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 848031.

simon.dello@kuleuven.be #EHMA2020

MAGNET4EUROPE CONSORTIUM



Prof. Walter Sermeus, Dr. Luk Bruyneel, Prof. Hans De Witte, Prof. Wilmar Schaufeli, Simon Dello, Dorothea Kohnen



Prof. Linda Aiken, Prof. Matthew McHugh, Mary Del Guidice, Dr. Colleen Anusiewicz, Prof. Herbert Smith, Prof. Douglas Sloane, Timothy Cheney



Prof. Reinhardt Busse, Dr. Claudia Maier, Julia Köppen



Prof. Jonathan Drennan, Dr. Vera McCarthy, Dr. Elaine Lehane, Dr. Noeleen Brady



Prof. Lars E Eriksson, Dr. Rikard Lindqvist, Dr. Lisa Smeds Alenius



Prof. Jane Ball, Prof. Jackie Bridges, Prof. Peter Griffiths, Prof. Martin McKee, Prof. Anne Marie Rafferty, Sydney Anstee, Dr. Thomas West



Oliver Sergeant



Prof. Peter Van Bogaert, Danny Van Heusden, Dr. Kaat Siebens, Paul Van Aken

About the project



www.magnet4europe.de



Twitter: @magnet4europe

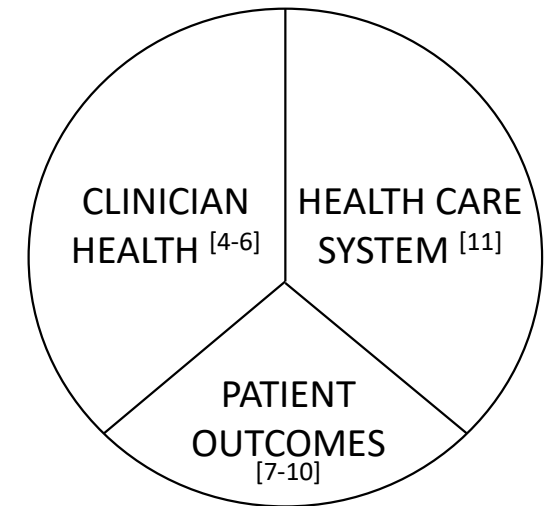
This study is listed in the ISRCTN register under the no.: 10196901 (<https://doi.org/10.1186/ISRCTN10196901>)

BACKGROUND



Drivers of mental health morbidity
= rooted within healthcare
organisation and systems [5, 14]

Burnout in **healthcare
workforce is a major
issue** [1-3]



#EHMA2020

BACKGROUND - NOVELTY

- Health services research on system level factors and patient safety & quality of care
 - Predominantly cross sectional studies
 - Mono-professional
- Added value of Magnet4Europe
 - Randomized controlled trial
 - Study interaction between nurses and physicians
 - Evaluation of accelerated implementation strategy
 - Twinning with U.S. Magnet hospitals

MAGNET4EUROPE

SYSTEM-LEVEL INTERVENTION

→ Implementation of an evidenced based and co-designed intervention
Guided by magnet© principles

↓
REDESIGN HOSPITAL WORK ENVIRONMENT

**European Framework
for Action on Mental
Health and Wellbeing**

EU JOINT ACTION ON MENTAL HEALTH AND WELLBEING

INTERVENTION COMPONENTS

1. Magnet© blueprint

2. Twinning

3. Learning collaboratives

4. Critical mass

5. Feedback & benchmark

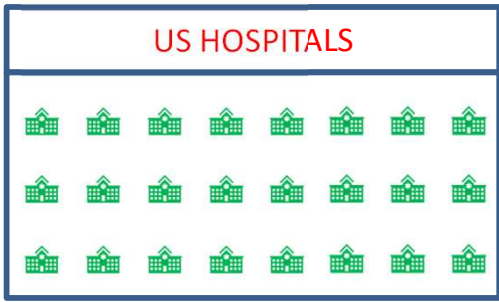
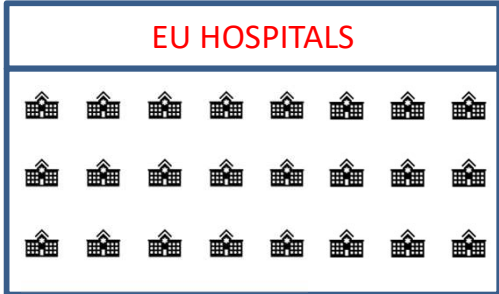


#EHMA2020

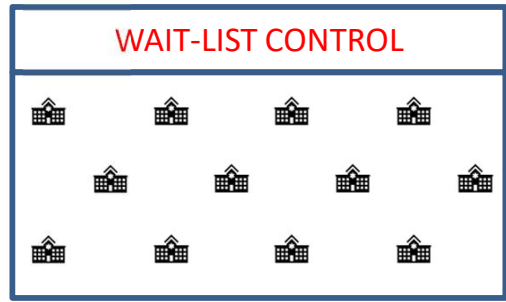
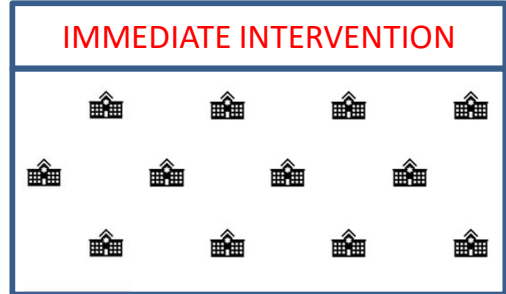
DESIGN

Convenience sample of 70 general acute care hospitals across 6 countries
 BE | DE | IE | UK | SE | NO

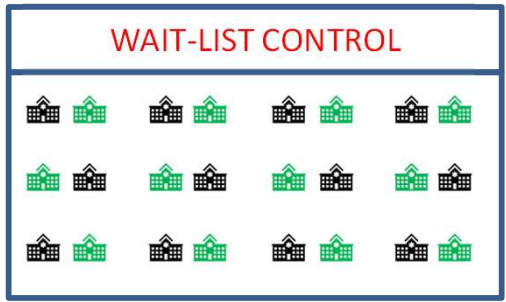
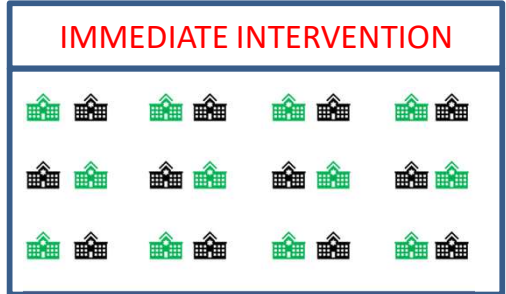
1. RECRUITMENT



2. RANDOMISATION



3. TWINNING

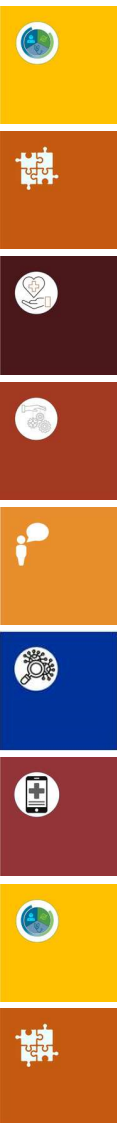


EVALUATION

CLINICIAN HEALTH	PATIENT CARE	HEALTH CARE SYSTEM
BURNOUT	LENGTH OF STAY	PROCESS MEASURES
JOB SATISFACTION	CASEMIX ADJUSTED MORTALITY	PRODUCTIVITY MEASURES
INTENTION TO LEAVE	PATIENT EXPERIENCES	COST-EFFECTIVENESS ANALYSIS

QUANTITATIVE EVALUATION in months 9 – 19 – 31 – 43

NESTED QUALITATIVE PROCESS EVALUATION



EXPECTED IMPACT MAGNET4EUROPE

Magnet4Europe aims to:

1. Improve **mental health** and reduced sickness absence in the EU working population.
2. Positively impact on **productivity and economic results** of workplaces by improved policies and actions to promote mental health.
3. Improve **policies on mental health** in the workplace based on the broader evidence base of effective interventions.

REFERENCES

1. Kim M-S, Kim T, Lee D, *et al.* Mental disorders among workers in the healthcare industry: 2014 national health insurance data. *Annals of Occupational and Environmental Medicine* 2018;**30**:31.
2. Shanafelt TD, Hasan O, Dyrbye LN, *et al.* Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clin Proc* 2015;**90**:1600–13.
3. Dyrbye LN, West CP, Satele D, *et al.* Burnout Among U.S. Medical Students, Residents, and Early Career Physicians Relative to the General U.S. Population. *Academic Medicine* 2014;**89**:443–51.
4. Schernhammer E. Taking Their Own Lives — The High Rate of Physician Suicide. *New England Journal of Medicine* 2005;**352**:2473–6.
5. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *J Intern Med* 2018;**283**:516–29.
6. Dyrbye LN, Thomas MR, Massie FS, *et al.* Burnout and suicidal ideation among U.S. medical students. *Annals of internal medicine* 2008;**149**:334–41.
7. Aiken LH, Sermeus W, van den Heede K, *et al.* Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ* 2012;**344**:e1717.
8. Shanafelt TD, Balch CM, Bechamps G, *et al.* Burnout and medical errors among American surgeons. *Annals of surgery* 2010;**251**:995–1000.
9. Salyers MP, Bonfils KA, Luther L, *et al.* The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. *Journal of General Internal Medicine* 2017;**32**:475–82.
10. Panagioti M, Geraghty K, Johnson J, *et al.* Association between Physician Burnout and Patient Safety, Professionalism, and Patient Satisfaction: A Systematic Review and Meta-analysis. *JAMA Internal Medicine* 2018;**178**:1317.
11. Dewa CS, Loong D, Bonato S, *et al.* The relationship between physician burnout and quality of healthcare in terms of safety and acceptability: a systematic review. *BMJ Open* 2017;**7**:e015141. doi:10.1136/bmjopen-2016-015141
12. Tan BYQ, Chew NWS, Lee GKH, *et al.* Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore. *Annals of Internal Medicine* Published Online First: 2020.
13. Pfefferbaum B, North CS. Mental Health and the Covid-19 Pandemic. *New England Journal of Medicine* 2020;**383**.
14. Kutney-Lee A, Wu ES, Sloane DM, *et al.* Changes in hospital nurse work environments and nurse job outcomes: an analysis of panel data. *International Journal of Nursing Studies* 2013;**50**:195–201.