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**CONFERENCE ABSTRACT****Can we predict who we will see in hospital next year?**4<sup>th</sup> World Congress on Integrated Care, Wellington, NZ, 23-25 Nov 2016

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**Background:** The Integrated Care Program on the Central Coast, Australia has initiated a project to assess new ways of providing coordinated care to vulnerable older people in the community. It is hoped that this new way of delivering care will mean people spend less time in hospital. Identifying those people who would most benefit from increased care is an important step in ensuring the program is focused on the right people.

**Methods:** We used Central Coast Local Health District's routinely collected hospital admissions and emergency department data for people aged 65 and over between 2010 and 2015 to predict unplanned admission in the next year. Two approaches were tested. The first was to group patients by number of unplanned admissions in a year and number of chronic conditions to find a group that had a high rate of unplanned admission in the next year. The second was to use a range of variables in the data to define a statistical equation for predicting the likelihood of unplanned admission.

**Results:** On average, 27% of 65+ year olds with an admission in a calendar year have an unplanned admission in the next year, accounting for 36% of people with an unplanned admission in that year. Using the first approach we found that, of the 65+ year olds that were admitted each calendar year, 40% had at least 1 unplanned admission and at least 2 chronic conditions. Of these, 41% had an unplanned admission in the next calendar year, accounting for 21% of people with an unplanned admission in that year, and 46% of those with 3 or more unplanned admissions. Using the second approach, by taking the top 40% of people ranked using the statistical equation, we found 43% had an unplanned admission in the next year, accounting for 22% of people in that year, and 48% of those with 3 or more unplanned admissions.

**Conclusion:** Locally held administrative data can be used to define a target group for intervention. Using this approach, it may be possible to identify patients who are at risk of 1 or more unplanned hospital admissions in the future.

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**Keywords:** predictive analysis; avoidable hospitalisations; biostatistition; data; risk stratification

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