Cohort study of predictors of unplanned hospital admissions among Regional People with HIV in NSW from 2012-2016; the impact of multimorbidity

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Objectives: People with HIV (PWH) have improved life expectancy in recent years but continue to experience significant multimorbidity and require unplanned care. We aimed to determine factors predictive of unplanned admission among a cohort of PWH in regional NSW.

Method: A prospective cohort study of PWH attending a regional HIV service was conducted. Baseline HIV specific results and multimorbidity markers including Cumulative Illness Rating Scale (CIRS) and Veterans Aging Cohort Score were assessed as predictors of time to first unplanned admission using cox regression analysis. Care coordination markers were compared between people experiencing unplanned admission and those not experiencing unplanned admission using x^2 statistic for proportions and t-test for means. CIRS score was compared between baseline and follow-up. Multivariate regression analysis was used to determine factors associated with a change in CIRS score.

Results: A cohort of 181 PWH were followed for 5 years. During a total of 739 person years of follow-up, 39 (20.6%) patients reached the endpoint of unplanned admission. In multivariate analysis the baseline CIRS score was predictive of unplanned admission (p <0.001). Age, HIV specific markers and missed visits were not predictive of unplanned admission. Nine (6.47%) PWH died during the period of observation. All those that died had an unplanned admission prior to death.
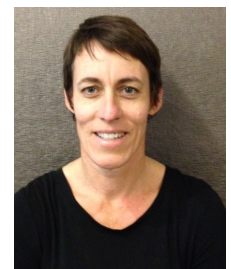
For patients with an unplanned admission, discharge summaries were available in the notes for 22/39 (56.4 %). Of 180 PWH with a visit after baseline, 131 (72.8%) had a letter to a general practitioner in the observation period and 79 (43.7%) had 2 or more prescribers. Having 2 or more prescribers was more common in people with an unplanned admission than in those without an unplanned admission (64.1% vs 38.0%, p=0.004). The mean (SD) follow-up CIRS score of 9.45 (±4.89) was not significantly different form the baseline CIRS score of 9.08 (±4.69; p=0.467). In multivariate analysis, baseline factors significantly associated with a change in the score were ever having a myocardial infarct (coeff -1.78, p=0.028) and ever having renal disease (coeff 1.70, p=0.006).

Conclusion: Unplanned admission among PWH is predicted by multimorbidity. Care for PWH should include coordinated management of other health conditions in order reduce their severity and potentially prevent unplanned admissions. In the cohort of PWH studied, multimorbidity did not significantly increase over 5 years of follow-up.

Keywords: HIV, comorbidity, patient admission, case management, cumulative illness rating scale

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Natalie Edmiston is a staff specialist in sexual health medicine with North Coast Public Health. As a 2015 RRCBP cohort candidate she was able to complete a prospective cohort study of multimorbidity outcomes among People with HIV attending a regional sexual health service and continues to conduct research in this field.

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