4.1 Final Publishable Summary Report

Executive Summary (1 page)

The ORCAB project was a multi-centre study involving 10 universities from 9 European countries. The project lasted 54 months and specifically addressed the following challenges; *Improving quality and safety in the hospital: The link between organisational culture, burnout, and quality of care*. The countries involved in the ORCAB project included; Ireland, UK, Romania, Greece, Bulgaria, FYROM, Croatia, Portugal, and Turkey.

ORCAB was established to address the fact that relatively little systematic evidence has been published as to what represents an effective and efficient way to improve quality of care and safety in hospitals. This vacuum in the research means there is a significant opportunity to design quality of care and safety interventions in collaboration with the relevant stakeholders, which address the relevant organisational and individual factors in a hospital setting. To this end, ORCAB benchmarked the organisational and individual factors that impact on quality of care and patient safety and designed bottom-up interventions that both increase quality of care and physician well-being.

ORCAB consisted of three distinct phases. In Phase I, systematic reviews were conducted to aggregate all relevant information concerning the assessment of organizational culture, quality of care and job burnout among healthcare professionals working in hospitals. This resulted in 5 systematic reviews, which provided a foundation on which to develop a multi-centre survey of health professionals and patients from selected hospital sites from South and SE Europe. Phase II involved two parts. In the first part, focus groups and interviews were conducted among healthcare professionals and patients in all target countries. The results of this research were published as a special series in the British Journal of Health Psychology. The information from this qualitative research was utilized to inform the multi-centre survey of the selected ORCAB hospitals. This initial qualitative research allowed for the development of a common survey tool that was contextualized for use in the target countries. The second part of phase II involved a multi-centre study of hospitals that achieved the following objectives: (1) a profile of the specific factors of hospital-organisational culture that increase burnout, and (2) the benchmarking of burnout and its associations to quality of hospital care. Phase III of ORCAB utlised the outputs from Phases I & II to develop appropriate action research strategies for all the participating hospitals. Phase III involved three distinct parts. The first part involved the feedback of the key findings from Phases I & II to key stakeholders in each hospital. The second part involved the development of action research teams in each target hospital. Action research is a practical collaborative method whereby researchers work with stakeholders to analyse the problem and develop appropriate solutions. The emphasis in action research is on the development of bottom-up solutions that are context sensitive. The final part of the action research involved the implementation and evaluation of identified strategies. The ORCAB action research teams developed an array of interventions that improved quality of care and ameliorated the causes of burnout.

Summary Description of Project Context and Objectives (4 pages)

Project Context

The Institute of Medicine (IOM) in the US has repeatedly highlighted the link between patient safety, physician well being and organisational culture[1]. However, the vast literature on organisational culture generally has not been matched by an assessment of organisational culture in the medical literature[2]. The evidence that does exist supports the fact that organisational culture has a significant impact on quality of care and patient safety[3]. Equally, there is compelling evidence that physicians suffering from burnout will depersonalize from their patients[4], withdraw from their patients[5], demonstrate sub-optimal care of their patients[6], and in a minority of cases burnout has even be related to serious mistakes and patient death[7]. A review of these two bodies of literature, (1) the link between organisational culture and quality and (2) the link between physician burnout and sub-optimal patient care, strongly suggests that a more comprehensive approach to improving quality of care is to assess the direct impact of organisational factors on quality of care, and the indirect impact via the burnout experiences of physicians.

To date, relatively little evidence has been published as to what represents an effective and efficient way to improve quality of care and safety in hospitals. In addition, the initiatives that do exist are rarely designed or developed with regard to the individual and organisational factors that determine the success or failure of such initiatives. Finally, improving quality of care and patient safety in a hospital setting represents a significant organisational change, however the existing knowledge on how best to influence organisational culture has not been applied to this crucial issue. This vacuum in the research means there is a significant opportunity to design quality of care and safety interventions in collaboration with the relevant stakeholders, which address the relevant organisational and individual factors in a hospital setting.

---

[1] Institute of Medicine. (2001). Crossing the quality chasm: A new health system for the 21st Century. Washington, DC: National Academy Press.

[2] Hoff, T., Jameson, L., Hannan, E., & Flink, E. (2004). A review of the literature examining linkages between organizational factors, medical errors, and patient safety. Medical Care Research & Review, 61(1), 3-37.

[3] Wakefield, B. J., Blegen, M. A., Uden-Holman, T., Vaughn, T., Chrischilles, E., & Wakefield, D. S. (2001). Organizational culture, continuous quality improvement and medication administration error reporting. American Journal of Medical Quality, 16(4), 128-134.

[4] Bakker, A., Schaufeli, W., Sixma, H., Bosveld, W., & Dierendonck, D. (2000). Patient demands, lack of reciprocity, and burnout: A five-year longitudinal study among general practitioners. Journal of Organizational Behavior, 21, 425-441.

[5] Linn, L. S., Brook, R. H., Clark, V. A., Davies, A. R., Fink, A., Kosecoff, J., et al. (1986). Work satisfaction and career aspirations of internists working in teaching hospital group practices. Journal of General Internal Medicine, 1(2), 104-108.

[6] Shanafelt, T., Bradley, K., Wipf, J., & Back, A. (2002). Burnout and self-reported patient care in an internal medicine residency program. Annals of Internal Medicine, 136, 358-367.

[7] Firth-Cozens, J., & Greenhalgh, J. (1997). Doctors' perceptions of the links between stress and lowered clinical care. Social Science & Medicine, 44(7), 1017-1022.

The considerable literature on organisational culture has not been matched by a parallel assessment of organisational culture in a hospital setting. One of the challenges in linking organisational culture to quality of care is to identify the focal point at which a deficient hospital culture and inadequate organisational resources are most evident. The accumulated evidence suggests that such a point is healthcare professional (HP) burnout. Burnout is a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that is caused by long-term involvement in emotionally demanding situations. Burnout reduces the ability of HPs to provide the best quality of care possible and increases the risk that they will make mistakes. There is a direct link between the working conditions, organisational factors and burnout, and consequently, there is a direct link between the working conditions of HPs and the way that patients experience their hospital stay. Put simply, the hospital culture has a significant impact on the way that HPs function and thus the way patients are treated.

It follows logically that the interesting questions to assess are; (a) which hospital cultural conditions influence HP stress, dissatisfaction, and burnout and congruently, (b) do stressed, dissatisfied, and burned out HPs deliver poorer quality of care. The present project will benchmark these issues, and use this information to: (c) design interventions to improve quality of care and patient safety by directly addressing individual (e.g., physician burnout) and organisational factors (e.g., hospital culture) in the hospital, and (b) by establishing a sustainable network of South European (SE) and South Eastern European (SEE) Hospitals devoted to the enhancement of quality of care and patient safety.

The approach that will be taken in this project will be to view the hospital through the lens of organisational change. Hospitals are organisations that are populated by professionals, and as such any intervention aimed at organisational change needs to include the cooperation and involvement of the professionals who exercise a large degree of control in this environment. Indeed, recent evidence suggests that practitioners and "quality experts" have very different models about how quality systems operate in hospitals[8]. This all means that interventions need to engage the clinical leadership of the hospital, position quality of care improvement within organisational development, and provide the necessary skills to initiate change. From this perspective, the objective of this research project is to help to build the capacity for change and innovation to occur from within health-care organisations, and thus help building the capacity of people within the hospitals. Therefore future action research on effective interventions should be conceptually grounded, evidence-based and relevant to the people they address. The action research project we propose addresses this crucial problem. In terms of involving the important stakeholders, action research represents the appropriate organisational tool that will allow the developed interventions to reflect the concerns of physicians. Action research is a reflective process of progressive problem solving led by individuals working

[8] Hudelson P, Cléopas A, Kolly V,Chopard P and Perneger T. Practitioners' views versus quality models: What is quality and how is it achieved? *Qual. Saf. Health Care* 2008;17;31-36.

with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems. It well suited to the task of developing interventions that need to be ecological valid within a healthcare setting. Health is an exemplar industry requiring effective teamwork: whenever things go wrong in health care, reports[9], enquiries[10] and studies[11] show that a predetermining factor is that patient care is delivered in a fragmented, isolated way, with health-care professionals having failed to collaborate effectively. Safety is compromised and quality suffers in such circumstances[12]. Therefore, the proposed action research approach will involve stakeholders, encouraging bi-directional feedback and enable reflection to stimulate productive change and improvement in a participatory environment. The great challenge is translate the existing knowledge about the impact of burnout, organisational factors and hospital climate into a generic quality improvement program that improves quality of care, while also improving and protecting physician well being. Indeed a successful program could be adapted for the use among multiple healthcare contexts

Finally, the benchmarking of quality of care experiences in the SE and SEE regions represents an important step in bringing the “voices” of these regions to this crucial debate and improving the existence of a shared language around these issues. To date, the research and debate has been dominated by North European experiences, and the present project will help to lay the foundations for a more meaningful European wide debate on quality of care and patient safety. The proposed project has been designed to complement the already existing work on the patient experiences of hospital care by the OECD, Health and Consumers Directorate-General European Commission and the European Society for Quality in Healthcare. The major social and political changes in the SEE have given rise to a special need to examine the issues concerning work, employment and well-being. More specifically, globalisation and the need to adapt to the EU market place have prompted both rapid economic development and technological advancement in this region. The pressure to adapt to changing market conditions layered on top of the already existing cultural and political history, presents challenges for both policy makers and researchers interested in the successful adaptation of individuals to a satisfactory and productive working life. In some instances, the adaptations of countries to the EU and free market economics have had the net effect of reducing the quality of work conditions and increasing stress levels. A survey of all occupations within Europe[13] suggests that SEE countries report higher stress levels than their EU-15 counterparts, with

[9] Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (1999). To err is human: Building a safer health system. Washington, DC: National Academy Press.

[10] Final Report of the Special Commission of Inquiry into Campbelltown and Camden Hospitals – 30 July 2004 **[http://www.lawlink.nsw.gov.au/special_commission]**

[11] Forster AJ, Clark HD, Menard A, Dupuis N, Chernish R, Chandok N, Khan A, van Walraven C**:** Adverse events among medical patients after discharge from hospital. *CMAJ* 2004, 170(3)**:**345-349.

[12] See footnote 1.

[13] European Foundation for the Improvement of Working and Living Conditions (2002a). Eur-Life-Satisfaction with National Health Care System. http://www.eurofound.eu.int/areas/qualityoflife/eurlife/index.php?template=3&radioindic=14&idDo

percentages of individuals reporting that they found their work stressful ranging from Turkey (40.2%), Greece (47.8%), Romania (40.3%) and Slovenia (32.4%) compared with an EU-15 average of 31%. The reported data are from the whole working population, but they are suggestive of a qualitatively different working experience in the SEE region. In SEE countries, healthcare systems are rarely evaluated from a users' perspective.

Objectives

The aim of the ORCAB was to benchmark the organisational and individual factors that impact on quality of care and patient safety, and design bottom-up interventions that both increase quality of care and HP well being.

In specific the project had the following objectives:

1. To profile the specific factors of hospital-organisational culture that increase burnout among HPs, and therefore decrease quality of care. In specific, the measureable outcome of this objective will be an audit and benchmarking of the following organisational factors that contribute to HP burnout.

2. To monitor burnout and its associations to quality of hospital care among HPs in the South European (SE) and South East of European (SEE) regions. In specific the project will examine two types of burnout-outcomes that significantly reduce quality of care in a hospital setting.

3. To identify appropriate bottom-up solutions to the problems of organisational culture and HP burnout, and its impact upon patient safety and quality of care. The measureable outcome of this objective will be the use of action research for the development of interventions to increase quality of care within each hospital setting.

4. To develop a network for hospital managers and associated stakeholders for the communication of interventions aimed improving quality of care in hospitals. The goal of this network was to provide a platform to discuss how to improve quality of care in hospitals and provide an avenue for the experiences of hospitals in the SE and SEE regions to feed into the wider European debates on quality of care and patient safety. The measureable outcome of this objective will the establishment of a network and guidelines on how the network can communicate, cooperate and disseminate experiences to the wider European healthcare audience.

Description of the main S&T results (25 Pages)

The grant agreement of the ORCAB project included the production of ten deliverables. The main S&T results from these deliverables were as follows:

1. An ORCAB Resource site for Stakeholders: The ORCAB internet site is an ongoing resource for the promotion of all activities concerned with improving quality of care. The ORCAB project was established to identify the organizational and individual factors that contribute to improved quality of care in hospitals. The website provides guidance for relevant stakeholders (i.e., hospital managers, medical directors) as to how they can reduce job burnout and improve quality of care among healthcare professionals.
2. Systematic Reviews for Policy Makers: ORCAB has overall produced ten systematic reviews that provide evidence-based data on the assessment of organizational culture, burnout and quality of care (nine at WP3 and one in WP8). The extra reviews go beyond the remit of the deliverables by identifying the characteristics of successful interventions aimed at improving quality of care, reviewing the key components involved in the relationship between burnout and quality of care and identifying the key biological indicators concerning stress among healthcare professionals.
3. Country-by-Country Reports: ORCAB has delivered a profile of job burnout, organizational culture and quality of care in rarely studied countries. The development of interventions in the target countries of ORCAB has been hampered by a lack of data on job burnout, organizational culture and quality of care. ORCAB has contributed important data as to the organizational and individual factors that reduce job burnout and improve quality of care.
4. Case studies of interventions that address job burnout and quality of care: The qualitative and quantitative collected in the ORCAB project provided the foundation for the development and implementation of interventions. ORCAB utilized action research to develop context-relevant interventions in all the target countries. This accumulated information represents important case studies for the future development of interventions in hospitals.
5. Development of new tools for use by researchers: The ORCAB project identified three gaps in the assessment of organizational culture, quality of care and medical error. To this end, ORCAB has developed and validated three new scales: The Hospital Experience Scale, ORCAB Quality of Care Questionnaire and the Medical Error Inventory. The scales are provided as open access on the ORCAB website. This is a considerable contribution to the field and has resulted in the availability of ready-made scales for researchers wanting to access organizational culture in the hospital, quality of care in the hospital and medical error in specific specialities.
6. A European network of hospitals (EUHONET) aiming at improving quality of care through decreasing burnout. The objective is to further disseminate and implement the results of the ORCAB project and specifically the results and suggestions provided by the Action Research teams. Continuity and sustainability of the ORCAB project is

planned by providing active consultation to clinics or hospitals that are interested in change. *euhonet.weebly.com*

All 10 deliverables were successfully completed. Beyond these deliverables the ORCAB project has produced the following extra outputs:

- 10 systematic reviews
- A Patient audit
- 20 Published scientific papers (15 peer reviewed, 5 not peer reviewed)
- 7 Public Reports (Open Access on the ORCAB website)
- 4 Public Guides/Handbooks
- Development and validation of three new scales; The Hospital Experience Scale, ORCAB Quality of Care Questionnaire and the Medical Error Inventory
- Good financial and reporting practices for ORCAB Beneficiaries
- User-friendly Manual for Hospital Managers to help them reduce burnout and improve quality of care in their hospitals
- Network on European hospitals with the goal to improve quality of care through decreasing burnout and by changing the culture of the hospital or clinic.

Table 1 presents a synopsis of the deliverables in ORCAB and the outputs that were produced as extra, and table 2 presents a detailed description.

Table 1. Outputs of the ORCAB Project

Published Scientific Papers	20
Unpublished Scientific papers	10
Reports	7
Guides/Handbooks	4

Table 2 Outputs of ORCAB Project

Work Package (WP)	Deliverable	Extra Outputs
WP1	• Detailed work plan (D1.1) • Ethics Document (D1.2)	
WP2	• ORCAB website (D2.1)	
WP3	• Report: Systematic review on assessment methods of organizational culture, burnout and quality of care among healthcare professionals (D3.1)	• <u>4 Published Scientific Review Papers</u> - Connecting organisational culture and quality of care in the hospital: is job burnout the missing link? (D3.2) - A 10 year (2000-2010) systematic review of interventions to improve quality of care in hospitals (D3.7) - Quality of care and health professional burnout: a narrative review - The effects of perceived stress on biological parameters in health care professionals (D3.4) • <u>4 Unpublished Scientific Review Papers</u> - Defining quality of care in hospitals: a ten year systematic review of the literature 2000-2010 (D3.6) - Job burnout among physicians in hospital: A systematic review (D3.3) - The role of organisational culture in hospitals: A systematic review (D3.5) - A 10-year review of quality of care and health professional burnout in hospital settings (2000-1010): A health workforce planning perspective (D3.8)
WP4	• Survey protocol (D4.1)	• Report: Designing, conducting, analyzing focus groups (D4.2) • Development and validation of two new scales; - The Hospital Experience Scale (Included at the survey protocol) - ORCAB Quality of Care Questionnaire (Included at the survey protocol)
WP5	• Country-by-country reports on organizational culture, burnout and quality of care (D5.1)	• <u>15 Scientific papers published:</u> - Through doctors' eyes: a qualitative study of hospital doctor perspectives on their working conditions - Improving quality and safety in the hospital: The link between organisational culture, burnout and quality of care.

		- Patients and health care professionals: Partners in health care in Croatia? - Organizational stressors, work-family interface and the role of gender in the hospital: Experiences from Turkey. - Constructing the health care system in Greece: Responsibility and powerlessness. - Linkages between workplace stressors and quality of care from health professionals' perspective –Macedonian experience - Organizational hierarchies in Bulgarian hospitals and perceptions of justice - Meanings of quality of care: Perspectives of Portuguese health professionals and patients. - What happens to health professionals when the ill patient is the health care system? Understanding the experience of practicing medicine in Romanian socio-cultural context. - A Study of Health Professionals' Burnout and quality of care in Romania. - Burnout: prevention and intervention techniques. (not peer reviewed) - Job engagement, health behaviors and subjective well-being of health professionals in university hospitals. (not peer reviewed) - Presenteeism and absenteeism of health care workers. (not peer reviewed) - Workplace stressors among hospital nurses-our experience. (not peer reviewed) - Mental Health and Workplace: Aim and Path. (not peer reviewed) • Report: Patient audit (D5.2)
WP 6		• Guide: Good financial and reporting practices for ORCAB Beneficiaries (D6.1)
WP7	• Report on benchmarking of burnout, organizational culture, and quality of care in health professionals in South and SEE Europe (D7.1)	• User-friendly Handbook for Hospital Managers to help them reduce burnout and improve quality of care in their hospitals (D.7.2) • Medical Error Inventory (D7.3)
WP8	• Final list with participating sites and local action research teams (D8.1)	• Published Scientific Paper: Implementing Action Research in hospital settings: A systematic review
WP9	• Scientific report on ''Can organizational change improve quality of care: The role of action research'' (D9.1)	• Report: Indicators to evaluate effectiveness of health care interventions • ORCAB Action Research Handbook (D9.2) • Handbook: Organizational Health Intervention Research in Medical Settings (D9.3)
WP10	• Final Report for European Guidelines on using organizational change to improve quality of care	• European Hospital Network(EUHONET) *euhonet.weebly.com* • 5 Unpublished Scientific Paper:

	(D10.1)	- Talking behind their backs: Gossip and burnout in hospitals. - Job Demands, Burnout, and Engagement among nurses: A multi-level analysis of ORCAB data investigating the moderating effect of teamwork. - Effects of burnout on health professionals' lifestyles: a cross-cultural perspective from the ORCAB-Study. - Burnout, job engagement, work demands, and organizational culture: differences between physicians and nurses. - Overcoming job demands to deliver high quality of care in the hospital setting across Europe: The role of teamwork and positivity. - Development and validation of a novel cross cultural patient quality of care assessment tool.

The following section presents a detailed description of the specific S&T outputs of the ORCAB project:

Open Access Outputs via ORCAB Website

SCIENTIFIC PUBLISHED PAPERS IN PEER REVIEWED JOURNALS:

1. Connecting organisational culture and quality of care in the hospital: is job burnout the missing link?

Authors: Anthony Montgomery, Efharis Panagopoulou, Ian Kehoe, Efthymios Valkanos

Published in the Journal of Health Organisation and Management 01/2011; 25(1):108-23.

Abstract:

To date, relatively little evidence has been published as to what represents an effective and efficient way to improve quality of care and safety in hospitals. In addition, the initiatives that do exist are rarely designed or developed with regard to the individual and organisational factors that determine the success or failure of such initiatives. One of the challenges in linking organisational culture to quality of care is to identify the focal point at which a deficient hospital culture and inadequate organisational resources are most evident. The accumulated evidence suggests that such a point is physician burnout. This paper sets out to examine this issue. The paper reviews the existing literature on organisational culture, burnout and quality of care in the healthcare sector. A new conceptual approach as to how organisational culture and quality of care can be more effectively linked through the physician experience of burnout is proposed. Recommendations are provided with regard to how future research can approach quality of care from a bottom-up organisational change perspective. In addition, the need to widen the debate beyond US and North European experiences is discussed. The present paper represents an attempt to link organisational culture, job burnout and quality of care in a more meaningful way. A conceptual model has been provided as a way to frame and evaluate future research.

2. A 10-year (2000-2010) systematic review of interventions to improve quality of care in hospitals.

Authors: Mary C Conry, Niamh Humphries, Karen Morgan, Yvonne McGowan, Anthony Montgomery, Kavita Vedhara, Efharis Panagopoulou, Hannah McGee

Published in BMC Health Services Research 08/2012; 12(1):275.

Abstract:

Background: Against a backdrop of rising healthcare costs, variability in care provision and an increased emphasis on patient satisfaction, the need for effective interventions to improve quality of care has come to the fore. This is the first ten year (2000--2010) systematic review of interventions which sought to improve quality of care in a hospital setting. This review moves beyond a broad assessment of outcome significance levels and makes recommendations for future effective and accessible interventions.
Methods: Two researchers independently screened a total of 13,195 English language articles from the databases PsychInfo, Medline, PubMed, EmBase and CinNahl. There were 120 potentially relevant full text articles examined and 20 of those articles met the inclusion criteria.
Results: Included studies were heterogeneous in terms of approach and scientific rigour and varied in scope from small scale improvements for specific patient groups to large scale quality improvement programmes across multiple settings. Interventions were broadly categorised as either technical (n = 11) or interpersonal (n = 9). Technical interventions were in the main implemented by physicians and concentrated on improving care for patients with heart disease or pneumonia. Interpersonal interventions focused on patient satisfaction and tended to be implemented by nursing staff. Technical interventions had a tendency to achieve more substantial improvements in quality of care.
Conclusions: The rigorous application of inclusion criteria to studies established that despite the very large volume of literature on quality of care improvements, there is a paucity of hospital interventions with a theoretically based design or implementation. The screening process established that intervention studies to date have largely failed to identify their position along the quality of care spectrum. It is suggested that this lack of theoretical grounding may partly explain the minimal transfer of health research to date into policy. It is recommended that future interventions are established within a theoretical framework and that selected quality of care outcomes are assessed using this framework. Future interventions to improve quality of care will be most effective when they use a collaborative approach, involve multidisciplinary teams, utilise available resources, involve physicians and recognise the unique requirements of each patient group.

3. The effects of perceived stress on biological parameters in healthcare professionals: A systematic review

Authors: Karen Dawe, Anthony Montgomery, Hannah McGee, Efharis Panagopoulou, Karen Morgan, Lucy Hackshaw and Kavita Vedhara

Published in Journal of Health Psychology, 2014

Abstract:

We synthesised evidence on biological correlates of psychological stress in hospital-based health care professionals (HCPs), and examined whether there was evidence of consistent biological changes. Electronic databases were searched for empirical studies; sixteen papers (0.6%) met the inclusion criteria. Evidence of a relationship between indices of psychological stress

and biological parameters was limited and inconsistent. There was some evidence of a consistent relationship between NK cells and lymphocyte subpopulations. Considerable heterogeneity in the methods used was seen. Future prospective studies examining the relationship between indices of psychological stress and NK cells, including lymphocyte subsets, is required.

4. Quality of Care and Health Professional Burnout: Narrative Literature Review

Authors: Niamh humphries, Karen Morgan, Mary Catherine Conry, Yvonne McGowan, Anthony Montgomery, Hannah McGee

Published in International Journal of Health Care Assurance, 2014, vol 27.

Abstract:

Purpose: Quality of care and health professional burnout are important issues in their own right, however, relatively few studies have examined both. This review explores quality of care and health professional burnout in hospital settings.
Design/methodology/approach: The article is a narrative literature review of quality of care and health professional burnout in hospital settings published in peer reviewed journals between January 2000 and March 2013. Articles were identified via a search of PsychInfo, PubMed, Embase and CINNAHL electronic databases. Thirty articles which measured and/or discussed both quality of care and health professional burnout were identified.
Findings: This article provides insight into the key health workforce planning issues, specifically staffing levels and workloads, which impact upon health professional burnout and quality of care. The evidence from the review literature suggests that health professionals face heavier and increasingly complex workloads, even when staffing levels and/or patient-staff ratios remain unchanged.
Originality/value: This narrative literature review suggests that weak retention rates, high turnover, heavy workloads, low staffing levels and/or staffing shortages conspire to create a difficult working environment for health professionals, one in which they may struggle to provide high quality care and which may also contribute to health professional burnout. The review demonstrates that health workforce planning concerns, such as these, impact on health professional burnout and on the ability of health professionals to deliver quality care. The review also demonstrates that most of the published articles published between 2000 and 2013 addressing health professional burnout and quality of care were nursing-focussed.

5. Improving quality and safety in the hospital: The link between organizational culture, burnout, and quality of care.

Authors: Anthony Montgomery, Irina Todorova, Adriana Baban, Efharis Panagopoulou

Published in the British Journal of Health Psychology 04/2013

Abstract:

The need to improve quality of care represents a major goal of all health care systems. The objective of this series is to illuminate how the contextual factors of hospitals from eight European countries, and the well-being of their healthcare professionals, contribute to either construct or degrade quality of care. The studies reported here provide an important bottom-up perspective on quality of care, and the way that burnout and organizational culture are intertwined within it. Overall, the collected studies represent an in-depth examination through focus groups of the experiences of 153 physicians, 133 nurses, and 46 patients from Greece, Portugal, Bulgaria, Romania, Ireland, Turkey, Croatia, and the Republic of Macedonia. Each paper makes a unique contribution to the understanding of how institutional contexts, organizational management, and job characteristics impose constrains, both on the capacity of health workers for better treatment decisions and choices, but also on their day-to-day professional satisfaction and quality of life. Taken as a whole, the papers make an even greater contribution, by pointing out the underlying similarities and differences across these eight European countries.

6. Patients and health care professionals: Partners in health care in Croatia?

Authors: Milan Milosevic, Hana Brborovic, Jadranka Mustajbegovic, Anthony Montgomery

Published in the British Journal of Health Psychology 07/2013; DOI:10.1111/bjhp.12062

Abstract:

Objectives: To explore quality in hospitals from the patients' and health care professionals' perspective in line with Act on the Protection of Patient Rights.
Methods: A qualitative study using a focus group design and semi-structured interviews. Three focus groups among health care professionals were conducted with 51 participants: 24 nurses and medical technicians, 15 physicians, 12 residents, followed by additional interviews (20 nurses and medical technicians, 10 physicians, and 2 residents). Twenty patients were interviewed at the time of their discharge from the hospital. Collected data were analysed using thematic analysis.
Results: Patients identified waiting for medical treatments/procedures as the most concerning factor, followed by changes in administration procedures and admission in hospitals. From the physicians' and nurses' perspective, the main topics were inadequate resources to work with and inadequate working environment. Residents emphasized administration and lack of adequate equipment in contrast to other health care professionals. Both patients and health care professionals identified similar organizational and administrative issues impacting on service delivery.
Conclusions: Health care providers and patients equally recognize the factors that impact upon quality of care. This problem is beyond the health care professionals' possibility to solve, which is the main source of stress and burnout that influence the quality of care. These factors cannot be overcome,

by either health care professionals or patient organizations working alone. Greater partnership between health providers and patient associations is needed.

7. Organizational stressors, work-family interface and the role of gender in the hospital: Experiences from Turkey.

Authors: Meral Turk, Asli Davas, Feride A Tanik, Anthony J Montgomery

Published in the British Journal of Health Psychology 03/2013; DOI:10.1111/bjhp.12041

Abstract:

Objectives: In the framework of the EU project 'Improving quality and safety in the hospital: The link between organizational culture, burnout and quality of care', focus groups (FGs) were conducted to explore hospital environment stressors and their relationship with health care professional (HP) well-being and quality of care.
Methods: Semi-structured interviews and FGs were used. Three mixed FGs with 23 health care workers, two FGs with 12 nurses, and another one with nine physicians were conducted. Thematic analyses were performed. Data were coded into main themes and subthemes.
Results: Three themes emerged from the discussions: (1) Organizational stressors associated with working conditions concerning the nature of the job, workload and working schedule, unclear role definition, lack of time for personal development, interpersonal relationships at work, changes in health policy, (2) work-family spillover and (3) the gendered nature of health care work and of patients' expectations, and the gendered character of the workplace.
Conclusions: Health care professionals are faced with numerous challenges that create stress affecting their daily life. Job stressors related to working conditions, the negative and positive spillover of work-family interference and the gendered nature of health care work emerged as important issues for Turkish HPs.

8. Constructing the health care system in Greece: responsibility and powerlessness.

Authors: Vassiliki Lentza, Anthony J Montgomery, Katerina Georganta, Efharis Panagopoulou

Published in the British Journal of Health Psychology 02/2014;
DOI: 10.1111/bjhp.12028.

Abstract:

Objectives: Based on health care professionals' (HPs) and patients' interviews about work demands and quality of care in hospitals, the study explores the

way that patients and HPs constructed their identities to describe and construct the health care system in Greece.
Design: This is a qualitative study using a focus group (FG) design.
Methods: Seven FGs discussions were conducted: three FGs discussions were conducted for the assessment of job stressors (1 for doctors, 1 for nurses and 1 for residents) and four FGs discussions for the assessment of quality of care (1 for doctors, 1 for nurses, 1 for residents and 1 for patients). The sample consisted of health care professionals working in a teaching hospital in the region of Thessaloniki, Greece, and patients who had at least one experience of any kind in the same hospital. Transcripts of the FGs discussions underwent discourse analysis.
Results: The results showed that both HPs and patients construct the health care system based on bipolar constructions of responsibility and powerlessness. In particular, participants use these constructions to allocate the responsibility to different levels of the health care system hierarchy or to the system per se constructing, at the same time, themselves as the 'viewers' of this system.
Conclusions: The study allowed a deeper understanding of issues related to quality of care in hospitals providing context-specific information. Identity in health care organizations was inextricably linked to power and responsibility. The need to deconstruct this responsibility/powerlessness ideology is discussed.

9. Through doctors' eyes: A qualitative study of hospital doctor perspectives on their working conditions

Authors: Yvonne McGowan, Niamh Humphries, Helen Burke, Mary Conry and Karen Morgan

Published in the British Journal of Health Psychology, 2013, DOI:10.1111/bjhp.12037

Abstract:

Background: Hospital doctors face significant challenges in the current health care environment, working with staff shortages and cutbacks to health care expenditure, alongside increased demand for health care and increased public expectations.
Objectives: This article analyses challenges faced by junior hospital doctors, providing insight into the experiences of these frontline staff in delivering health services in recessionary times.
Design: A qualitative methodology was chosen.
Methods: Semi-structured in-depth interviews were conducted with 20 doctors from urban Irish hospitals. Interviews were recorded via note taking. Full transcripts were analysed thematically using NVivo software.
Results: Dominant themes included the following: (1) unrealistic workloads: characterised by staff shortages, extended working hours, irregular and frequently interrupted breaks; (2) fatigue and its impact: the quality of care provided to patients while doctors were sleep-deprived was questioned; however, little reflection was given to any impact this may have had on junior

doctors own health; (3) undervalued and disillusioned: insufficient training, intensive workloads and a perceived lack of power to influence change resulted in a sense of detachment among junior doctors. They appeared immune to their surroundings.
Conclusion: Respondents ascribed little importance to the impact of current working conditions on their own health. They felt their roles were underappreciated and undervalued by policy makers and hospital management. Respondents were concerned with the lack of time and opportunity for training. This study highlighted several 'red flags', which need to be addressed in order to increase retention and sustain a motivated junior medical workforce.

10. Linkages between workplace stressors and quality of care from health professionals' perspective – Macedonian experience

Authors: Jovanka Karadzinska-Bislimovska, Vera Basarovska, Dragan Mijakoski, Jordan Minov, Sasho Stoleski, Nada Angeleska, Aneta Atanasovska

Published in British Journal of Health Psychology, 2013, DOI: 10.1111/bjhp.12040

Abstract:

Objectives: During last two decades, within the process of transition, the socio-economic reforms in Republic of Macedonia reflected on the national health care system. The objective of this article was to identify workplace stressors and factors that influence quality of care, from the perspective of health professionals (HPs), and to understand how they were linked in the context of such social circumstances.
Methods: A qualitative research based on focus group (FG) methodology was conducted in a general teaching hospital. Two main topics were the subjects of discussion in FGs: workplace stressors and factors that influence quality of care, from the HPs perspective. Six FGs were conducted with a total of 56 HPs (doctors, nurses, interns, and residents) divided into two sets of three FGs for each topic separately. Two sets of data were processed with thematic analysis, and the obtained results were compared with each other.
Results: By processing the data, we identified themes relating to factors that generate stress among HPs and factors that influence quality of care, from HPs' perspective. By comparing the two sets of themes, we found that many of them were identical, which means factors that increase workplace stress at the same time reduce quality of care.
Conclusions: Implementation of specific organizational interventions in the hospital setting can lead to the prevention of work-related stress and improvement in quality of care. Our research suggests that the prevention of work-related stress will impact positively on the quality of care, which may contribute to establish criteria and recommendations for the improvement in organizational culture and climate in hospitals.

11. Organizational hierarchies in Bulgarian hospitals and perceptions of justice

Authors: Irina L. G. Todorova, Anna Alexandrova-Karamanova, Yulia Panayotova, Elitsa Dimitrova

Published in British Journal of Health Psychology, 2014, DOI: 10.1111/bjhp.12008

Abstract:

Objectives: Health care reform in Bulgaria has been ongoing for two decades. Since 1990, it has been transforming from a socialized system of medical care with free access, to one which is decentralized, includes private health care services, the general practitioner model and a National Health Insurance Fund. In this context, we are conducting an international EC Framework 7 project: 'Improving quality and safety in the hospital: The link between organizational culture, burnout, and quality of care'. We focus on health professionals' perceptions of organizational hierarchies in Bulgarian hospitals and how doctors and nurses connect these to organizational justice.
Methods: We conducted seven focus groups and four interviews, with a total of 42 participants (27 nurses, 15 physicians and medical residents) in three hospitals. Data were analysed through thematic analysis and discourse analysis with Atlas.ti.
Results: From the perspective of health professionals, health reform has intensified traditional hierarchies and inequalities and has created new ones in Bulgarian hospitals. These hierarchies are continuously (re)constructed through language and practices and also destabilized through resistance. The health professionals protest fact that these hierarchies are permeated with unfairness and silence voices. All health professions (nurses, doctors, residents) in our study experience being unjustly positioned and disempowered in various hierarchies. They connect these experiences to stress and anxiety.
Conclusions: Participatory action research needs to address multiple dimensions of organizational relationships in Bulgarian hospitals, including hierarchical relationships and ways of promoting organizational justice.

12. Meanings of quality of care: Perspectives of Portuguese health professionals and patients

Authors: Sílvia A. Silva, Patrícia L. Costa, Rita Costa, Susana M. Tavares, Ema S. Leite, Ana M. Passos

Published in British Journal of Health Psychology, 2013, DOI: 10.1111/bjhp.12031

Abstract:

Objectives: The main goal of this study is to explore what is meant by "quality of care" (QoC) by both health professionals and patients. This research also

intends to compare the perspectives of nurses, doctors and patients in order to understand whether these different actors share similar views on what represents QoC.
Design and methods: A qualitative study was conducted. The study consisted in 44 semi-structured individual interviews (11 doctors; 23 nurses; 10 patients) and in three focus groups (20 participants: doctors, nurses, patients). Participants were doctors, nurses and patients from several Hospitals in Portugal. Data were analysed using content analysis methodology with MaxQDA software.
Results: The main content analysis' results revealed that all participants emphasize technical and interpersonal dimensions of QoC. Nevertheless, professionals stressed the availability of equipment and supplies and the conditions of health care indoor facilities. Patients focused more on their access to health services, namely the availability of health professionals, and on the health status outcome after care. In what the differences between doctors and nurses are concerned, the former tend to highlight the technical aspects of care more than the nurses, who tend to refer interpersonal aspects immediately.
Conclusions: Although nowadays the importance of health care quality has become well-recognized, its definition is still complex. Given that specific aspects are more valued by certain groups than others, it is important to take in consideration all the stakeholder's perspectives when measuring QoC in order to continuously improve it in the 'real' settings.

13. What happens to health professionals when the ill patient is the health care system? Understanding the experience of practising medicine in the Romanian socio-cultural context.

Authors: Florina Spânu, Adriana Băban, Mara Bria, Dan L. Dumitrascu

Published in British Journal of Psychology, 2013, DOI: 10.1111/bjhp.12010

Abstract:

Objectives: Our aims were to investigate the sources of work strain and stress, and the way in which they are experienced by Romanian health professionals in a work context shaped by the ongoing 20 years long reform of the national health care system.
Design: An exploratory, qualitative design was used to investigate medical professionals' perceptions of stress and work strain.
Methods: Twenty eight interviews and two focus groups were conducted with 38 physicians, residents and nurses, between the age of 26 and 53. A semi-structured interview guide was used for data gathering and the major themes were identified using thematic analysis of the transcripts.
Results: Three themes emerged in the analysis: governance and health system management, scarcity of resources, and health system reputation. Health professionals described the image of a suffering health system, exhausted by an inconsistent management plan, underfunded and understaffed; a system that is a constant source of discontent, bitterness and doubts for them and their patients.

Conclusions: Romanian health professionals' experiences reveal a health care system which after 20 years of reform managed to shape a learned helplessness culture within the medical community and drive a large proportion of its workforce across the borders.

14. Implementing Action Research in hospital settings: A systematic review

Authors: Anthony Montgomery, Karolina Doulougeri, Efharis Panagopoulou

Published in the Journal of Health Care Management and Organizations, 2014.

Abstract:

Healthcare organisations and hospitals in particular, are highly resistant to change. The reasons for this are rooted in professional role behaviours, hierarchal structures and the influence of hidden curricula that inform organizational culture. Action research has been identified as a promising bottom-up approach that has the potential to address the significant barriers to change. However, to date no systematic review of the field in healthcare exists. This paper reports on a systematic review of the area and collates the existing evidence regarding the use of action research interventions in hospital settings. Identified studies are reviewed with regard to the four stages of action research; problem identification, planning, implementation and evaluation. Results revealed significant heterogeneity with regard to theoretical background, methodology employed and evaluation methods used. Recommendations for future interventions are outlined.

15. A study of health care professionals' burnout and quality of care in Romania

Authors: Florina Spanu, Adriana Baban, Mara Bria, Raluca Lucacel, Dan L. Dumitrascu

Abstract:

We investigated the mediating role of burnout in the relationship between job demands and quality of care, in a sample of 349 health professionals in Romania. We found that burnout totally mediates this relationship for residents and nurses, but not for physicians. These results have implications for designing interventions aiming at improving quality of care, suggesting that the focus should be on improving the quality of the working conditions, which has both a direct and a mediated effect on the quality of medical care provided to patients.

SCIENTIFIC PUBLISHED PAPERS IN NON PEER REVIEWED JOURNALS:

not available at ORCAB Website

UNPUBLISHED SCIENTIFIC PAPERS:

1. Defining quality of care in hospitals: a ten year systematic review of the literature 2000-2010

Authors: Mary C Conry, Niamh Humphries, Karen Morgan, Yvonne McGowan, Anthony Montgomery, Kavita Vedhara, Efharis Panagopoulou, Hannah McGee

Abstract:

Purpose: This paper reviews evidence on how Quality of Care has been defined in the literature within the past ten years, with a view to extending our understanding of Quality of Care and proposing recommendations for future definitions.
Data Sources: Systematic searches of PsychInfo, Ovid, Medline, PubMed, EmBase and CinNahl were conducted for English language articles published between 2000 and 2010 with keywords 'quality of care' 'quality of healthcare' and 'hospital'. MESH terms were used where possible.
Study Selection: Included papers were peer reviewed in which the discussion of Quality of Care was a central or significant component.
Data Extraction: Four reviewers screened 13,195 titles and abstracts from database searches, with 371 examined in detail. Inclusion criteria were checked by two independent reviewers.
Results of data synthesis: In total, 19 papers were included in the review. Papers were categorised as either empirical papers (n= 14) or conceptual papers (n=5). Working definitions of Quality of Care were provided by 6 papers. Seven papers provided implicit definitions, while the remaining papers did not provide definitions despite discussion of the concept. Quality of Care was referred to as a multidimensional, complex construct in several papers and most papers explored its specific elements.
Conclusion: Valuable research on Quality of Care must begin with a clear working definition. Definitions of Quality of Care should have theoretical underpinnings but be context specific, adaptable to best clinical practice and strike a balance between patient, health professional and management perspectives.

2. Job burnout among physicians in hospital: A systematic review

Authors: Anthony Montgomery, Asimina Lazaridou and Elias Gerogiannis, Efharis Panagopoulou, Kavita Vedhara, Karen Morgan

Abstract:

Background: Job burnout has been extensively studied among physicians. However, no review to date has attempted to contextualise burnout within hospitals. Hospitals are unique organisations, which by the very design contribute to burnout among physicians and reduce quality of care.
Methods: A 20 year (1990-2010) systematic review of job burnout among physicians working in hospitals was conducted. The relevant databases were searched using the appropriate key words and inclusion/exclusion criteria.

Searched databases included; PubMed, PsychInfo, Scopus, Google scholar, Medline and Science Direct.
Results: In total, 88 studies were located that fit the inclusion criteria. The accumulated studies represent a total sample size of 52174 physicians (mean = 592.8 range: 21-7905, sd= 1132.39) and the average response rate was 64.3% (range: 1.4-98.4, sd =18.8). Effect size analyses of the most salient variables associated with burnout were: job demands (.57), job satisfaction (.34), social support (.26), age (.15) work conditions (objective; .23) and general health (.37). Only a small percentage of studies provided a theoretical rationale regarding their approach to job burnout.
Discussion: Physicians experience significant levels of job burnout, but there is a significant gap in the literature concerning the mechanisms by which hospitals contribute to burnout. The review discusses the personal and organisational factors that are associated with stress and burnout among physicians in the hospital environment.

3. The role of organisational culture in hospitals: A systematic review

Authors: Anthony Montgomery, Elias Gerogiannis, Asimina Lazaridou, Efharis Panagopoulou, Alexis Benos, Kavita Vedhara, Karen Morgan

Abstract:

Organisational culture has been widely studied. However, the the role of organisational culture in healthcare has not been systematically assessed. Improving quality of care and patient safety in a hospital setting represents a significant organisational challenge, however the existing knowledge on how best to influence organisational culture has not been applied to this crucial issue. This is surprising, given the established link between organisational culture and quality of care. The present research involves a systematic review of organisational culture in hospitals. The relevant databases were systematically searched from 1990-2010, using the appropriate key words and inclusion/exclusion criteria. The searched databases included; PubMed, PsychInfo, EBSCO, Medline, BioMed central, Science Direct and Google Scholar. 146 studies were located that fit the inclusion criteria. The average sample size was 1722.37 (range: 34-56,418, SD=5459.42) and the average response rate was 59.95 (range: 7.4-100, SD=18.58). Effect size calculation of the most frequently studies variables (in relation to organisational culture) indicated small-to-medium effect sizes for; quality of care (.35), organisational performance (.42), stress/burnout (.41), occupational safety (.38) and job satisfaction (.46). Conceptual and theoretical discussions of organizational culture vary considerably. Recommendations for future research and practitioners are discussed.

4. A 10 year Review of Quality of Care and Health Professional Burnout in Hospital Settings (2000-2010): A Health Workforce Planning Perspective

Authors: Montgomery A. & Lazaridou A., Panagopoulou E.

Abstract:

Quality of care and health professional burnout are important issues in their own right, however, relatively few studies have examined both. This review article draws on a decade of literature to explore the twin concerns of quality of care and health professional burnout. As both health professional burnout and poor quality of care may be symptomatic of a malfunctioning health system, the article takes a health workforce planning perspective to identify the common denominators and to outline areas for further research in this field. The article is a systematic review of peer reviewed, published articles on quality of care and health professional burnout, identified via a search of PsychInfo, PubMed, Embase and CINNAHL electronic databases. Seventeen articles which measured and/or discussed both quality of care and health professional burnout were identified. This article provides insight into the key health workforce planning issues, specifically staffing levels and workloads, which impact upon health professional burnout and quality of care. The evidence from the review literature suggests that health professionals face heavier and increasingly complex workloads, even when staffing levels and/or patient-staff ratios remain unchanged. This review suggests several health workforce planning concerns of direct relevance to debates surrounding quality of care and health professional burnout. Factors such as weak retention rates, high turnover, heavy workloads, low staffing levels and/or staffing shortages conspire to create a difficult working environment for health professionals, one in which they may struggle to provide high quality care and which may also contribute to health professional burnout. This article demonstrates that health workforce planning concerns are important considerations to incorporate into any analysis of quality of care and health professional burnout.

5. *Talking behind their backs: Gossip and burnout in hospitals*

Authors: Katerina Georganta, Anthony Montgomery, Efharis Panagopoulou

Abstract:

Background: Gossip can both hinder and help in a hospital environment. It is particularly important in stressful environments and represents an important organizational outcome. We hypothesize that negative gossip, defined as negative evaluative talk about an absent third party would function as an indicator of organizational dysfunction.
Methods: A quantitative survey was conducted among doctors, nurses and residents in Greece, Bulgaria, Romania, Turkey, Croatia and Republic of Macedonia. Specifically, we examined the role of negative gossip, in relation to healthcare burnout, job engagement, and suboptimal care and patient safety in public hospitals.
Results: Results indicate that, after controlling for negative affect, negative gossip is positively related to burnout dimensions emotional exhaustion and depersonalization. Negative gossip negatively correlated with job engagement and patient safety and positively correlated with suboptimal care, even after controlling for burnout. Negative gossip was positively related to the number of event reporting.

Discussion: Gossip is an important aspect of organizational functioning. The degree to which gossip is a coping mechanism of healthcare professionals is discussed.

6. Job Demands, Burnout, and Engagement among nurses: A multi-level analysis of ORCAB data investigating the moderating effect of teamwork.

Authors: Florina Spanu, Adriana Baban, Anthony Montgomery & Efharis Panagopoulou

Abstract:

Extensive research investigated the impact of job demands and resources on burnout and engagement among nurses. Few studies used multi-level designs looking at both individual and department level variables explaining the relationship. We used multilevel analysis in HLM to test the main and moderating effects of teamwork within medical departments in predicting burnout and engagement in a sample of 1156 nurses in 93 departments from seven European countries. Teamwork data aggregated at department level. Workload, emotional and organizational demands predict emotional exhaustion, depersonalization and vigor. Emotional and organizational demands, but not workload, were found to predict dedication also. Teamwork was not found to reduce burnout, but it was strongly associated with engagement. We found no evidence for the moderating effect of teamwork in reducing the individual perceptions of job demands.

7. Effects of burnout on health professionals' lifestyles: a cross-cultural perspective from the ORCAB-Study.

Authors: Anna Alexandrova-Karamanova, Anthony Montgomery, Efharis Panagopoulou, Irina Todorova

Abstract:

The study adopts a cross-cultural perspective to the investigation of burnout and health behaviors prevalence, and explores the effects of burnout on fast food consumption, exercise, alcohol drinking and painkillers use in respect to their universality or cultural specificity. Data were collected from doctors, nurses and residents working in university hospitals in Greece, Portugal, Bulgaria, Romania, Turkey, Croatia and the Republic of Macedonia. The instruments included the Maslach Burnout Inventory and self-constructed measure for assessing health behaviors. Results show that burnout dimensions are significant predictors of unhealthy lifestyles. Though part of results evidence for universality of effects, all in all, the data point out to culturally specific tendencies in the association between burnout and health behaviors and burnout and health behaviors prevalence. Most unfavorable situation outlined for health professionals in Turkey, Greece and Bulgaria. Implications of the findings for improving medical professionals' health through organizational interventions are discussed.

8. Burnout, job engagement, work demands, and organizational culture: differences between physicians and nurses.

Authors: Dragan Mijakoski, Aneta Atanasovska, Anthony Montgomery, Efharis Panagopoulou, Jordan Minov, Jovanka Karadzinska-Bislimovska, Nada Angeleska, Sasho Stoleski, Vera Basarovska

Abstract:

Purpose of the study was to examine the associations between burnout, job engagement, work demands, and organizational culture (OC) and to demonstrate differences between physicians and nurses working in general hospital in Skopje, R.Macedonia. Higher scores of dedication and hierarchy OC, and organizational work demands were found in physicians. Nurses demonstrated higher scores of clan OC. Burnout negatively correlated with clan and market OC in physicians and nurses. Job engagement positively correlated with clan and market OC in nurses. Different work demands were related to different dimensions of burnout and/or job engagement. Our findings support JD-R model (Demerouti and Bakker).

9. Overcoming job demands to deliver high quality of care in the hospital setting across Europe: The role of teamwork and positivity

Authors: Patrícia L. Costa, Ana M. Passos, Sílvia A. Silva, Ema R. Leite, Susana Tavares, Elitsa Dimitrova, EfharisPanagopoulou, Anthony Montgomery

Abstract:

Working at the hospital as a health professional is demanding. Doctors, nurses and assistants must deal, on a daily basis, with emotional situations, such as the suffering of patients and relatives, cognitive challenges (for example, timely decision making and analyzing several indicators in order to establish a diagnostic and a treatment plan), interpersonal tensions (conflicts between different specialties or professionals, uncooperative patients, impatient relatives), physical hassles (e.g., working nights, lifting heavy patients) and logistic complexity, such as the lack of necessary resources, time consuming bureaucratic processes and heavy workload. Considering the importance of warranting healthcare with high quality, the aim of the present study is to analyse the impact of job demands on quality of care and to investigate possible team and individual processes that will help to buffer the impact of high work demands on the quality of care delivered to patients, therefore ensuring their safety.

10. Development and validation of a novel cross cultural patient quality of care assessment tool.

Authors: Amanda Villiers-Tuthill, Karolina Doulougeri, Hannah McGee, Anthony Montgomery Efharis Panagopoulou, Karen Morgan

Abstract:

Objective: To describe the development and to assess the validity of the ORCAB Patient quality of care (QoC) questionnaire.
Background: Patients perceptions of QoC are important as improving the patient experience has been shown to improve patient safety and clinical effectiveness.
Few QoC measurement tools exist which assess all aspects of QoC from a patient perspective. This paper aims to describe the development of a tool grounded in the Institute of Medicine's pillars of quality framework.
Design: Items were generated using literature review and focus groups. Following a pilot study the initial 54 items were reduced to 19, and formed a questionnaire in 3 sections. Data was gathered via a cross-sectional survey of patient perceptions of QoC, using this interviewer administered questionnaire.
Setting: Data was collected in in-patient units with multi-day accommodation and capacity for diagnostic and therapeutic procedures in hospitals across seven countries in SSE Europe.
Participants: A total of 531 patients discharged from the participating centres took part in the survey
Main outcome measures: Demographic data, 19 patient question responses measured with free text, multiple choice and 5 point Likert scale assessing level of agreement with statements regarding perceived QoC.
Data analyses and results: Participation rate was x% .Data quality and acceptance were assessed by mean, median, item response, missing, floor and ceiling effects. Reliability was good (Cronbach's α 0.755) and corrected item-total correlations >/= 0.3 for all but one question, which was deleted from the questionnaire to improve validity. A mean 'composite index' of QoC was generated from remaining Likert Scale items assessed. Exploratory factor analysis identified 3 components of patient perceived QoC, explaining 52.7% of the variance.
Conclusions: The ORCAB patient QoC questionnaire is a reliable and valid tool based on a well-established framework and generated from patient focus groups. It enables QoC data to be assessed in the context of the IoM pillars of quality.

REPORTS

1. Systematic review on assessment methods of organizational culture, burnout and quality of care among healthcare professionals.

Summary:

The overall objective of this review was to outline the informational background of the project in terms of a systematic review (comprised of 5 chapters). The work group responsible for conducting the reviews searched for scientific studies conducted in European countries, government and public body reports from SEE, and reports and data from professional medical bodies in the SEE. Online literature search engines, archives of health boards, and direct contacts with representatives from professional bodies

were used as sources for the systematic review. The chapters cover the areas of HP burnout, organisational culture and quality of care.

2. Report: Designing, conducting, analyzing focus groups

Summary:

The purpose of this report was to describe the methodology of focus group used during the ORCAB Study and analyze the knowledge gained on what kind of stressors health professionals are faced with and what are the factors that influence quality of medical care from health professionals perspective.

3. Patient Audit

Summary:

Ensuring the good quality of provided care to patients is the major aim of modern health care systems. An understanding of what QoC means for patients would assist in the development of effective interventions and contribute to a more holistic view of the health care. The aim of the present survey was to report the results of a multi-centre study investigating patients' perceptions of QoC.

4. Report on benchmarking of burnout, organizational culture, and quality of care in health professionals in South and SEE Europe

Summary:

This document aims at informing the European Commission of the major problem of job burnout and presenting the current state of burnout in the countries that consist of the ORCAB consortium (except for Ireland and UK). Additionally, the sources and consequences on the individual and organizational level, on both well-being and performance are reported.

5. *Scientific report on "Can organisational change improve quality of care: The role of action research"*

Summary:

This report systematically identifies and evaluates Action Research (AR) interventions, which have been implemented in heath care settings aiming at improving the quality of care and/ or changing the organizational culture of the heath care setting. The aim of the report is to show how AR methodology can promote organizational change in hospital settings and improve the quality of care.

6. Indicators to evaluate effectiveness of health care interventions

Summary:

This document is a conceptual document that outlines possible approaches to developing indicators to evaluate health care intervention.

7. Final report on European guidelines on using organisational change to improve quality of care

Summary:

The improvement of quality of care for patients has been dominated by a technological narrative. The following guidelines provide fundamental points and principles that should guide activities aimed at changing the organizational culture to improve quality of care. These guidelines are based on five sources of information from the ORCAB project. Firstly, they are informed by the six systematic reviews conducted. Secondly, by the exhaustive qualitative data collected via focus groups and patients in all ORCAB countries. Thirdly, the multi-centre study conducted among hospitals in the ORCAB countries provided the appropriate profile of organizational and individual factors that impact on quality of care. Fourthly, the action research interventions developed and tested in the target ORCAB countries provided important process information on 'what works'.

GUIDES/HANDBOOKS

1. Good financial and reporting practices for ORCAB Beneficiaries

Summary:

The purpose of this guide was to develop a guide for good financial reporting practices for ORCAB beneficiaries.

2. Three step manual for change

Summary:

The ''Three step manual for change'' is an easy to use tool for hospital managers and clinical directors, which can be used to evaluate in which areas there is a malfunction and select interventions to improve performance in the clinic or the hospital. A cross sectional survey, using the questionnaires proposed by the ORCAB Project should forego, and its results will be evaluated using this tool, to design appropriate and effective interventions.

The first section includes useful definitions in order to help hospital managers and clinical directors to get familiarize with terms such as burnout syndrome, job engagement, teamwork and suboptimal care. The second section includes the three steps approach. The first step gives a first evaluation of the levels of the above four indicators. The second step provides an assessment of the extend of the problem, categorizing the results in three groups (no problem, mild problem, extended problem). The third section proposes three types of

interventions that could be implemented effectively in clinics in order to prevent or treat the problem (staff education/counseling, staff motivation and recognition, redefining and reconstructing the working environment). The design of those interventions should be based on the special requirements of the clinic, according the previous assessment.

All the interventions proposed in this booklet have been implemented and worked effectively in terms of reducing burnout and improving job performance in clinical settings.

3. Action Research Handbook

Summary:

This handbook provides detailed information about what is action research and proposes a five step approach (problem identification, planning of action, implementation for action, evaluation, reflection) to design and implement interventions.

Results from studies that implemented action research in heath care settings showed that it is a promising strategy to promote organizational changes, team building and empowerment of heath care professional resulting in better quality of care[14,15,16,17]. Action research allows for a bottom-up approach where health care staff in collaboration with researchers, identify the most important issues for change within the health care setting, develop, implement and evaluate context- specific solutions.

Even, if action research is identified as a promising strategy for promoting organizational change and high quality of care in health care settings through the implementation of evidence-based practices[18] (Waterman et al., 2001), so far there is no easy to use handbook on the implementation of action research in hospital settings.

4. Organizational Health Intervention Research in Medical Settings

---

[14] Beringer, A. J., & Fletcher, M. E. (2011). Developing practice and staff: enabling improvement in care delivery through participatory action research. *Journal of Child Health Care, 15*(1), 59–70. doi:10.1177/1367493510395639

[15] Clark, P. R. (2009). Teamwork: building healthier workplaces and providing safer patient care. *Critical Care Nursing Quarterly, 32*(3), 221–231. doi:10.1097/CNQ.0b013e3181ab923f

[16] Moxham, L., Dwyer, T., Happell, B., Reid-Searl, K., Kahl, J., Morris, J., & Wheatland, N. (2010). Recognising our role: improved confidence of general nurses providing care to young people with a mental illness in a rural paediatric unit. *Journal of Clinical Nursing, 19*(9-10), 1434–1442. doi:10.1111/j.1365-2702.2009.02993.x

[17] Williams, A. M., Dawson, S. S., & Kristjanson, L. J. (2008). Translating theory into practice: Using action research to introduce a coordinated approach to emotional care. *Patient Education and Counseling, 73*(1), 82–90. doi:10.1016/j.pec.2008.04.011

[18] Waterman, H., Webb, C., & Williams, A. (1995). Parallels and contradictions in the theory and practice of action research and nursing. *Journal of Advanced Nursing, 22*(4), 779–784. doi: 10.1046/j.1365-2648.1995.22040779.x

Summary:

The goal of this handbook was to provide information on the use of action research in medical settings to non-medical audiences.

The Potential Impact (including the socio-economic impact and the wider societal implications of the project so far) and the main dissemination activities and exploitation of results (10 pages)

The impact of the ORCAB project has been at the following levels; healthcare delivery, improving the well being of healthcare professionals, patient delivery, new healthcare delivery models, organizational change in hospitals, healthcare policy, European Union Competitiveness and the Optimum Workplace, ORCAB contribution to gender.

Healthcare Delivery. The ORCAB project involved a multi-centre study of hospitals in eight European countries. The immediate impact of ORCAB has been to involve over 3000 healthcare professionals directly in contributing to a project aimed at redesigning their workplace. We should underestimate the fact that a significant proportion of healthcare professionals have now direct experience of EU funded activities aimed at improving their working conditions. It was obvious from our relationship with all these individuals that contact with the ORCAB project has caused to rethink the way that healthcare is delivered, and the role of patients in defining quality of care.

Improving the well being of healthcare professionals: ORCAB has provided normative data on burnout, organizational culture and quality of care in the target countries of ORCAB. This work is a necessary precursor to developing and evaluating interventions to improve well being and quality of care. The action research phase of the ORCAB project has provided hospitals with a template of how they can use organizational change to reduce burnout and improve quality of care. All this accumulated knowledge has been brought together and transformed into a manual for front line managers in healthcare. The manual is a user-friendly tool outlining the steps that managers can follow to address performance and well being.

Assessing the economic impact of burnout was not within the remit of the ORCAB project. However, it is instructive to review the economic arguments for tackling burnout, which are impressive. Hospitals in which burnout was reduced by 30% had a total of 6,239 fewer infections, for an annual cost saving of up to $68 million[19]. Among surgeons, an increase in burnout is associated with increases in medical error reporting[20]. It has been estimated that the direct and indirect costs of turnover, per nurse, accounted for US$ 16,600 in Australia, US$ 10,100 in Canada, US$ 10,200 in New

[19] Cimiotti, J.P. Aiken, L.H., Sloane, D.M., Wu, E.S. (2012). Nurse staffing, burnout, and health care-associated infection. American Journal of Infection Control, 40, 486-90.
[20] Shanafelt, T. D., Balch, C. M., Bechamps, G., Russell, T., Dyrbye, L., Satele, D., Collicott, P., et al. (2010). Burnout and medical errors among American surgeons. *Annals of surgery*, *251*(6), 995–1000.

Zealand and US$ 33,000 in the United States[21]. The direct and indirect costs of burnout are considerable.

Patient Involvement. Definitions of quality of care have been dominated by a technical physician led approach. The ORCAB project has contributed to readdressing this balance by developing a measure of quality of care that is patient led and locates patient-centredness at the core of quality of care.

New healthcare delivery models. Healthcare delivery models are rational/technical and ignore the role of healthcare professional well being in the delivery of healthcare. This has resulted in an unnatural division between performance and well being. The ORCAB project proposes a new healthcare deliver model that positions job burnout as an important mediator between organizational culture and quality of care. The practical implications of this model for health systems that governance and administration structures need to design for worker health. Quality control systems and standards are typical for infrastructure and equipment in healthcare, and a quality control/quality improvement approach needs to be applied to worker health.

Organizational change in hospitals. Organizational change initiatives in hospitals have been dominated by top-down approaches that have been nurse dominated. The ORCAB project has developed and tested bottom-up approaches to organizational change in hospitals. The results of the action research teams in ORCAB represent important case studies for healthcare organizations aiming to change organizational systems.

European Union Competitiveness and the Optimum Workplace. Health sectors are vital parts of national economies and constitute an important labour market in Europe. Indeed, in 2008, it was estimated that 70% of the health budget in Europe was allocated to salaries and employment related costs[22].In this regard, it is the strategic goal of every European country to develop a healthcare system that maximizes quality of care for patients and optimizes healthcare costs. One of the biggest risks in patient safety today is health professionals themselves. Increased resources and training are only beneficial to the extent that healthcare professionals are motivated and have the energy to actually treat patients appropriately. Accumulated evidence indicates that one every two health professionals reports symptoms of burnout, with significant consequences for both patient outcomes (i.e., medical error, effective communication, iatrogenic diseases) and healthcare professional functioning (i.e. absenteeism, productivity, turnover, use of alcohol etc). The results of the ORCAB project will assist policy makers in all EU countries to systematically design more optimum workplaces for the delivery of healthcare.

[21] Organisation for Economic Co-operation and Development. The looming crisis in the health workforce- how can OECD countries respond? Paris,Organisation for Economic Co-operation and Development, 2008.

[22] Commission of the European Communities (2008). Green Paper on the European Workforce for Health (COM (2008) 725 final). Brussels, Commission of the European Communities, (2008). http://ec.europa.eu/health/ph_systems/docs/workforce_gp_en.pdf. Accessed 29 November 2012.

ORCAB connections to EU agenda. The results of ORCAB have responded directly to challenges outlined in the Horizon 2020 framework[23] for research and innovation. The results and impact of ORCAB are consistent with the changing economic landscape in that: we have addressed developing countries, our outputs were quantifiable, we addressed healthcare at different levels, we have spread excellence (best practice) and widened participation (involving the users in the design of the interventions).

Additionally, ORCAB has contributed to the objectives laid out in the Second Programme of Community Action in the Field of Health 2008-2013, "*Together for Health: A Strategic Approach for the EU 2008-2013*": With regard to the first objective, Improve Citizens Health Security, ORCAB has improved promoted actions related to patient safety through high quality and safe healthcare via the identification of the optimal conditions under which organisational climate contribute positively to better quality of care. With regard to the second objective, Promote Health and Reduce Health Inequalities, ORCAB has laid the foundations for preventing burnout among healthcare professionals, and thus promote physical and mental health among an important occupational sector of society. Healthcare professionals play a critical role in the health of the people of the European Union, and their occupational health has a direct impact upon the citizens of the EU. Finally, with regard to the third objective, Generate and Disseminate Health Information and Knowledge, ORCAB has contributed to the exchange of knowledge and best practice among healthcare provides in the European Union. Additionally, the project has disseminated important information on best practices with regard to promoting quality of care in hospitals.

Given the healthcare reforms that Europe is going at the moment, the ORCAB project specifically aimed at making an impact at clinical practice

Improving clinical practice

Two of the deliverables of the ORCAB-Project can be applied in clinical practice, for the improvement of quality of care. Both approaches target at all health care workers (physicians, nurses, e.t.c.) and they mainly aim to assess the problem, to propose and design sustainable solutions. The improvement of clinical practice can be achieved indirectly, by reducing burnout, enhancing teamwork and job engagement, and directly by designing and implementing interventions to improve quality of delivered health care and reduce medical mistakes.

Differences between the two approaches:

- The ''three step manual for change'' is a tool which has been developed to help health care managers and clinical directors, while

[23] Horizon 2020 - The Framework Programme for Research and Innovation, COM(2011) 808 final;

the ‘’Action research handbook’’ could be used by all the workers of the organization, as a tool for change.

- The ‘’Action research handbook’’ proposes a more collaborative participatory approach than the ‘’three step manual for change’’.
- The ‘’three step manual for change’’ uses questionnaires to evaluate the problem while ‘’Action research handbook’’ proposes more complex but sensitive ways of evaluation, such as direct observation or group meetings.
- The ‘’three step manual for change’’ is an easy to use tool, providing solutions, which can be implemented in short time term. So this is a more vertical approach comparing to ‘’Action research handbook’’ which provides a more horizontal approach.
- ‘’Action research handbook’’ includes more detailed information for the approach, such as solutions for possible problems during the procedure.

Both approaches propose solutions that encourage personnel involvement in decision making, and they both need the collaboration between the researchers, the managers and the employees. Both tools could be used together in the same settings for either short-term or more sustainable changes.

Future research

The ORCAB project was targeted to health care professionals working in hospital-base environment, excluding practitioners working in primary care. However recent evidence shows that general practitioners (GP’s) experience high levels of work-related stress and they have high risk suffering from burnout. A survey of 500 British GPs found 46% were emotionally exhausted, 42% were depersonalised and 34% felt they were not achieving a great deal[24]. Goehring et al. (2005) reported that one third of GPs in Switzerland showed signs of burnout[25], while high levels of burnout have being reported for French GP’s in training as well[26]. Furthermore, Soler et al. (2008) in a sample of 1393 family physicians across 12 European countries found that 43% of the responders scored high for emotional exhaustion, 35% for depersonalization and 32% for personal accomplishment, with 12% scoring high burnout in all three dimensions[27]. In the same study, high burnout levels were found to be strongly associated with the abuse of alcohol, tobacco and psychotropic medication.

[24] Orton P, Orton C, Gray DP. General practice & family medicine. Depersonalised doctors: a cross-sectional study of 564 doctors, 760 consultations and 1876 patient reports in UK general practice BMJ Open 2012;2:e000274 .

[25] Goehring C, Bouvier-Gallacchib M, Ku¨nzic B, Bovierd P. (2005) Psychosocial and professional characteristics of burnout in Swiss primary care practitioners. Swiss Medicine Weekly135: 101–8.

[26] Galam E, Komly V, Le Tourneur A, Jund J. Burnout among French GPs in training: a cross-sectional study. Br J Gen Pract. 2013 Mar;63(608):e217-24.

[27] Soler JK, Yaman H, Esteva M and Dobbs F (2008) Burnout in European family doctors: the EGPRN study. Family Practice25 (4): 245–65.

Some of the unique characteristics of primary care are possibly associated with high risk of burnout within general practitioners, thus risk factors are different between workers in primary care and workers in hospital settings. Physicians in primary health care work in the frontline of care, and they carry the burden of medical care alone, without the buffer of junior medical staff or ward staff. According to Benson and Magraith (2005), GPs are at risk of burnout because they are often the 'first port of call' for patients with a range of mental health problems, many of whom have a history of trauma or loss[28]. Moreover clinical uncertainty exists in a greater extend in primary care than all the others medical specialties[29]. This can cause uncomfortable feelings which some doctors prefer to avoid (ie fear of malpractice, losing one's self esteem, and stress from uncertainty). Higher intolerance of uncertainty has being linked to burnout in a study of primary care physicians[30]. Exposure to emotionally difficult situations has also been reported as a stressor which also puts primary care physicians at risk of burnout and compassion fatigue[23].

Even if the evidence shows that GP's are burned out, there is no study on the impact of burnout on their performance, medical mistakes and quality of care. Therefore there is need for further research on risk factors within workers in primary health care, as well as on the relationship between clinical uncertainty, burnout and quality of care. This is even more important considering that general practitioners consist the frontline in health systems in most European countries. With 300 million consultations per year in UK[31] GPs have more contact with patients than any other group of doctors. This makes the research on patient safety issues even more important.

ORCAB contribution to Gender Equality.

The activities of ORCAB have furthered the goals of the European policy of equal opportunities between women and men, which are enshrined in the Treaty on European Union. Articles 2 and 3 establish equality between women and men as a specific task of the Community, as well as a horizontal objective affecting all Community tasks. The Treaty seeks not only to eliminate inequalities, but also to promote equality. The Commission has adopted a gender mainstreaming strategy by which each policy area, including that of research, must contribute to promoting gender equality. The Commission recognises a threefold relationship between women and research, and has articulated its action around the following:

[28] Benson J and Magraith K (2005) Compassion fatigue and burnout. The role of Balint groups. Australian Family Physician34(6): 497–8.
[29] Evans L, Trotter D. (2008). Epistemology and Uncertainty in Primary Care: An Exploratory Study. Family Medicine41 (5):319-326.
[30] Kuhn G, Goldberg R, Compton S: Tolerance for uncertainty, burnout, and satisfaction with the career of emergency medicine. Ann Emerg Med 2009, 54(1):106–113. e106
[31] Hippisley-Cox J, Vinoggradova Y. Trends in consultation rates in general practice 1995/1996 to 2008/2009: analysis of the QResearch database. London: QResearch and The Information Centre for Health and Social Care, 2009.

1. women's participation in research must be encouraged both as scientists/technologists and within the evaluation, consultation and implementation processes,
2. research must address women's needs, as much as men's needs,
3. research must be carried out to contribute to an enhanced understanding of gender issues

The ORCAB project has addressed this threefold relationship in the following way: (1) The evaluation, consultation and implementation of the proposed project involved a significant proportion of women, (2) ORCAB evaluated and monitored the issues surrounding stress for both men and women in the healthcare industry, and the gender differences concerning patient safety., and (3) ORCAB contributed to an enhanced understanding of gender issues via the use of action research. This use of this particular methodology is useful in exploring the way that organizations work and the way that the work practices in an organization can discriminate with regard to gender.

Exploitation of results and dissemination activities

The consortium of the ORCAB project has organised or participated in numerous dissemination activities. Table 3 shows a summary of the dissemination activities. The dissemination activities were addressed mainly to three groups, scientific audiences, health professionals and key stakeholders.

Health professionals

The consortium of the ORCAB project has organised workshops for healthcare professionals using results of the project to train them in skills concerning burnout prevention. These workshops were organised at a national level in two phases during the project, first in Phase II, and secondly in Phase III. In addition, the European Hospital Network, developed at the end of the project aims primarily at keeping the dialogue open between hospital staff on how to improve clinical practice, HP well being and quality of care.

Scientific audiences

Several ORCAB-related symposia were organised in scientific conferences. Representatives of the consortium have participated with individual oral and poster presentations in conferences. Key scientific events included the symposia organised in the 25th European Health Psychology Conference (2011, Hersonissos, Crete, Greece), in the 26th Conference of the European Health Psychology Society (2012, Prague, Czech Republic) and 27th Conference of the European Health Psychology Society (2013, Bordeaux, France). Also in June 2012 the consortium organised a Scientific Meeting in Dublin, Ireland addressing issues regarding Patient Safety in

Hospital Settings and the implications of hospital organisation and physician burnout.

Stakeholders

The ORCAB project has established links with stakeholders. Several media briefings have resulted in publications in the popular press. Also, the consortium has proceeded with the publication of newsletters targeting healthcare professionals, policy makers as well as broader audiences. In addition posters and flyers describing or advertising the project have been published and circulated in several points of interest. Strong relationships with hospital managers and policy makers have been established during the ORCAB project and dissemination events. The key final event was a meeting entitled “Action Research in hospitals: Now what?” addressing the use of Action Research to initiate change in hospitals and the development of the network for hospital managers and associated stakeholders for the communication of interventions aimed improving quality of care in hospitals.

During WP10, the main dissemination plan of the ORCAB project was developed in three levels. At a national level, meetings with Health professionals were conducted to disseminate the outputs of action research. A conference was organised with hospital managers to compare and discuss applications in a European level. Finally, individual meetings were conducted with representatives from key groups to discuss possible continuation of the work carried during ORCAB (figure 1).

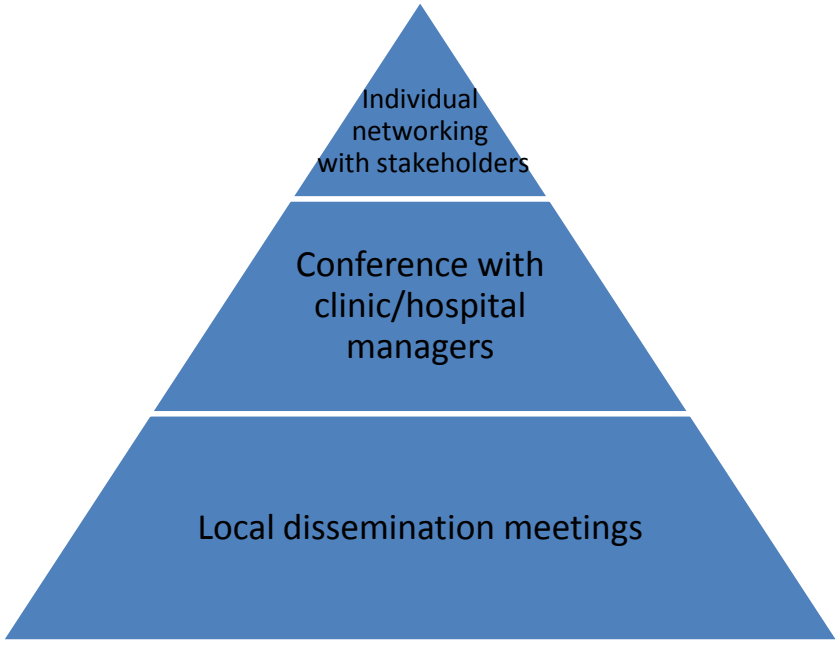
Table 3. Summary of ORCAB dissemination activities

Publications in popular press	**27**	Media Briefings	**1**
Flyers	**4**	Oral presentations to scientific events	**136**
Organisation of Workshops	**11**	Oral presentations to wider public	**6**
Websites/Application	**1**	Organisation of Conferences	**4**
Press releases	**13**	Posters	**10**

Table 4. Summary of ORCAB scientific publications

Publications	
Published in peer reviewed journals	**14**
In press	**1**
Published non in peer reviewed journals	**5**
Under review	**7**
Not submitted	**3**
Total Number	**30**

Figure 1. Dissemination plan



Project website

orcab.web.auth.gr

European Hospital network site (WP10)

EUHONET.WEEBLY.COM

Table 5. List of beneficiaries and contact details

Beneficiary	Contact person	Email	Phone contact
AUTH	EfharisPanagopoulou	efharis @the.fortnet.gr	+30 2310999154
UOM	Anthony Montgomery	monty5429@hotmail.com	+30 2310891387
EGE	Feride Aksu	frideaksu59@gmail.com	+90 2323902065
CIS	Ana Margarida Passos	ana.passos@iscte.pt	+35 1217903212
UBB	Adriana Baban	adrianababan@psychology.ro	+40 264405300
HPRC	Irina Todorova	ilgt1@comcast.net	+35 929719686
AS	Jadranka Mustajbegovic	jmustajb@snz.hr	+38 514590112
IOHRM	Jovanka Bislimovska	bislimovska_j@yahoo.com	+38 970 830881
UNNOT	Kavita Vedhara	kavita.vedhara@nottingham.ac.uk	+44 7957585597
RCSI	Hannah McGee	hmcgee@rcsi.ie	+35 314022428