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POSTER ABSTRACT

Patient-sharing relationships among primary healthcare professionals taking care of patients with mental health problems or substance abuse: the social network approach.

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Introduction: Mental health disorders are recognized as considerable public health challenges that require close collaboration between professionals. Developing collaboration requires understanding the structure of how patient care is managed across professionals. Healthcare registers offer "naturally occuring" data of how different professionals are involved in patient care.

Research question: To find out which local and individual factors influence patient-sharing network structure and composition.

Methodologies: Data were from the Register of Primary Health Care visits (Avohilmo) which covers all outpatient primary healthcare visits in Finland. We combined data on visits from eight health and social centres during the year 2021. We further included to the data only those clients' visits, who had at least one visit relating primarily to mental health or substance abuse. The patient-sharing networks were formed using the unique ID codes of the professionals and different occupational groups included in the register. Two professionals were considered to have a patient-sharing relationship if they both had delivered care to the same patient. The resulting network was a one-mode undirected network graph with 646 nodes (healthcare professionals) and 50 841 unweighted ties (the number of shared patients) between them. These ties were based on 11 796 patients and 126 521 visits.

Statistical analyses: We analyzed the potential associations of the network structure and the nodal attributes (working in a specific health and social centre, belonging to a certain occupational group and the reason of the patient visit) with nodal formation using Exponential Random Graph Models (ERGM). ERGMs are statistical models that enable network pattern recognition and are similar to logistic regression: they predict the probability for a pair of nodes in a network to have a tie between them (in this case that two professionals share the same patient).

Results: Our results show that there are uniform effects regarding occupational group and health and social centre. Two professionals were more likely to share a patient if they had similar occupation and naturally when they worked in the same centre. The coefficient for shared partners was positive indicating a propensity for a triadic closure in the network. The main effects were also significant suggesting that being a physician predicts having more connections than

belonging to other occupational groups. There were also significant differences between the centres suggesting that the differences in degrees between centres were not random. More importantly, the main effect of the reason for the patient visit was significant, suggesting that when the reason for visit was related to mental health problems or substance abuse the connections with other professionals were more probable, than when the reason was related to other health issues.

Conclusion: The results suggest that professionals seem to work more often within their own occupational group than with other professionals. Contacts between professionals were more probable when the reason for visit was related to mental health problems or substance abuse. Further research is needed to examine, whether sharing patients also indicate that there is collaboration between the professionals.