The significance of staffing and work environment for quality of care and the recruitment and retention of care workers. Perspectives from the Swiss Nursing Homes Human Resources Project (SHURP)

Inauguraldissertation

Zur Erlangung der Würde eines Dr. sc. med.

vorgelegt der
Medizinischen Fakultät
der Universität Basel

von

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aus Wittenbach, St. Gallen

Basel, 2015
SUMMARY

While the demand for high quality of care in nursing homes is rising, recruiting and retaining qualified staff is becoming increasingly difficult. Burgeoning chronic illness rates, complex medical and psychosocial situations, and the rising challenge of mental health disorders such as dementia compound the problem. Current research shows a tendency for higher staffing levels to correlate with higher quality care; however, the results are inconclusive. Further, while work environment factors such as leadership and teamwork appear to play an important role for positive resident outcomes, few studies have closely examined combinations of staffing and work environment factors and their relationships with quality of care. In fact, very little is known about what happens at the actual interface between staff and resident when staffing or other resources are short and care workers have to leave certain activities undone. Such rationing of nursing care might play an important role concerning the quality of care provided.

One vital question for nursing homes is how much staff and what skill mix are needed to provide adequate quality of care in a given context. Another is how nursing homes can attract and retain healthcare workers who fit those needs. In a time of increasing workforce shortage, nursing homes might want to explore different recruitment venues such as employer referral. However, very little is known of contextual factors regarding care workers’ recommendations of their workplace to potential hires. Similarly, affective organizational commitment is known to be inversely related with intention to leave; but little is known about work environment factors as antecedents of that commitment. It is possible that providing a positive work environment is a key to recruiting and retaining the workforce needed.

Thus, the overall aim of this dissertation is to comprehensively examine the association between nursing homes’ staffing issues, their care workers’ work environments, implicit rationing of nursing care and quality of care. It will also examine the relationship of
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staffing and work environment with care workers’ affective organizational commitment and their willingness to recommend their nursing home as an employer.

This dissertation is embedded in the Swiss Nursing Home Human Resources Project (SHURP), a cross-sectional study of Swiss nursing homes. SHURP was initiated to gain a comprehensive and in-depth understanding of how organizational characteristics, work environment, and implicit rationing of care are linked with care worker and resident outcomes in Swiss nursing homes. A representative sample of 163 nursing homes participated, i.e., a random 10% selection of Switzerland’s approximately 1600 nursing homes. Of 6947 care workers invited to participate, 5323 responded (response rate of 76%). This sample was stratified according to language region (German-, French-, and Italian-speaking part of Switzerland) and nursing home size (large: ≥100 beds, medium: 50-99 beds, and small: 20-49 beds). SHURP had 5 main goals: 1) to describe characteristics of facilities, units, care workers, and residents, as well as of work environment, work stressors, and implicit rationing of nursing care; 2) to describe the prevalence of selected negative resident outcomes (e.g., falls, need for bedrails, pressure ulcers); 3) to describe the prevalence of selected care worker outcomes (e.g., job satisfaction, affective organizational commitment, intention to leave); 4) to compare staffing, skill mix, and quality of the work environment, considering care worker and resident outcomes, based on facility and unit characteristics; and 5) to explore facility and unit characteristics, work environment, work stressors, and implicit rationing of nursing care in relation to quality of care, along with resident and care worker outcomes. This dissertation focuses on the last of these aims, concentrating on three outcomes: care worker-reported quality of care, affective organizational commitment and prospective employee referrals.

This dissertation has 9 chapters. Chapters 1 and 2 provide introductory information. Chapter 1 gives an overall introduction to nursing home workforce research, with special emphasis on current workforce challenges, including an overview of the SHURP framework, focusing on work environment, implicit rationing of nursing care, quality of care, and
affective organizational commitment. Following this, **Chapter 2** describes the aims of this dissertation.

**Chapter 3** comprises the published study protocol of SHURP. It gives a general introduction to the background, rationale and aims of the main study, its methodology and the development of the SHURP questionnaires. It also introduces the study’s conceptual framework, which postulates that the interplay of organizational characteristics (e.g., nursing home size or profit status, unit staffing levels, staff mix, turnover) and work environment factors (e.g., leadership, teamwork, safety climate) can be linked to resident and care worker outcomes, although these relationships might be partly mediated by implicit rationing of nursing care. The framework is based on Mitchell’s Quality of Health Outcomes Model, which further develops Donabedian’s structure-process-outcome model, assuming dynamic rather than sequential relationships between the components and suggesting that relationships between interventions and outcomes are not direct but mediated by system and client characteristics. Additionally, SHURP is a continuation of the RN4Cast study, which stressed the importance of work environment factors concerning relationships between staffing and outcomes.

In **Chapters 4 through 6**, three articles focus on implicit rationing of nursing care. **Chapter 4** presents first evidence on the validity and reliability of the German, French, and Italian versions of the Basel Extent of Rationing of Nursing Care (BERNCA) instrument for nursing homes (BERNCA-NH). Like the other questionnaires used in the study, the BERNCA was first adapted to its use in the nursing home setting by fitting the content and simplifying the language, then assessed for content validity by a panel of 6 to 13 gerontological experts. Next, it was tested for comprehensibility and understandability in focus group interviews with end users of different educational backgrounds (e.g., registered nurses, nurse aides), then translated, back-translated and checked for agreement with the original scale. Finally, it was psychometrically tested. Each language version showed good validity and reliability. The
content validity indexes for the four subscales found in this analysis were above 0.83–except for the Italian version of the scale on rationing of social care, which yielded a value of 0.78. Along with higher missing values in social care items, this rating indicated the need to revise this subscale. In contrast to the one-factor solution of the original BERNCA, exploratory factor analysis produced a consistent four-factor solution (subscales: 1. Support in activities of daily living; 2. Caring, rehabilitation, and monitoring; 3. Documentation; and 4. Social care) with good fit statistics and factor loadings above 0.5 in all language versions. Cronbach’s Alpha was good throughout, ranging between 0.77 and 0.89. Evidence based on interscorer differences showed that the BERNCA-NH should be analyzed at the individual level and responses cannot be aggregated to the unit level (all \( r_{WG} \) were below 0.7 with skewed distribution assumed), but should be controlled for the nestedness of care workers within units (all ICC1>.05). Based on the analyses, though further refinements of selected items are needed, the German, French, and Italian BERNCA-NH versions are all valid and reliable for use in Swiss nursing homes.

Chapter 5 reports the results of a study describing levels and patterns of implicit rationing of nursing care in the SHURP sample and examining factors contributing to implicit rationing of nursing care, e.g., staffing level, turnover, and work environment. According to the 4307 care workers from 156 nursing homes included in this analysis of the SHURP sample, implicit rationing of nursing care was relatively rare. Within the four subscales of rationing, items concerning documentation and social care were rationed more often than items involving caring, rehabilitation, monitoring, or support in activities of daily living. In multilevel regression models using the four subscales of implicit rationing of nursing care as outcomes, staffing level and turnover were not related to any of the subscales. This could be because the relationship between staffing level and rationing is not linear, but that a minimal threshold is required, above which no relationship can be shown. On the other hand, more positive work environments, signaled by elevated levels of positive teamwork, safety climate,
and perceived adequacy of staffing and other resources, alongside comparatively low frequencies of work stressors, e.g., workload, workplace conflict and lack of recognition, showed significant relationships to lower levels of rationing. We suggest that implicit rationing of nursing care is a factor to be considered when talking about quality of care in nursing homes, and that interventions to improve the work environment should also be tested for their effect against rationing.

In Chapter 6, the level of care-worker-reported quality of care is examined, along with its relationships with staffing variables, work environment, work stressors, and implicit rationing of nursing care. Overall, the level of care quality reported was very high, with 93% of respondents giving positive ratings. As in the previous study, while neither staffing levels nor turnover were significant predictors of better quality of care, significant correlations were found with better teamwork and safety climate, less workload-related stress, and less implicit rationing either of social care or of care, rehabilitation, and monitoring. Therefore, interventions to improve the work environment, to support the handling of work stressors and to reduce rationing might help to promote high quality of care in nursing homes.

Chapters 7 and 8 present the two final articles, which focus on two outcomes of particular interest vis-à-vis personnel shortages: care workers’ affective organizational commitment and their willingness to recommend their employers to potential colleagues.

The nursing home sector urgently needs to improve its recruitment and retention of adequately qualified care workers. Chapter 7 focuses on affective organizational commitment (AOC), i.e., employees’ emotional attachment to, identification with and involvement in their organization. Within the SHURP sample, it could be shown that higher AOC was significantly related to lower intention to leave, fewer health complaints, and lower levels of both presenteeism and absenteeism. As in the former studies, in addition to overall job satisfaction, higher AOC was significantly related to work environment factors including appropriate deployment of skills, better collaboration with colleagues, as well as the director
of nursing and the nursing home director, more supportive leadership, higher staffing and resource adequacy and better quality of care. Unlike in former studies, leadership was the most significant work environment factor, suggesting that interventions to strengthen supportive leadership and job satisfaction are the most promising to increase AOC and minimize intention to leave.

Presented in Chapter 8, the final article examines work environment factors and their relationship with employee recommendations, taking into account the mediating roles of affective organizational commitment and job satisfaction. Particularly during nursing personnel shortages, employee referral, i.e., word-of-mouth recommendations of one’s own workplace to potential hires, is a promising method of attracting new employees. The results were very positive: 83% of surveyed care workers would recommend their nursing homes. Overall, the most important factors related to employee referral, fully mediating its relationship with inter-colleague collaboration, were affective organizational commitment and job satisfaction. However, supportive leadership and care quality also play important roles: the better the ratings of these factors, the more care workers would recommend their workplaces—a relationship only partially mediated by affective organizational commitment and job satisfaction. Confirming previous studies’ findings, work environment factors played significant roles regarding personnel-related outcomes: here, nursing homes with higher work environment ratings, especially those with supportive leadership and the possibility to provide high quality of care, might also benefit from more employee referrals.

Chapter 9 discusses and synthesizes this dissertation’s major findings. First, work environment factors prove to be key factors in outcomes research in nursing homes. Above a certain staffing threshold, the work environment, especially a positive teamwork and safety climate and an adequate workload, seems to make all the difference to achieve high quality of care. Second, rationing is negatively related to quality of care even at low frequencies, endangering a core function of long-term care: the possibility to offer person-centered care.
Third, the presence of a supportive leadership might be a key factor in the recruitment and retention of care workers. Reflections on the SHURP framework lead to recommendations for further studies with the possibility of using complexity science in a future framework. Additionally, along with a discussion of the strengths and limitations of the study, implications for research and practice are presented. By improving the current understanding of the work environment’s relationships with quality of care, recruitment and retention of care workers, this dissertation contributed to the further development of nursing home outcome research.